THE IMPACT OF A PROBLEM-BASED SERVICE-LEARNING COURSE ON THE IMPROVEMENT OF BEHAVIORS REFLECTING POSITIVE CHARACTER TRAITS ON STUDENTS CONSIDERED AT-RISK IN A SUBURBAN HIGH SCHOOL

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ABSTRACT

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The purpose of this mixed methods embedded design study was to learn if engaging in a problem-based service-learning course could improve the demonstration of behaviors reflecting positive character traits in junior and senior high school students who are considered at-risk. Additionally, the investigation sought to determine the extent to which students could articulate the applicability of the problem-based service-learning course to their lives. A problem-based learning approach is one where students learn about a topic in the context of solving real-life problems. The service-learning methodology links academic learning to service that meets an authentic community need (Billig, 2002). This study successfully implemented a proactive curricular approach in an attempt to deter negative student behaviors as students learned how to display positive character traits in different situations.

This embedded design study utilized mostly qualitative data with a quantitative component. The study was guided by three research questions and student discipline data was collected from both an experimental and control group. In addition to the discipline data, students were interviewed, observed, and they completed course assignments to assess whether students improved their behaviors reflective of positive character traits by developing their social skills, problem-solving skills, and coping skills over a one semester term. The experimental group completed the course while the control group did not. The first question researched was (a) Does participation in a problem-based service-learning course reduce behavior incidents requiring discipline intervention of junior and senior high school students considered at-risk? This question was answered through analyzing quantitative data. The second question (b) Does participation in a problem-based service-learning course improve behaviors reflective of positive
character traits of junior and senior high school students considered at-risk, was researched through a qualitative lens.

A third research question was investigated as (c) What do these students report as the benefits and applications of the course to their lives? Results of the study indicated that the experimental group of students’ behavioral incidents decreased and they demonstrated the positive character traits of attitude, empathy, respect, and preparation. In addition, the results revealed that the students articulated that they benefited from the course by enhancing their teamwork and communication skills, learning core academic content, and better understanding the consequences of their actions as the course prepared them for either college or a career field. Potential benefits of this study include providing school leaders with tools to (a) reduce behavioral incidents, (b) improve behaviors reflective of students’ positive character traits, (c) teach students at-risk the life skills necessary to compete and be successful beyond high school, (d) meet both the demands from the Partnership for Assessment of Readiness for College and Careers (PARCC) and teaching students 21st century skills.
DEDICATION

To God Almighty.

“As each has received a gift, use it to serve one another, as good stewards of God’s varied grace.” 1 Peter 4:10
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CHAPTER I. INTRODUCTION

A Journey of Life-Long Learning

During my life journey, I have consistently emphasized the importance of education. From elementary school to graduate school, I have dedicated my scholastic energies to learning as much as possible and applying myself to the best of my ability in my academic career. Without question, grades have always been a significant achievement motivator, but the true inclination behind my personal goals is to attain knowledge that can be transmitted to students and others for practical use in the classroom and beyond. I can remember sitting in classrooms thinking about the importance of learning the material my teachers were presenting and wondering whether I would remember the content in the weeks or the months to come.

Then there were my vocational and agricultural classes in high school. While not core classes or mandatory, the practical lessons from these courses have remained vivid in my mind and have served me well at this point in my career and life. It is relevant at this point to mention that I am not working in the field of agriculture today, nor am I very useful with building tools of any kind; however, the opportunities that these classes provided helped to mold me into the person I am today.

The experiential learning I encountered in these courses has equipped me with the skills I use each and every day as an educator and as an administrator. I learned important qualities of leadership in numerous lessons, such as leading a team in judging livestock, studying Earth's resources, and completing a construction project. As a result of these experiences, I learned about the importance of influence, empowerment, and intuition, and these attributes, were unknowingly at the time, instilled in me for future use.
In addition, my communication skills were taking shape as I wrote speeches, spoke at public events, led parliamentary procedure teams, and delivered an address to a group of 200 individuals about the latest scientific agricultural discoveries during a state competition. Despite all of these experiences, perhaps none was as meaningful as learning how to serve others, and this is where my dissertation exploration begins.

Beyond high school, I completed my undergraduate coursework at Defiance College, a world-renowned leader in small, private service-learning endeavors. The McMaster School for Advancing Humanity at Defiance teaches all campus students about the power of promoting responsible citizenship through education. It is committed to global leadership and encourages students to take an active role in addressing global issues in whatever professions they chose. By participating in service-learning projects, such as America Reads, community clean-ups programs, and cultural awareness days, I was able to take my experiences and apply them to teaching young students in schools. While I have incorporated a variety of lessons and activities where students observe, interact, reflect, and attempt to develop and use their analytical skills to conceptualize their experiences, the didactic rigmarole of “teaching to the test” did not provide me with the ample time to ensure true learning occurred among my students.

After teaching and serving as a leader for the past eight years in public schools, I have noticed an unsettling trend and phenomenon in the often monotonous way schools operate and teach students. Many schools today are teaching to meet state standards, and students are being taught what to think and learn, not how to construct meaning in creative ways. Reversing this trend is not easily accomplished. However, there are programs that can be implemented to illuminate the need for increasing the relevancy and help student engage in real-life learning contexts. This is where service-learning becomes valuable. Service-learning is defined as a
teaching and learning approach that links academic learning to service that meets authentic community needs (Billig, 2002). This juncture where theory meets practice is where increased service-learning needs to be more prevalent in K-12 public school institutions.

**A Call for Problem-Based Service-Learning**

With these thoughts in mind, what do we want from our students after they graduate from high school? Students absolutely need to acquire mastery of the basics skills—i.e., reading, language, math, science, and social studies—in order to compete and thrive in their future careers, but with educational leaders pushing the Common Core State Standards, the strategies used to teach these subjects is going to make all the difference. Kaye (2010) observed that service-learning is necessary so that teachers can engage not only the minds of young people, but also their hearts. This can be accomplished by learning content and by reaching out to others.

In addition, to become a respectful and productive citizen in society, schools must partner with parents in producing students who are ethical, responsible, caring, and courageous as well as students who demonstrate perseverance, integrity, and character (Kaye, 2010). One of my goals in this research project was to encourage the continued use and exploration of service-learning in schools as a means of creating the same type of hands-on learning opportunities that made a tremendous impact on my life and that can hopefully improve student character traits. Schools can serve as a catalyst for innovative, interdisciplinary, and community-based work. They can accomplish this by creating and supporting opportunities for teams of educators and students to use and learn academics and professional skills to address classroom, school, and community needs (Studer, 2013). To construct the ideal setting where students on one hand are mastering the required classroom curriculum and on the other hand learning how to be better
individuals as they serve and build their social and civic skills; these types of service-learning programs must be handled delicately and with the best of intentions.

Because this balance of teaching academics and developing children’s social and civic skills is not easily attained, the mandates of the No Child Left Behind Act (NCLB), signed into law in 2001, unfortunately have narrowed classroom instructional focus to a point where schools are required to meet standard assessment criteria. Although NCLB states that many designated core subjects are necessary in order to prepare students to be successful, only reading, writing, and mathematics are evaluated to determine adequate yearly progress (AYP) (Beveridge, 2010). The AYP measurement was created under the NCLB Act to determine whether public schools were making adequate academic progress according to the results of their state’s standardized testing system. This focus has led to the elimination of noteworthy and valuable educational experiences that teach students positive behaviors, democratic values, civic responsibility, and diversity appreciation. These curricular experiences are less likely to be included in the traditional classrooms than reading, writing, and mathematics.

However, a call for schools to educate students for the 21st century is also evident in America—a call demanding that students are well versed in a variety of areas and adaptable in different situations. The Association for Supervision and Curriculum Development (ASCD, 2011) states that “we live in a global economy that requires our students to be prepared to think both critically and creatively, evaluate massive amounts of information, solve complex problems, and communicate well” (p. 2). Recognizing the importance of this statement is pivotal if the United States is going to meet the goals of educating competitive graduates.

While possessing core academic knowledge, creativity, communication skills, and problem-solving skills can help to prepare the whole child for the future, the greatest potential
for this education initiative may lie in assisting at-risk populations of students. The National Center for Education Statistics (NCES) has suggested that the following factors lead to students receiving an “at-risk” label: low socioeconomic status, living in a single-parent home, frequently changing schools, achieving below-average grades, being held back in school through grade retention, having other siblings who have dropped out of school before completing high school, and negatively reacting to peer pressure (as cited in Spring, 2010). These at-risk factors coupled with schools offering fewer courses to teach the basic life skills and social skills could increase students’ chances of dropping out. Martin and Hurley (2006) have indicated that these dropouts will face the challenges of competing for employment without the benefit of being educated, and many will not possess the survival skills necessary to become contributing members of society.

Attempts to address the needs of students’ at-risk date back to 1965, when one of the most comprehensive federal programs in K-12 education (Title I) was established as part of President Johnson’s War on Poverty. This program allowed school districts to use federal dollars to fund academic and behavioral intervention programs for at-risk or disadvantaged students (U.S. Department of Education, 2004). Which academic and behavioral programs schools adopt to address the needs of students at-risk varies among districts. Many administrators, practitioners, and parents seek scientifically based strategies that have proven successful in a variety of settings, often referred to as “best practices” in education (State Education Resource Center, 2012). For instance, best practices to address students’ at-risk behaviors include programs in which students focus on career courses with future plans, are engaged in small learning communities, and improve basic life skills (Kerka, 2003). However, educational programs and intervention strategies in America still come in an array of formats, such as alternative schools; charter schools; and, unfortunately, juvenile detention centers (Carver,
Lewis, & Tice, 2010). Oberhausen (2006) has observed that historically ineffective alternative programs focus on basic skill remediation and vocational training.

While research has indicated that there is no real consensus about which school or program works the best, certain themes have emerged within the literature suggesting that some strategies have been more successful than others. For instance, Kerka (2005) has suggested that a variety of effective teaching strategies and learning principles can be applied when teaching students at-risk. These strategies and principles include experiential education techniques, integrated and hands-on curriculum, active learner involvement, and accommodation to different learning styles. Additional strategies to engage students at-risk in this type of learning have included models with cooperative grouping, service-learning, and self-directed learning (Denti & Guerin, 1999; Kerka, 2005; Secada, 1999).

In addition, problem-based learning has provided classroom opportunities to practice life skills and make connections between school learning and the real world of home and community (Martin & Hurely, 2006). Problem-based learning is defined as focused, experiential learning organized around the investigation and resolution of messy, real-world problems (Illinois Mathematics and Science Academy [IMSA], 2011). Character education also serves as a research-based vehicle to meet the needs of students at-risk and create individuals who are dependable, respectful, and able to work with others in school and in society (Britzman & Hanson, 2005). Character education refers to the deliberate effort to help people understand, care about, and act upon core ethical values (Likona, 1992). Although the previously mentioned strategies have been studied independently—i.e., service-learning, problem-based learning, and character education—few researchers have employed methodological designs that have combined all of them. Using a research design that combined all three allowed students to
display such character traits as positive attitudes, respect, and empathy in real-world environments.

**Purpose of the Study**

The purpose of this study was to explore if a problem-based service-learning course would reduce behavioral incidences and have an impact on behaviors reflecting positive character traits on students considered at-risk at a suburban high school. The mixed methods approach relied on quantitative data as well as qualitative data to measure the development of behaviors that reflect positive character traits. The study included juniors and seniors in a high school located in a medium-sized suburban school district in Ohio. This study aimed to advance the knowledge in the field of education by exploring ways problem-based service-learning can be applied to benefit students’ lives. Students who participated in this study sought to demonstrate improvements in problem-solving, working with diverse groups of people, decreasing their amount of school infractions, and increasing their social skills and relational skills. With researchers citing deficits in literature regarding character education in high schools and service-learning in K-12 education populations, this study attempted to add to the limited existing research of character education and service-learning in high schools. This study also had a purpose to assist school districts to identify curriculum that features a balanced approach not only to meeting curricular objectives and NCLB requirements, but also to helping students develop personal and social skills that are needed in the 21st century.

**Background of the Problem and Research Questions**

Schools in the 21st century find themselves responding to multiple demands from multiple levels, including the federal and state governments, community leaders, school boards, and parents. Some of these demands are the result of our changing nation. The Center for Public
Education (2012) has observed that changing patterns of fertility and immigration have resulted in a trend towards population diversity that the United States has never before experienced. The center has stated that diversity exists along a variety of dimensions: an aging U.S. population, people being born in other nations and living in the U.S., and people marrying at an older age or not at all. This has caused public schools to bear the responsibility of addressing the changes in demographics, especially in terms of race relations, English as a second language, and family structures. Much of the demand to cope with these changes revolves around accountability, assessments, and teaching 21st century skills (Greenhill, 2007). While one can argue that the calls to meet the needs of a changing society can be traced back to the publication of *A Nation at Risk* in 1983, three decades have passed, and a new set of social and educational mandates have emerged.

After the passage of NCLB, McNeil (2011) noted that several states across the country reported failure rates of more than 50%. The pressure to be innovative and to prepare students with 21st century skills while simultaneously complying with and meeting the many mandates of NCLB creates tension among school leaders and teachers who feel as though they are being pulled in opposite directions (Schoen & Fusarelli, 2008). Some of the formidable tasks that schools face to prepare 21st century students include teaching them how to think both critically and creatively, how to work together collaboratively to solve problems that impact them in and out of school, and how to communicate. Schoen and Fusarelli (2008) have suggested that the responsibility to teach students how to be creative and think critically, coupled with the demands of meeting AYP testing targets, has created an imbalance in education.

These testing requirements have caused concerns not only among educators but also among parents. According to *Education Week* (2004), some parents and other critics believe that
schools are spending too much instructional time preparing for tests, and 66% of teachers surveyed thought that state tests were forcing them to concentrate on tests and not on other important topics. In response to the educational spotlight shining directly on math and reading scores to meet NCLB standards, Schmidt, Wang, and McKnight (2005) have reported that such testing programs narrow student learning and test only a sample of what students need to know. Furthermore, Webb (1999) reported that tests in general often focus on content that is easiest to measure, not on the critical-thinking skills students need to develop. According to some reports, by narrowing the curriculum in schools and having students concentrate on tested subjects, other subjects that teach students more than core content, such as communication skills, social skills, behavioral skills, and life skills, have been compromised. For instance, Rothstein (2007) has stated that schools should establish many goals for students, such as basic math and reading skills, but on the other hand schools should also establish goals in the following areas as well: critical thinking, citizenship, physical health, emotional health, arts appreciation, self-discipline, responsibility, and conflict resolution. Schools threatened with sanctions for failing to meet just one goal can inevitably divert attention from other areas of education that may be equally as important but are not directly tested. One consequence of NCLB has been less instructional time spent on certain content areas, such as social studies, science, art, music, and physical education (Rothstein, 2007). Brown (2007) has observed that the fundamental difference in these reforms is that 21st century skills’ proponents advocate a focus on the contexts for learning while NCLB proponents emphasize the content of learning through standards-based teaching and testing.

The “content versus context” debate may communicate to students that content takes precedence over developing as a holistic learner and individual. Reports of cheating and an absence of self-discipline also have been evident in the United States during the implementation
of NCLB in 2001. McCabe (2005) reported that student Internet cheating increased by 28% in the two academic years between 2000 and 2002. Josephson (2010) found that after a survey of over 40,000 high school students, 59% had cheated on a test during the previous year, and one in three admitted that they had used the Internet to plagiarize. While this trend is unsettling and increasing, a poll by Haynes and Thomas (2002) revealed that Americans consider crime; violence; and declines in ethics, morals, and family values to be the issues of most concern in society. These authors have also noted that in 2002 that more than 90% of the population believed schools should teach character traits to students. More recently, McDonnell (2008) claimed that every aspect of our society has been inflicted with a crisis of character, and that this is especially true among young people.

Britzman and Hanson (2005) have pointed out that the corporate world expects students to achieve academic success, but the corporate world also wants to hire individuals of character who are dependable and work well together. This demonstrates that students’ character traits extend beyond the schoolyards. Furthermore, Berkowitz and Bier (2005) have noted that “there is still a comparative dearth of scientifically sound research in character education as they suggest there are needs for practitioner research to support programs as well as studies of character implementation strategies” (p. 8). Britzman (2005) has stated that something must be done to change students’ behaviors and even the mindsets of the students in the educational systems. The range of options to address character issues in schools includes school-wide approaches, such as guest speakers, year-long programs, and single-class methods that feature specific goals. However, one particularly important and effective strategy that leads to character development comes in the form of service-learning (RMC Research Corporation, 2005).
Participating in service-learning activities that emphasize classroom instruction using problem-based learning in conjunction with service-learning increases the value of education at all levels (Lambros, 2004). This instructional method used to teach character has yielded results on a number of fronts. Research shows that effective service-learning experiences foster values and behaviors that embody the goals of character education. For example, studies have demonstrated that students who take part in service-learning strengthen their academic skills, civic attitudes, and citizenship skills (Brandeis University, 1998). In addition, Billig (2000) conducted a 10-year study on the impact of service-learning on students, schools, and communities and found that when school climate improves, students are less likely to engage in risky behaviors, students’ interpersonal skills increase, specifically in relationship to culturally diverse groups. In other words, service-learning provides avenues where students are more likely to become active, positive, and contributing members in society. Scott and Jackson (2005) found that adopting service-learning concepts as part of the middle school philosophy helped students meet goals that related to academic/learning development, life/career development, personal/social development, and multicultural/global citizenship. These studies collectively indicate that service-learning is effective at meeting curricular objectives and helping students develop the necessary 21st century skills to compete in society. These limited number of examples display the positive effects that service-learning has on students, but Billig and Waterman (2003) have noted that “clearly, more rigorous, replicable research in service-learning is needed in K-12 education populations” (p. vii).

The majority of character education programs that have been implemented in schools have been implemented in elementary and middle schools (Leming, 2006). However, this emphasis on character education in elementary grades may be counterintuitive given that adolescence is
the period when students begin to test their boundaries (Hoedel, 2010). To date, there is not a specific study that has shown that high school students at-risk in a problem-based service-learning course can improve behaviors reflective of positive character traits. This lack of research is attributed to the fact that character education efforts “have made few inroads in high schools” (Leming, 2006, p. 84). Therefore, the present study sought to address how high school students, through the participation in problem-based service-learning, can improve positive character traits as they face challenges in and out of school and react in constructive ways.

Based on a thorough and comprehensive review of the research literature, the following research questions were used to guide the study:

1. Does participation in a problem-based service-learning course reduce behavior incidents requiring discipline intervention of junior and senior high school students considered at-risk?

2. Does participation in a problem-based service-learning course improve behaviors reflective of positive character traits of junior and senior high school students considered at-risk?

3. What do high school juniors and seniors who are considered at-risk report as the benefits and applications of problem-based service-learning to their lives?

Scope of the Study

This study used data from existing discipline reports from the previous year, observations of students’ behaviors in the intervention experimental course and at service-learning sites linked to the course, semi-structured interviews with students, and course assignments. This single study of Ohio high school juniors and seniors occurred during one semester (18 weeks). Data were triangulated from the one experimental group of students (students taking the course as an
intervention) and the control group (students who chose not to take the course as an intervention). Students in freshmen and sophomore classes were excluded from the study. Students also receiving fewer than 10 discipline referrals and/or not receiving a suspension during the previous year were also excluded. Furthermore, a maximum of 15 students were allowed to enroll in the course for the study.

**Definitions of Terms**

The following definitions will be used in this study.

*At-risk students*: Youth who have been involved in school discipline issues and are impacted by family and community factors, such as poverty, abuse, neglect, poor health or nutrition, divorce, death, disability, immigration status, language barriers, social status, community safety, drugs, gangs, and political unrest (Martin & Hurley, 2006).

*Character*: The moral knowing, moral feeling, and moral behavior that influence the types of choices that people make (Elkind & Sweet, 1997; Likona, 1992).

*Character education*: The deliberate effort to help people understand, care about, and act upon core ethical values (Likona, 1992).

*Problem-based learning*: Focused, experiential learning organized around the investigation and resolution of messy, real-world problems (Illinois Mathematics and Science Academy [IMSA], 2011).

*Problem-based service-learning*: A pedagogy that organizes teaching and learning around community problems or research questions developed with the community. This term also refers to community projects that are integrated into a course and allow students to gain a deeper understanding of academic content while applying learning to real-world issues (Lower, 2010).
Service-learning: A teaching and learning approach that links academic learning to service that meets authentic community needs. Students who engage in high-quality service-learning activities typically have some choice in the service they provide, work cooperatively with each other and with members of the community, receive at least some cognitive guidance from adults and/or peers as they reflect on and make sense of their experiences, and acquire new knowledge or skills that recognizably link academic content areas (Billig, 2002).

Data Sources

Access to the sample of students for the study was granted by the cooperating school district, a medium-sized suburban district in northern Ohio. Community partners near the school, including business, environmental, and service fields were contacted to serve as hosts for data collection and service-learning sites. Lastly, parental permission and participant permission were secured within bounds of ethical standards, as evidenced by the sponsoring university’s Human Subjects Review Board (HSRB) approval, before students enrolled in the course and participated in the study.

This problem-based service-learning study used qualitative methods, such as observations and interviews of the experimental group of students. I also examined students’ course assignment responses. These three course assignments were referred to as, “Friday Assignments,” “Ethical Dilemmas,” and “Personal Reflection Papers.” The Friday Assignments and Ethical Dilemmas were both collected each week during the study (see Appendix B for Ethical Dilemma example, see Appendix C for Friday Assignment example). The quantitative data from both the control and experimental groups were gathered in the form of disciplinary
referrals—e.g., detentions and suspensions, which they accumulated over the course of the semester (see also Tables 2 and 3 in Chapter IV).

Conceptual Framework: Problem-Based Service-Learning

The design of this study was guided by a conceptual framework (see Figure 1) that outlines the key components of a problem-based service-learning course and course outcomes. With the goal of improving students’ positive character traits, problem-based learning models, service-learning models, and character development models proven to be effective with high school student populations were incorporated.

The Illinois Mathematics and Science Academy (IMSA) (2011) model has nine components that satisfy the goals of the problem-based learning (PBL) portion of the course. This model prepared students in the course by helping establish a classroom environment that was conducive to collaboration. The service-learning portion of the framework is the centerpiece. Not only are students learning about how to solve problems through the IMSA model, but also they were asked to take their learning and apply it to a local service-learning site to determine whether their solution was viable. The National Service-Learning Clearinghouse (NSLC) was chosen as the service-learning model to follow because it is one of the most comprehensive, longest-lasting, and well-researched resources in America. The NSLC has established eight service-learning standards for quality practice, which this study followed.

The last portion of this framework is the Character Development and Leadership model. This model was created by Hoedel (2010) as a curriculum to improve positive character traits and leadership skills among high school students. Hoedel identified 18 character traits, which allows for one character trait to be studied each week during an 18-week semester. His weekly topics illustrate the importance of each character trait and provide examples of role models in
America. These traits were studied and discussed each week, and they have been paired in the conceptual framework to better fit the model. However, they were covered in the listed order during the semester class.

This conceptual framework offered a guide in answering the research questions focusing on how a problem-based service-learning course could reduce discipline incidences, improve the behaviors reflective of positive character traits of high school juniors and seniors who are considered at-risk, and what these high school students report as the benefits and applications of problem-based service-learning. After students learned each week about different character traits, how to solve problems, and how to help others, they were given abundant opportunities to apply their learning to real-world settings out in the community and demonstrate how their characters were improving as a result of their engagement.
Figure 1. Problem-Based Service-Learning Conceptual Framework

Improving the development of students’ positive character traits through problem-based service-learning

Problem-Based Learning 
IMSA

Debrief
Present the Solution
Determine Best Fit
Generate Solutions
Share Information
Gather Information
Define Problem
Know/Need to Know
Meet the Problem

Service-Learning
NSLC

Duration & Intensity
Progress Monitoring
Partnerships
Youth Voice
Diversity
Reflection
Link to Curriculum
Meaningful Service

Character Development
Character Development
and Leadership

Leadership/Character
Responsibility/Compassion
Duty/Loyalty
Gratitude/Tolerance
Self-Control/Empathy
Courage/Appreciation
Honesty/Integrity
Perseverance/Respect
Attitude/Preparation
The above character development conceptual framework displays the model that was tested. The column on the left denotes the problem-based learning standards that established the process for students to follow. The service-learning essential elements illustrate how the students’ actions demonstrated what they know and learned. Following the arrows over from the problem-based learning and service-learning are the 18 positive character traits.

**Organization of the Study**

Chapter Two presents the literature review that relates to problem-based service-learning and character development. Specific topics in Chapter Two provide more detailed information concerning the nature of the problem to be studied and the history of problem-based learning, service-learning, and character education. The essential components of effective problem-based learning, service-learning, and character education programs are addressed. In addition, the research based benefits of problem-based service-learning with youth who are considered at-risk are reported. Chapter Three presents the research methodology. Chapter Four is a presentation an analysis of the quantitative and qualitative results of the study. Chapter Five is a discussion and combined summary of all of the findings, recommendations for future studies, and implications for the educational field.
CHAPTER II. LITERATURE REVIEW

Introduction

This study sought to determine whether high school students who are considered at-risk enrolled in a problem-based service-learning course in Ohio would (1) reduce behavior incidents and (2) improve behaviors reflective of positive character traits. Additional research was conducted to determine whether a problem-based service-learning course could (3) benefit students and be applied to their lives. These research questions areas were identified after an extensive review of government reports, textbooks, dissertations, and peer-reviewed studies on the improving students’ character traits through problem-based learning and service-learning. Furthermore, direction about how to best explore these research areas was guided by existing literature on problem-based learning, service-learning, and character development in education.

Through participating in this study and after they were taught the key components of character development, students were encouraged to demonstrate these traits while helping others in the community solve problems and determine whether serving others was applicable to their own lives. Next, the histories of problem-based learning, service-learning, and character education were examined to provide a background for describing the events, attitudes, and philosophies that have led to their modern-day practices. Other topics discussed consisted of service-learning in higher education and K-12 schools as well as preparation of learners for solving problems in the 21st century. To conclude this chapter, a summary of literature findings are presented.

Students in the 21st Century: The Nature of the Problem

Education in America during the early decades of the 21st century has been in flux, and a myriad of issues have captured the media spotlight and the attention of policy makers. Concepts
such as teacher evaluations, merit pay based on student achievement, educational reform, accountability, and collective bargaining have become commonplace among the public all across the country. Since 2001, the No Child Left Behind Act (NCLB) has changed the federal education landscape dramatically, according to Kress, Zechmann and Schmitten (2011). NCLB has required states to develop and implement consequential accountability systems as a condition of receiving Title I federal education funds, which the federal government provides to schools and districts with a high percentage of students from low-income families. This consequential accountability mechanism created by the federal government includes the following three elements: explicit and publicized standards, regular testing against those standards, and consequences linked to performance (Kress, Zechmann, & Schmitten, 2011).

New standards have been set by state departments and universal language, content, and assessments have been established to standardize the outcomes and norms regarding the content students should know and the skills they should be able to exhibit as they exit school and enter into the real world. Testing in two main subject areas has been used to determine school success and student success: mathematics and reading. For example, Cawelti (2006) stated that 71% of school districts reported reducing instructional time in at least one other subject to make more time for reading and mathematics, and in some districts, struggling students received double periods of reading and mathematics instruction. This forced time allotment is pushing other courses aside, such as art, music, physical education, foreign language, home economics, and life skills.

Admittedly, with standards, comes accountability to demonstrate growth. This approach has its merits and one cannot overlook the promising facts since 2002, NCLB’s first initial adoption year. According to the National Assessment of Educational Progress or NAEP (2004),
test scores of minority students have increased steadily, the overall achievement gap between minority and white majority has decreased between 1999 and 2004, and the percentage of highly-qualified teachers has risen to over 90% across the nation. These positive outcomes do support the current law. However, with the implementation of NCLB’s accountability measures, these successes do come at the price of eliminating other instructional areas.

Educational policy makers, not to mention administrators, teachers and students, have experienced a challenging time keeping pace with societal change and technological advancements. Ever since the time when the agricultural harvesting season was used to create school calendars, educational practices inside the brick-and-mortar buildings of today have been playing catch-up to prepare students for the information age (The New York Times, 2011). While reading and mathematics certainly have their places in advancing society, studies have shown that these are not enough. For example, Elmore (2003) has concluded that schools initially did what they thought the law (NCLB) required, with a minimum of alteration in their basic way of organizing and delivering instruction, which produced little in the way of improved performance. Unlike the early initial unfunded mandates of NCLB of the Bush area, the Obama administration, through the Race to the Top Program has allocated funds for more comprehensive educational incentive-based reform. Linn (2010) has observed that the Race to the Top Assessment Program has provided awards of $160 million to a consortia of states to develop comprehensive assessment systems during a 48-month period. The results of this program have yet to be seen, but either way, the U.S. Department of Education (2010) continually calls for the development of more assessments to measure achievement against standards.

In addition to a narrowing of instructional time, another unintended consequence of this era of assessment-focused accountability is the creation of what has commonly been referred to
as “teaching to the test.” According to Phelps (2011), teaching to the test can be harmful in two ways: (a) excessive preparation that focuses more on learning the format of the test and techniques rather than on subject matter and (b) a reduction in classroom time spent on subjects over which students are not tested, such as physical education. In a study of 376 elementary and secondary teachers in New Jersey, teachers indicated that they tended to teach to the test, often neglected individual student needs because of the stringent focus on high-stakes testing, had little time to teach creatively, and bored themselves and their students with practice problems as they prepared for standardized testing (Centolanza, 2004). However, some advocates for test-based accountability disagree noting that the tests improve student achievement by helping teachers focus on important content and provide incentives for good teaching (Koretz & Hamilton, 2003). If the former is the more prevalent case, then our schools are moving farther away from educating students to respond appropriately in a socially acceptable manner according to one of the founding fathers of American education, John Dewey. Dewey (1897) called for a system of educating students based on a process of living in which students are not passive and do not simply absorb information. He advocated that students be instructed in such a ways as to construct their own learning—i.e., an education model that reflected society’s prevailing concerns and in which students not only learned core subjects but also learned how to live.

To educate the whole child is perhaps more critical now than ever before. To stay ahead of the rapidly changing technological world and global job markets, the skills students need to be branded as successful go far beyond math and reading. A more balanced approach is being called for from educators, families, policy makers, and community members. This balance requires students not only to learn content but also apply it in realistic situations. The Partnership for 21st Century Skills Organization (2011) has suggested that in order for students to
compete in a global economy that demands innovation, schools must provide the four C’s of
learning: (a) critical thinking and problem-solving, (b) communication, (c) collaboration, and (d)
creativity. The organization suggests that learning these skills must not be taught in isolation.
By offering a variety of courses, schools provide all students opportunities and access to
academic programs that better prepare them for further education, work, and civic life. The
Association for Supervision and Curriculum Development ([ASCD], 2011) has reported that “the
demands of the 21st century require a new approach to education policy and practice – a whole-
child approach to learning, teaching, and community engagement” (p. 2).

Looking at the current generation in schools, students must participate in high-stakes
testing and are being limited to the courses in which they may participate. Today’s society
presents students with issues in which they must learn how to overcome and solve themselves or
through appropriate collaboration. This is consistent with becoming a well-rounded student and
demonstrating positive character traits. However, students may not be learning the lessons
necessary to make constructive decisions. For instance, according to a national survey
conducted in 2004 of 24,763 high school students, nearly two-thirds cheated on exams, more
than one in four stole from a store within the past 12 months, and 40% said that they sometimes
lie to save money (Britzman & Hanson, 2005). Furthermore, Britzman and Hanson reported
that, “fifty-four percent of all high schoolers said they’d hit a person within the past 12 months
because they were angry” (p. 12). These statistics indicate that there are more formidable
concerns with the youth of today that move beyond than simply taking standardized tests.
Perhaps Michael Josephson (2005) said it best when he was referring to a decline in character
and stated, “There is a hole in the moral ozone… and it’s getting bigger” (p. 5).
This alarming trend can be attributed to a variety of factors. Some researchers have suggested that the 1960s, 1970s, and 1980s were the “me decades,” and they believed in a philosophy of individualism that became the norm (Britzman & Hanson, 2005; Lickona, 1992). These decades emphasized rights more than responsibility, freedom more than commitment, and led people to believe that it was about fulfilling their desires was more important than fulfilling their obligations as members of a family, church, community, or country (Likona, 1992).

Finally, Brooks and Gable (1997) attribute the decline in character on the desensitizing effects of media, such as, TV, music, movies, and video games.

There are a variety of impactful factors that schools and society must consider when attempting to identify the characteristics that define successful students. Students who enter a school healthy and safe are typically more ready to learn. In fact, Robers, Zhan, Truman, and Snyder (2010) have reported that victims of crime or violence at school are likely to experience loneliness, depression, and adjustment difficulties, and they are more prone to truancy, poor academic performance, dropping out of school, and violent behaviors. In addition, according to the ASCD (2011), students who feel more connected to school are more likely to stay in school. This information about students calls for educators and policy makers to see the broader picture because getting students engaged in learning and challenging them to reach their potential can set them on the path to becoming 21st century learners.

Educational boards and government agencies have indicated that they want great teachers in every classroom to dramatically raise achievement (Branstad, Reynolds, & Glass, 2013). On the other hand, educating students about the ideals of being good citizens is critical for holistic student development if, as a society, we want to reduce thefts, violence, bullying, and dishonesty in our youth (Haynes & Thomas, 2002). If we teach students how to read or solve an equation,
will they know how to resolve a conflict they have encountered? This requires problem-solving and critical thinking skills. Scriven and Paul (2007) have defined critical thinking skills as “the intellectually disciplined process of actively and skillfully conceptualizing, applying, synthesizing, and/or evaluating information gathered from observations, experiences, reflection, reasoning, or communication as a guide to belief or action” (p. 1). Questions that require more than reading and math skills could be answered if addressed properly in schools and if educational policies allow for a more balanced curriculum that promotes 21st century learning.

In many respects, schools are struggling to find opportunities for students to think beyond individual notions of academic achievement to a more global perspective that encompasses what it means to be a part of a larger community. John Dewey focused on the moral self and ethics in his message regarding character development. Dewey (1909) asserted that the goal of education is to develop character. He has suggested that students already have the ability and character to be good-- but schools need to develop this innate human characteristic. This outcome then could come from repetitive practice. Failure to practice positive character traits could be at the root of some of the problems that students face today and will face in the future. If schools can create an environment where students learn how to solve their own problems, understand how their decisions influence the lives of others, and consistently display socially acceptable behaviors, then students will have the ability to influence and improve society for years to come.

**Problem-Based Learning**

The following segment of the literature review will discuss five topics. First, the origins of problem-based learning are introduced. Then the common components and learning outcomes of problem-based learning in K-12 education are reviewed. Third, the research results and benefits of problem-based learning along with their effective use in today’s high schools are
presented. Then the specific target population of youth who are considered at-risk is addressed. Finally, research on how problem-based learning environments have been shown to help these students considered at-risk learn and improve their own skills in a variety of areas is then discussed, with special interest given to character development.

**History of Problem-Based Learning.**

Simply stated, “in doing we learn” (Herbert, Walton, & Oley, 1848, p. 279). This phrase sets the stage for problem-based learning because students learn by actively constructing their own understanding of the world around them, inside or outside of the classroom. Then it is up to the teacher to act as a facilitator and guide students to make rational judgments as they make connections through problem-based learning and engage in inquiry to develop practical skills. In problem-based learning, the teachers also can model and coach students’ behaviors to assist students in how to learn and motivate them to learn more from successfully mastering content areas.

Problem-based learning has also stood the test of time as the Progressive Era of the late 1800s and early 1900s made its way into America. Dewey (1916) viewed the process of tackling of significant problems as the ultimate way to engage learners in problem solving skills. Even more so, Dewey believed that learning should be situated within the context of the community and that learning should prepare one for life, not simply work. Ideals such as these provided the foundation for a constructivist theory of education. In fact, Savery and Duffy (1995) have suggested that problem-based learning may be one of the best exemplars of a constructivist learning environment. Because problem-based learning engages students in active inquiry-based approaches, students then are able to construct knowledge as they come to know and understand the world around them. The term “constructivism” has been used contemporarily by philosopher
Richard Rorty (1991) when he suggested that knowledge is not necessarily a representation of the real world but rather a collection of conceptual structures that are adapted, or viable, within an individual’s range of experience. According to this definition, students build or construct their own knowledge by making sense of the world around them and by discovering how their past learning experiences can help them with future learning experiences.

The roots of problem-based learning extend to the Greek philosophers, and John Dewey promoted its tenets in the 20th century. Even more recently, problem-based learning in the medical field became prevalent in the 1960s at McMaster University in Hamilton, Ontario, Canada, from the work of Howard Barrows and his colleagues. Howard Barrows was a physician and medical educator at the Southern Illinois University School of Medicine and was known for his teaching of problem-based learning techniques (Barrows & Tamblyn, 1980). The problem-based learning that we know today originated and was implemented in response to the concerns of clinical medical educators who had become increasingly troubled about students’ inability to recall and apply in clinical settings biomedical content knowledge and skills taught in previous biomedical courses (Barrows & Tamblyn, 1980). Before problem-based learning was introduced, students had been learning through lecture; however, this method did not help them apply their skills and knowledge in real-life medical situations. In response, Barrows and other colleagues designed a system that placed students in small groups where they interacted with simulated patients to diagnose and treat them based on their problems or symptoms. This placed the students into an inquiry setting and engaged them in a learning process that was much more meaningful because they were full participants, not just receivers of information.

According to Aspy, Aspy, and Quinby (1993), students in their problem-based learning program were learning as much content as traditional students. In addition, problem-based
learning students reported feeling less threatened by their environment, more able to learn independently, and better equipped to be lifelong learners. In the 1980s, Harvard University Medical School commenced the arduous task of converting its entire curriculum over to problem-based learning. In the 1990s, Aspy et al. (1993) and Barrows (1994) found that medical schools at Southern Illinois University, Rush, Bowman Gray, Tufts, Michigan State, and the University of Hawaii adopted problem-based learning as their primary instructional method. Then, in the 1990s, the adoption of problem-based learning among higher education institutions outside of the medical field gradually began to occur. The medical field promoted problem-based learning within the framework of the information-processing theory in which students activate prior knowledge, facilitate new learning for real-world situations, and increase the probability that they will recall and apply what is stored in memory. K-12 educators saw the value in this approach and wanted their students to achieve these results (Trop & Sage, 1998).

The main difference between problem-based learning in medical schools and problem-based learning in K-12 education is in the settings where students apply their knowledge. For instance, the medical field applies problem-based learning with patients in doctors’ offices or hospitals, while students who graduate from high school may enter different fields in business, technology, or construction. This is where educators in K-12 settings have been trying to establish problem-based learning curricula that fit the needs of students in the 21st century.

**Problem-Based Learning in K-12 Education.**

The pressure for school districts to implement and support a problem-based learning approach in their curricula has been mounting due to research studies supporting its use. The popularity of problem-based learning has been substantiated due to the increasing number of books published about problem-based learning, problem-based learning conferences, and
literature reviews on problem-based learning (Hung, Jonassen, & Liu, 2008). Problem-based learning in K-12 environments has prompted many questions from educators: What do our learners bring to the situation? What do they do with it? What do they walk away with? (Trop & Sage, 1998). These questions can only be answered with a true understanding of problem-based learning, its common components, and its learning outcomes.

While the definitions of problem-based learning vary within K-12 education, researchers have provided definitions that reflect common themes, which have helped to establish more comprehensive definitions. One of these workable definitions has been provided by Hmelo-Silver (2004), who has suggested that problem-based learning is a student-centered pedagogy in which students learn about a subject in the context of complex, multifaceted, and realistic problems. Hmelo-Silver has suggested that the goals of problem-based learning are to help students develop flexible knowledge, effective problem-solving skills, self-directed learning, effective collaboration skills, and intrinsic motivation. The Illinois Mathematics and Science Academy ([IMSA], 2011) is even more precise with its definition; it refers to problem-based learning as a focused learning experience organized around the investigation and resolution of messy, real-world problems. With these definitions guiding research, curriculum can be seen as an experience that keeps building and growing instead of a set of standards with end points. Teachers become cognitive coaches rather than individuals who dispense knowledge that students must acquire. In this model, students become active problem-solvers instead of receivers of teacher-directed information. Likewise, students work in groups to identify what they already know, what they need to know, and how and where to access new information so that they can solve problems. This perspective provides a starting point that informs how students in K-12 schools acquire new knowledge when utilizing problem-based learning.
The primary goal of problem-based learning is to enhance learning by requiring learners to solve problems. This goal can be accomplished through categorizing the necessary components of problem-based learning to ensure the goal will be met successfully. These components must be embedded in each problem-based learning activity to determine whether learning outcomes have been met. The literature on problem-based learning explicitly mentions that one of the first requirements for an effective program is establishing an authentic learning experience for the students. The word “authentic” has been cited by a variety of authors when they reference PBL (Gordon, 1998; Hung et al., 2008; Savery & Duffy, 1995). To make problem-based learning powerful and engaging, the problem itself must be authentic so that students can relate to the issue and establish meaningful reasons to investigate it. An essential question must be posed for students to connect to the real world on some level and allow them to take ownership of the process used to develop a solution. For instance, all students have experienced a relationship with science, technology, and the natural world in some form or another. These experiences allow students to access their prior knowledge as they begin understanding the various dimensions of the problem. One framework that guides the creation of authentic learning in all settings is the experiential learning cycle (ELC). Gordon (1998) has noted that the ELC model makes “smaller” learning activities more authentic and makes “messier” real-life problems more focused (p. 391). The ELC model is only one example of the ways in which creating a problem-based learning environment can challenge and engage students from the beginning of the activity.

Another component that has been referenced repeatedly in the literature is the structure of teams and collaboration. McKeachie (1994) argued that students perhaps learn best through teaching other students in teams. Other authors have stated that student learning in teams is
superior to learning in other types of environments, perhaps because students are more actively engaged in the learning process (Astin, 1993; Kain, 2003). Savin-Baden and Major (2004) concurred with McKeachie’s argument stating that in life, we invariably have to work in teams; therefore, school settings should equip learners with the skills to resolve unique problem-solving issues in groups. The collaborative learning teams in a problem-based environment can allow students to offset and balance their strengths and weaknesses by completing defined tasks for the benefit of the group.

A third key component in numerous problem-based learning programs and one that has been cited consistently in the research literature is providing students the opportunity to reflect both on the content learned and the learning process. Teachers should model reflective thinking throughout the learning process and support learners as they reflect on the strategies for learning as well as the actual content that was learned (Clift, Houston, & Pugach, 1990; Schon, 1987). This component also requires that students be self-reflective, monitor their own understanding, and learn to adjust strategies for learning. Within group settings, students discuss and reflect on which solutions proved to be effective and which ones needed to be reconfigured.

One of the challenges of problem-based learning is assessing how to assess student learning on projects when multiple solutions may arise from a single question. Custer (1994) has suggested that authentic assessments in problem-based learning should incorporate a wide variety of techniques designed to correspond as closely as possible to real-world student experiences. Because of the variety of forms that problem-based learning can take, Savin-Baden and Major (2004) suggested that assessments may not come in a common test format; rather, students may be asked to evaluate case studies, defend their positions orally, perform role plays, or record themselves on tape. Supporters of problem-based learning have responded to the
assessment issues first by defining their views of assessments. One widely accepted definition of assessment is as follows:

Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance.

(Angelo, 1995, p. 7)

This is an important definition because assessment is a process, whether it is summative or formative. The primary focus of assessment is to improve student learning, and one way that this is accomplished is to set clear goals and determine methods to identify whether the goals have been reached (Savin-Baden & Major, 2004). These characteristics of assessment are all available in a problem-based learning format because goals must be established early in the process and because the assessments should be continuous. Trop (2002) suggested that assessment is an authentic companion to problem and process. In the end, student feedback and suggestions are offered to ensure that the students have understood the content of the lesson and that they are competent.

When the common components of a problem-based learning classroom have been established, the potential benefits and learning outcomes also support problem-based learning and its effectiveness. For instance, Trop and Sage (1998) found that potential outcomes for students, as indicated by teachers, include increased motivation, real-world relevancy, higher-order thinking, and modeling for how to learn. Kain (2003) also found similar learning outcomes, but noted that when students engaged in problem-based learning activities, they were
more likely to apply knowledge and connect prior learning, assume responsibility for their own
learning, and become more self-directed learners.

Once students reach this level of self-directed learning, they become oriented more
towards meaning making and less toward collecting and memorizing facts. They begin to learn
from contextualized problem sets and situations. To achieve these high levels of comprehension,
students need experiences, which come with time in problem-based learning settings. As a
result, major gains have occurred in high schools across the country. The maturity and
experiences that high school students have accrued over their formative schools years can
prepare them to learn the collaboration skills, creative skills, critical thinking skills, problem-
solving, and communication skills that are necessary for success in the 21st century.

Problem-Based Learning in High Schools.

Problem-based learning can be used effectively in a wide variety of student populations.
For instance, gifted elementary, middle school, and high school students, as well as low-income
students; have benefited from problem-based learning (Dods, 1997; Stephien & Gallagher,
1993). According to Lambros (2004), evidence has continued to emerge supporting its use in
high schools across the country. Lambros has noted that implementing problem-based learning
in high schools is, in many ways, easier than doing so at elementary schools and middle school.
What makes problem-based learning so engaging is that students are able to observe how the
specific situations or events under investigation could occur in their own real world. Lambros
also has noted that high school students can easily imagine themselves in a variety of career roles
that would enable them to apply specific content to a role, such as a police officer, nurse,
architect, or landscaper.
Some high schools operate solely under a problem-based learning system. One of the most renowned problem-based learning schools in the country is known as the Illinois Mathematics and Science Academy (IMSA). Since the 1990s, its teachers have designed and implemented problem-based learning units in courses across the curriculum. IMSA has reported that problem-based learning is critical in this era of standardized testing (Illinois Mathematics and Science Academy, 2011). The academy has claimed that scientifically based research at the national level indicates that problem-based learning is a superior methodology for promoting student engagement in the learning process. These claims are based on a meta-analysis of pertinent recommendations for education research conducted by Adams (2005) and Pellegrino’s (2006) Commission Report, both of whom are evidenced-based advocates for problem-based learning pedagogy. In December of 2005, Pierce and Gerdes (2005) reported that the New Commission on the Skills of American Workforce issued a national report called Tough Choices or Tough Times, which included recommendations for the future of education. In this report was a call for teaching metacognitive strategies in context, which has been shown to improve understanding in physics, written composition, and heuristic methods of mathematical problem solving. These metacognitive practices also have been shown to increase the degree to which students transfer knowledge to new settings and events.

While this call for reform is not new in the high schools, it is pertinent due to the fact that an Education Week article by Cavanagh and Robeien (2004) stated that in an international mathematics literacy and problem-solving assessment, U.S. students earned an average of 477, which is below the international average of 500 among industrialized countries, also resulting in a ranking of 24th out of 29 nations. These results suggest that change is needed in American high
schools if the U.S. wants to compete globally and teach students who are living and working in the 21st century how to solve problems in different contexts.

Regardless of the international rankings, studies in high schools are still showing positive results in the areas of retention of content, problem-solving skills, higher-order thinking, and self-directed/life-long learning. For instance, Hung, Jonassen, and Liu (2008) reported that problem-based learning students’ retention rates were 60% higher when compared to traditional students on long-term retention assessments. These problem-based learning students tended to remember more about principles and general theories, whereas the traditional students retained more rote-memorization types of knowledge. This type of principle knowledge is what students need to be successful in these modern times because they must apply these principles in different contexts. For example, if a class is being taught content regarding character principles, problem-based learning students might retain the material at higher rates and then ideally apply the material later in life in various situations. Another study on student retention conducted by Norman and Schmidt (1992) concluded that problem-based learning might not improve students’ initial acquisition of knowledge; however, the deeper processing of information in problem-based learning classes appears to foster better retention of knowledge over a longer period of time.

The existing literature demonstrated that students can retain material that is taught using problem-based learning, especially the students who are considered at-risk with behavioral issues needing to know how and when to react when their characters are tested. Problem-based learning offers significant possibilities that cannot be learned in traditional classroom settings. For instance, Gallagher, Stepien, and Rosenthal (1992) conducted an experiment using an interdisciplinary problem-based learning course called Science, Society, and the Future (SSF).
They explored gifted high school students and used two groups—one was taught using problem-based learning, and the other was a comparison group not enrolled in the problem-based learning course. They found that problem-based learning students showed significant increases in the use of the problem-finding step (a critical problem-solving technique) from pre-test to post-test. In contrast, according to the post-test, the comparison group tended to skip the problem-finding step and move directly from the fact-finding step to the implementation step. By skipping the problem-solving step, this demonstrated the comparison group’s lack of experience with completing critical thinking problems. This result also suggested that problem-based learning is effective in fostering students’ development of appropriate problem-solving processes and skills.

Another cognitive skill required for student problem solving is higher-order thinking. To be effective problem solvers, students need to possess analytical, critical thinking, and metacognitive skills. These parallel skills were cited by the Partnership for 21st Century Skills Organization (2011) as being important to the learners of this century. Also, the North Central Regional Educational Laboratory and the Metiri Group (2003) identified learning skills essential for students to thrive in the 21st century, which included inventive thinking, higher-order thinking, and reasoning.

Lastly, the ultimate goal for a problem-based learning program was to enable students to become self-directed learners not only during their high school years but also throughout their entire lives. Through problem-based learning, students learn how to think and learn independently, both of which are more suitable to the high school age group. Savery (2006) notes that “during self-directed learning, students should be able to access, study and integrate information from all the discipline that might be related to understanding and resolving a particular problem” (p. 13).
If one of the goals in high school is to prepare students to graduate and enter the workforce, then problem-based learning helps accomplish these goals. Two studies conducted by Schmidt and van der Molen (2001) reported that problem-based learning graduates rated themselves better prepared professionally than their counterparts in terms of interpersonal skills, cooperation skills, problem-solving skills, self-directed learning, information gathering, and professional skills. Strong evidence from these existing studies suggests that problem-based learning can have a substantial influence on high school students; however, even though problem-based learning is appropriate for some high school students, a question arises about whether problem-based learning is applicable to all groups of high school students. This topic is explored in the following section, which provides research supporting how problem-based learning pertains more specifically to students in need of character development.

**Problem-Based Learning and Youth Considered At-Risk.**

Statistically, students in the United States have performed significantly below the Organization of Economic Co-operation and Development or OECD (2004) average in their ability to solve problems. This organization provides research and data relative to indicators on the United States economy, education, energy, foreign aid, labor, migration, research and development, and trading. Since 2004, researchers have tried to identify the reasons for the below average scores. One possibility is that from 1990-2000, approximately 3.5 million students left U.S. schools without graduating from high school (Martin & Hurley, 2006). These “dropouts” face enormous challenges when competing for jobs. By almost every definition, these potential dropouts are considered at-risk students. According to Martin and Hurley (2006), a broad definition of “at risk” includes “youth who are impacted by family and community factors of poverty, abuse, neglect, health or nutrition, divorce, death, disability, immigration
status, and/or by other conditions, such as language barriers, social status, community safety, drugs, gangs, and political unrest” (p. 1).

Students considered at-risk in problem-based learning classrooms have experienced more opportunities to build their positive character traits and self-determination by forming connections between school learning and the real world of home and community. Many students considered at-risk lack the determination to excel, either due to past failures, low motivation, or absences of role models in their lives. Wehmeyer and Schwartz (1997) have identified concepts that are important to students at-risk: self-determination, free will, civil and human rights, freedom of choice, independence, personal agency, self-direction, and individual responsibility. Studies have shown improvements with high school youth considered at-risk involved in problem-based learning environments. Martin and Hurley (2006) found that students at-risk become more proficient over time at a variety of tasks, including setting goals, achieving goals, and developing abilities that are either not addressed in traditional settings or not successfully addressed.

Earlier studies by Ljung and Blackwell (1996) have noted that project Opportunity, Motivation, Esteem, Goal, Achievement (OMEGA) also resulted in improvements in students at-risk. These researchers found that students at-risk became more aware of their own creative abilities and more responsible for their own successes. This problem-based learning approach helped students who are often placed in remedial classes to cooperate, set goals, and develop skills that would give them a better chance of making the transition into adulthood. When character attributes of responsibility or self-control are taught in conjunction with problem-based learning, students can learn to be self-determined because the learning is taking place through real-world experiences while students solve real-world problems. These two problem-based
learning studies further demonstrate that when students at-risk are engaged in a problem-based learning classroom, they learn how to solve problems because they can relate to the content in meaningful ways and reach high levels of understanding.

**Service-Learning**

In traditional classrooms of the early 21st century, many teachers may be teaching students to learn the facts but not necessarily how to get the facts. According to Veeravagu, Muthusamy, Marinimuthu, and Michael (2010), failing students often resort to memorizing and copying what they are reading and writing without fully understanding the concepts. These researchers also noted that “there is a recognized demand to have higher-order thinking practices in the classroom, but there is also a recognized struggle with bringing higher-order thinking to life in the classroom” (p. 211). Problem-based learning can help accomplish both goals. For example, Lambors (2004) surmised that students are not necessarily less smart than they used to be as they enter college or the workforce; rather, one of the problems is that K-12 curricula overemphasize rote memorization and content recall in the absence of a meaningful context. One method of teaching problem-based learning in schools and making learning relevant concerns is service-learning. Service-learning has gained attention not only as a context for character education and community volunteerism, but it also has been shown to meet curricular objectives. Service-learning allows students to create, test, and revise solutions to problems in the classrooms and apply them to real-life settings that result in meaningful learning. For instance, Lambros (2004) has suggested that “service-learning activities are highly worthwhile as they now exist; their power for addressing curriculum objectives and fostering collaboration among students can be increased using the problem-based learning design” (p. 75). Service-learning is an extension of the classroom as students learn more about how to develop their
positive character traits and solve community problems by offering their services. As a result, they can learn, practice, and demonstrate certain character attributes first-hand in community settings with people from a variety of backgrounds, cultures, races, genders, and socio-economic status. Using problem-based learning in a service-learning context has the potential to raise students to new levels of learning. Lambros (2004) perhaps said it best when she reported that “there is plenty of evidence that when students are more engaged in their learning activities, they learn more and feel more rewarded by what they learn. Problem-based learning and service-learning provide powerful opportunities for students and do both simultaneously” (p. 76).

The next segment of this literature review addresses service-learning from different perspectives that relate to and tie character education and problem-based learning together. This is accomplished in four sections. The first section describes the foundations and history of service-learning. Then the consistent presence of service-learning in higher education is reviewed. The third section addresses specifically how service-learning has become increasingly utilized in K-12 educational settings. Lastly, research on service-learning programs with high school students at-risk is presented as well as its potential benefits for this particular study.

**History of Service-Learning.**

Service-learning offers a tremendous array of exciting opportunities, choices, and challenges (Kaye, 2010). However, these opportunities of which Kaye speaks have been developed and tested since the beginning of formalized education. For instance, Plato and Aristotle established schools so students could develop into virtuous citizens armed with knowledge that allowed them to act in a manner that produces positive results for society (Rocheleau, 2004). Other influential philosophers in history, such as Immanuel Kant, spoke of character and moral maxims during the Enlightenment, and John Stewart Mill sought liberty,
freedom, and utilitarianism for people in society. However, Dewey (1916) discussed service-learning in a more progressively practical contexts and believed it should be a part of every student’s educational experience. He wanted more from education than the early philosophers, who taught that reasoning and morals should be included in a child’s education. His progressive thoughts called for community service as an integral part of the learning and developmental processes for students (Dewey, 1916). Simply teaching about morals, character, and what it means to act and be good was not enough for Dewey; he called for educators to provide opportunities for students to apply their knowledge to real-life situations and solve meaningful problems in the community.

Dewey’s early writings were, in part, a response to his dissatisfaction with the Platonic model of students in which education had a strict and pre-planned knowledge approach and in which students were simply vessels—i.e., receivers of information from teachers. For example, Benson and Harkavy (2002) have depicted Dewey as a democrat and activist who desired to achieve community and Plato as an aristocrat and contemplative who wanted order in society. Dewey believed that achieving only order is incongruent with creative, active, critical, and ultimately democratic citizens (Dewey, 1916). Students’ lack of preparation for life beyond school meant that they would have difficulties solving problems on their own. Students learning through note taking and rote memorization became outdated. Dewey sought to engage students in society through learning that is active, applicable, and experiential.

By the 1940s and 1950s, the presence of war was evident in the world. World War II and the Korean War had the attention of the nation. In 1944, the GI Bill linked service and education, offering Americans educational opportunities in return for service to their country (Titlebaum, Williamson, Daprano, Baer, & Brahler, 2004). In the 1960s and 1970s, there were
even more turbulent times and upheavals in communities and on college campuses with the Vietnam War. Urban uprisings and the War on Poverty brought even more negative attention to the social problems that Dewey alluded to in the early 1900s.

In 1961, President John F. Kennedy established the Peace Corps to promote world peace, and in 1964, President Lyndon B. Johnson created the Volunteers in Service to America (VISTA) to fight the War on Poverty (Titlebaum et al., 2004). This awareness of increasing societal problems brought more action on the part of the government, and people began to identify with Dewey’s call for educational reform. For instance, in the 1960s, largely unorganized student activist groups and “alternative, humanistic educators began chipping away at what they perceived as a monolithic, teacher-centered, alienating, and irrelevant educational system that failed to involve and serve an increasingly diverse population of learners” (Stanton, Giles, & Cruz, 1999, p.1). At this time, there were a few community-wide movements advocating for change, but the community activists and “radical” educators who found themselves drawn to the idea of combining communities and structured educational programs were too sparse. These groups worked independently, and the drive to provide a deeper and more meaningful education for students were somewhat lost in the 1980s.

One spark of hope was the establishment of the National Youth Leadership Council (NYLC). NYLC (2008) was developed in 1983 to help prepare future leaders and to pioneer youth leadership initiatives. This was the first organization to champion a meaningful new vision that addressed a dual purpose of educating America’s K-12 and college-age students through thoughtful and practical service while at the same time benefiting the communities in which those young people lives (Titlebaum et al., 2004). This emphasis on service-learning set the foundation and structure for many studies in the decades to follow.
The decade of the 1990s showed a resurgence of literature and conferences on service-learning. It was during this decade that the contemporary definition of “service-learning” was first proposed. While there are certainly various interpretations of this term, it must be noted that service-learning does differ from community service. Community service is usually a one-time activity performed to help accomplish a goal in the community but incorporates little or no preparation or reflection (Wade, 1997). Community service often focuses on benefiting others. Of the two educational activities, community service is less involved and does not purposefully connect to academic goals (Krebs, 2006).

On the other hand, the hyphen in service-learning “symbolizes the symbiotic relationship between service and learning” (Jacoby, 1996, p. 5). This is essentially its meaning in academic settings. Service-learning has been used to enhance the meaning and impact of course content. To answer the questions of (a) does participation in a problem-based service-learning course reduce behavior incidents, (b) improve behaviors reflective of positive character traits, and (c) whether service learning can be applied to students’ lives, there must first be a consistent definition of the true meaning of the term “service-learning.” A pioneer in service learning, Billig (2002), defined service-learning research as:

A teaching and learning approach that links academic learning to service that meets authentic community needs. Students who engage in high quality service-learning activities typically have some choice in the service they provide, work cooperatively with each other and with members of the community, received at least some cognitive guidance from adults and/or peers as they reflect on and make sense of their experiences, and acquire a new knowledge or skills that recognizably link academic content areas. (p. 246)
This definition includes the key concepts of service-learning in a broad sense. Other specific standards for practice that are incorporated into this study include meaningful service, links to curriculum, reflection, diversity, youth voice, partnerships, progress monitoring, and duration and intensity (National Youth Leadership Council, 2008). These standards are addressed in the following sections as some of them have their roots in higher education and others apply to K-12 education.

**Service-Learning in Higher Education.**

In the 1990s, there was a groundswell of research and information on service-learning. However, much of this research resided in higher education. According to Stanton, Giles, and Cruz (1999), the pioneers of service-learning had deep-rooted values, commitment skills, courage, and sometimes plain good luck as they established diverse approaches to combining service with academic studies in postsecondary education. For instance, the *Michigan Journal of Community Service-Learning* was established in 1994 with the sole purpose of pushing a research agenda of service-learning in higher education (Howard, 1993). Today, almost 60% of colleges and universities have embraced service-learning as part of their core curriculum (Learn and Serve, 2011).

While in the past 15 or 20 years there has been a spike in the interest of service-learning across college campuses, only a few key studies have explored how the benefits of service-learning in higher education may be able to inform and support K-12 service-learning implementation. The eight central standards of themes set by the National Youth Leadership Council (NYLC) (2008) framed the focus of the service-learning research (see Figure 1). The NYLC is a national nonprofit organization that promotes service-learning in schools and communities across the United States. From an extensive review of high education studies, at
least four standards or themes from the NYLC have emerged, including meaningful service, meeting curricular objectives or linking to the curriculum, reflection, and the formation of partnerships.

The themes established by the NYLC council have been utilized extensively in America and have been adopted as a guide for this study. The first two themes—meaningful service and meeting curricular objectives—appeared in one higher education study conducted by Kowalewski (2004). She employed a community-based research (CBR) project using service-learning pedagogy in a research methods course. Her quasi-experimental design used experimental and control groups to evaluate the Family Self-Sufficiency (FSS) program. Thirty students and four community partners who participated in the study conducted interviews, made observations, and collected survey data to conduct the study. Perspectives of faculty members, students, and community partners were also analyzed to evaluate collaboration and communication. The findings found that service-learning is enhanced through CBR in that it offers opportunities for collaboration, direct application of course content, and potential for social change (Kowalewski, 2004). In addition, students reported that they liked “the feeling of doing something for the community” and they enjoyed the project because “it was real and in our own community” (p. 145). Kowalewski’s study illustrated that service-learning is more effective when there is meaning attached to course objectives through service. This is important and challenging, as Eyler and Giles (1999) pointed out when they conducted two national research projects between 1993 and 1998, surveying almost 4,000 college students from across the U.S. They suggested that a balance between service and learning must be struck because either the service dwarfs the learning or the learning dominates the service activity.
The third theme present in the higher education literature is reflection on service-learning projects. A qualitative study by Pinzon and Arceo (2004) revealed that when service-learning in higher education is presented as an experiential learning program, “it promotes socially responsible education committed to improving quality of life for everybody, everywhere” (p. 89). In this qualitative research, four students were monitored for one semester as they examined critical thinking applications. The results indicated that the presence of a reflection stage in service-learning heightened the students’ critical thinking and added to their overall educational experiences. When students are provided time to reflect on their services, they are given opportunities to discover true meaning and learn more about their own beliefs. This may come in the form of online journaling, oral discussions, or presenting in front of their classes of a larger forum (Mills, 2001).

The fourth theme in higher education research that has helped build the case for service-learning’s utility in K-12 education is the formation of partnerships. Researchers have advocated for service-learning more recently as a means of producing a new kind of citizen, one who is better prepared to facilitate the kinds of partnerships necessary to produce healthy communities (Bringle, Hatcher, & Holland, 2007; Dubb & Howard, 2007). Developing mutually beneficial partnerships with businesses and community organizations allows students to build positive relationships with community members while participating in service-learning projects. These partnerships may come in the form of internships or class projects. In order for these partnerships to emerge, higher education institutions need partnerships based on reciprocity, which involves sharing resources, ideas, power, products, and responsibilities. K-12 education is often limited in this respect. For example, in K-12 settings, service-learning opportunities usually occur within the school or within walking distance of the school (Billig, 2002). Billig
expressed that teachers complain about lack of time, a lack of coordinators among schools and
districts, and the fact that it is not a regular line item in school budgets. Chupp and Joseph
(2010) commented that at least three things need to be established in order to form positive
relationships between community members and universities. The development of authentic
relationships requires a multi-year time commitment, reduction of the demands on community
stakeholders, and alignment with existing community efforts. With these items firmly in place,
students may identify a genuine need in the community. When this happens, students may
discover ways to make a difference in their own lives as well as the community when they meet
that need. When service-learning options are made available for students, the impact of their
services can be maximized (Chupp & Joseph, 2010). While college students typically attend
higher education institutions for a relatively short period of time, K-12 education students have
the potential to live and grow in their communities for many more years. As a result of this
extended time period, applying service-learning and its methods in a local K-12 school
community may yield even more meaningful partnerships between students and community
organizations.

**Service-Learning in K-12 Education.**

While research on service learning in higher education is widely available has been and
increasing, similar research in K-12 environments has been scarce. For instance, reviews of
literature by Billig and Furco (2002) have suggested that there is a relative paucity of research on
service-learning in K-12 settings. These authors have stated that most of the published articles
and unpublished reports on K-12 service-learning are program evaluations, descriptions, and
anecdotes. In describing the research that has been conducted, they specifically state, “Studies
rarely use control groups…measurement tools are frequently unvalidated or remain untested for
reliability…qualitative research often lacks triangulation of data” (p. 271).

Higher education research has provided at least four of the eight NYLC themes of quality service-learning that have already been supported and stated earlier, such as providing a meaningful experience, connecting the service to course objectives, engaging in critical reflection, and establishing community partnerships. In spite of the lack of supporting research, K-12 settings have adopted service-learning programs that meet these standards of quality as well as additional standards recommended by the NYLC related to diversity, youth voice, progress monitoring, and duration/intensity. These standards also have their merits and are necessary if effective programs are to be implemented for the purpose of improving students’ positive character traits and making service-learning applicable to high school students’ lives.

One theme that has been overlooked by some researchers is the issue of diversity in service-learning. The term “diversity” and its meaning have become especially important in academic environments as students arrive at school with a variety of backgrounds and challenges. Mobley (2011) has indicated that service-learning helps students to understand and develop respect for various dimensions of diversity, including gender, race, age, religion, and socioeconomic status. Engaging in service-learning, provides opportunities to build relationships with individuals from different backgrounds and perhaps gain a better understanding of some of social injustices. Students can become more aware of alternative perspectives and break down stereotypes by getting to know other people’s viewpoints. In a meta-analyses on service-learning research in urban settings in the 1990s, Keith (1997) noted that multiple researchers, writing in the 1990s, concluded that schools should be responsive to diverse styles of learning, cognition, and motivation. His study found that the minority students tended to learn more when knowledge was presented in a field-sensitive context, when learning was collaborative, when
students could see relationships between their efforts and accomplishments, and when students engaged in activities that allowed repeated experiences with success. These results align with McClellan’s Achievement Theory where he believed individuals need to set high standards and goals to accomplish difficult tasks through an intense, prolonged effort (McClelland, 1961).

Another theme supported by NYLC that has resulted in service-learning engagement among students is allowing students to have a voice and/or choices about their own learning experiences. With students from diverse backgrounds working together, each student in the group must offer his or her perspective to earn the buy-in needed for a successful service-learning program. Offering students a voice in a service-learning class provides them an opportunity to increase their self-esteem and sense of personal control, greater development of life skills (e.g., leadership, public speaking, dependability, and job responsibility), less involvement in risky behaviors (e.g., drug use and juvenile delinquency), and better academic achievement (Points of Light Foundation, 2001). As they apply their problem-solving skills in this type of learning environment and beyond the classroom, they experientially learn the meaning of character traits such as responsibility and courage. Similarly, Billig (2000) has observed that the outcomes related to service-learning are maximized when students are given greater degrees of responsibility and allowed to make plans, make decisions, and assess their own learning.

One of the most daunting tasks of any new program is to evaluate its effectiveness. However, by establishing progress-monitoring procedures and assessment strategies within the service-learning structure, progress can be observed and monitored. Setting goals and establishing benchmarks are critical in any high school class, whether it is a character development class, a problem-based learning class, a service-learning class, or a combination of
all three. Eyler and Giles (2002) developed a process to measure student performance in a way that is consistent with the learning goals of service-learning. Sixty-six students were selected from service-learning classes to participate in the study. After conducting interviews, administering surveys, and reviewing essays by the students, these researchers determined that the quality of service-learning significantly influenced the outcomes of program effectiveness. Being interviewed was the most interesting and challenging experience for the students but provided the rich data necessary to accurately assess the outcomes set at the beginning of their lessons. Furthermore, Good and Brophy (2000) noted that when monitoring progress, “Errors are treated as learning opportunities, not test failures, and should lead to additional instruction and practice opportunities” (p. 229). The feedback received from assessments, regardless of the measurement tool used, not only benefits students but also allows teachers to adjust their instruction to meet the outcomes.

Assessing and monitoring the progress of a service-learning program and its influence on students without question can be challenging. However, the latest core standards or themes established by the Council or NYLC (2008) that focus on duration and intensity determine the success or failure of a service-learning program. K-12 schools must block out specific amounts of time in their schedules for planning, action, reflection, and even celebration. Time for these activities must be long enough to ensure that the program is sustainable year after year. Unfortunately, schools often have difficulty letting go and deemphasizing tests and core classes to accommodate the time requirements of personal, social, and all-around character development through service-learning.

In an attempt to identify factors that result in a sustainable program, Billig (2002) studied 11 sites in New Hampshire that adopted service-learning in their districts at some level. One of
the districts was unable to sustain the program; however, the other 10 that adopted the program school-wide were able to sustain it. The 10 successful sites scored highly on a quality review and featured clearly identifiable resources, compatibility with teaching and learning philosophies, visible projects, and evidence of success. Spring, Dietz, and Grimm (2006) constructed a quality index comprised of three elements: reflection, student participation in project planning, and duration of one semester or more. Their sample was comprised of 3,178 Americans between the ages of 12 and 18 who were surveyed by telephone about their civic engagement attitudes and behaviors, volunteering habits, and experiences with service-learning. These students were three times more likely to believe they can make a great deal of difference in their community than youth who participated in school-based service without any of the quality elements of service-learning (Spring, Dietz, & Grimm, 2006). These findings noted that the higher the quality and the longer the duration of a service-learning project, the higher the positive outcomes, regardless of students’ socioeconomic backgrounds or grade levels.

By implementing service-learning programs that are sustainable over a period of time, specific outcomes can be addressed. However, according to NYLC (2008), even after allotting concentrated blocks of time, it may require several weeks or months to achieve the desired learning outcomes. These results suggest that schools schedule their service-learning courses or projects well in advance to allow for students to reach full development and for the eight standards to be addressed in an adequate manner. Dougherty (n.d.) has noted that block classes are more common in secondary schools. Therefore, service-learning programs in high school settings can be a likely setting for success, especially if students are to engage in service-learning experiences within established blocks of time.
Youth At-Risk in High School.

By incorporating the NYLC’s eight standards of quality into service-learning high school courses, students could potentially be provided ample opportunities to improve themselves in a variety of ways. For example, students at-risk who are engaged in risky behaviors, e.g., drug and alcohol abuse, violence, truancy, etc., are at a higher risk of dropping out of high school and becoming disengaged from society. Similar to problem-based learning, service-learning programs provide students with opportunities to build their character and self-determination as they make connections between school learning and the real world.

The number of students who are suspended and expelled from schools has nearly doubled during the last 25 years (Nelson & Eckstein, 2008). This trend demonstrates that the prevailing response to youth violence, crime, or other unacceptable school behaviors has forced school districts, governments, and policy makers to be reactive and punitive. Rather than schools and agencies developing better programs that teach coping strategies and keep the students at-risk positively connected to their families, school, and communities, these schools and agencies have developed hardline punishments, such as zero tolerance policies, that have yielded little success in deterring these unacceptable behaviors. This is especially true because there is no evidence that frequent reliance on removing misbehaving students improves school safety or student behavior (Losen & Skiba, 2006). According to the Office of Juvenile Justice and Delinquency Prevention, the three important factors in youth violence prevention are understanding factors that place youth at risk, developing effective programs to overcome risk factors, and enhancing the protective factors that promote resiliency (Christie, Nelson, & Jolivette, n.d.).

Decades of research have suggested that prevention is the most effective strategy available for reducing antisocial and violent behavior among youth (Dodge, 1999). Service-learning is a
viable option for schools attempting to prevent such behaviors from occurring. For instance, in their quantitative study of the Generator School Project, Blyth, Saito, and Berkas (1997) reported that the number of service hours provided by students reduced risky behaviors, increased social responsibility, and reduced disengagement from school, which in turn reduced discipline referrals. RMC Research Corporation (2007) stated that an additional benefit of service-learning is the reduction of discipline referrals and negative behavioral incidents that occur in schools and classrooms when students are engaged in service-learning. In an even more recent study by Nelson and Eckstein (2008), an at-risk target population of students in grades six through twelve was engaged in a service-learning program to identify the key factors of a successful program. They found that students who had been in danger of dropping out and were disrupting the school processes performed better and reduced their negative behaviors when they incorporated “youth voice” into their daily decision making. The voice that these students were permitted to have in the classroom operations helped them feel more connected to the school, their neighbors, and the community. This preventative measure allowed students to solve problems and share their opinions in a free and open environment.

Working with students on a daily basis to identify the causes of their problems in a problem-based service-learning environment permits students to develop a sense of resiliency as they discover themselves. This environment can be enhanced by schools that support character education and believe that by allowing students to solve problems in a service-learning environment, students at-risk can transition from being at-risk to resilient. Regarding student resiliency, Benard (1991) studied protective factors that facilitate positive development, such as safety, love and belonging, respect and power, and meaningful accomplishments. These factors also include schools, teachers, and administrators providing caring relationships with students,
positive and high expectations for students, and opportunities for students to participate and contribute in meaningful activities. This suggests that when all school personnel support a problem-based service-learning environment in which students’ needs for safety, love, respect, and accomplishment are met, students are more likely to develop into resilient and positive individuals.

One must consider the gains in research and understanding that have taken place since John Dewey advocated for a more progressive and democratic form of education in which students are encouraged to take part in their own learning and interact with the curriculum. Through social and governmental reforms, higher education institutions were able to lead the way to discover the benefits and the core principles of service-learning. These benefits and eight core principles included engaging in service that is meaningful for students, a link to the curriculum, reflection practices, diversity in settings and student populations, youth voice, community partnerships, progress monitoring, and duration and intensity of a service-learning program. However, only 10% of K-12 students participate in service-learning programs that include three of these eight elements: (a) planning the service activity, (b) participating in regular service for at least one semester, or (c) reflecting on their service experiences in class (Spring, Dietz, & Grimm, 2006). Spring and others continued to report that these three elements are critical and are often overlooked due to planning and the time involved. The percentage of schools implementing all eight of the suggested NYLC standards is likely much lower. This situation calls for more research about service-learning and its applications in K-12 educational environments. In order for schools to reach certain populations of students, such as students at-risk, or to show gains in the adequately yearly progress of all students, curriculums need to be meaningful and engaging, and students should play a critical role as they learn how to solve
problems that matter to them.

**Character Development**

Small percentages of high schools participate in service-learning programs that implement all of the suggested NYLC standards. However, the majority of students who do participate have reported that service-learning had a positive impact on them (NYLC, 2008). The NYLC also found that these students were more likely to be civically engaged, volunteer in the future, and increase their sense of personal efficacy. These results suggest that schools have opportunities to create environments that make positive impacts on more than student academics. Student character development can take place within and outside of classrooms with opportunities for students to develop themselves into productive citizens.

**History of Character Education.**

To meet the challenges of the 21st century, awareness, engagement, and development of the whole child are critical to the formation of student success. The Collaboration for Academic, Social, and Emotional Learning (2008) found that learning environments that focus on caring student-teacher relationships, students’ social and emotional needs, and high expectations foster a variety of positive outcomes. For example, these environments result in students who perform better academically; are more likely to attend school; and have significantly lower rates of emotional distress, violence, delinquency, substance abuse, and sexual activity. This is not necessarily new information in the field of education. For example, Lickona (1992) pointed this out when he said, “Down through history, in countries all over the world, education had two great goals: to help young people become smart and help them to become good” (p. 6). As public schools in America began to take shape, early educators understood that moral education was essential for the success of a democratic society and for the well being of children. The
concern for the common good was stated by the Founding Fathers when they argued that loyalty to democratic virtues must be instilled at an early age (Lickona, 1992).

In the mid-19th century, the collection of stories called the *McGuffey’s Eclectic Readers* used stories to educate and transmit moral lessons. These school textbooks were designed to instill both biblical values and train students to function in society. These stories promoted sobriety, responsibility, and self-restraint. By the mid-20th century, teaching character and values was gaining more prominence as popular programs of the time contributed to student development in areas of human interaction, including communicating, empathizing, problem solving, decision making, and personal consistency (Casteel & Stahl, 1975). Kohlberg and Mayer (1972) conducted further research and based Kohlberg’s program on the ideals of the U.S. Constitution. His program held that students must be allowed a certain freedom in moral reasoning where teachers must not impose values. His short stories presented moral dilemmas that placed values such as loyalty and honesty in conflict. Critics of Kohlberg believed that these dilemmas assumed that students already had strong feelings about the values in question rather than helping children to define values (Kilpatrick, 1992). Regardless of the disagreements, at the turn of the century, the reasons for decline of character education in public schools were immense.

At the start of the 21st century, authors such as Putnam (2000) used phrases such as a “declining social capital” and believed that the U.S. had become increasingly disconnected from family, friends, neighbors, and social structures. Schools are still filled with students who deal with substance abuse, violence, and dropping out. This fact has been brought to light even more as school shootings have occurred across America at Columbine; Virginia Tech; Chardon, Ohio; and Newtown, Connecticut. The renewed interest in character education is evident in that
federal grants have increased to fund character research. Programs, such as Character Counts and the Character Education Partnership have established guidelines and principles to be taught in schools and communities. Based on their research and other reports that have been published in this century, effective strategies or approaches have been identified to improve the character of students.

**Approaches to the Implementation of Character Education in Schools.**

As stated earlier in the definitions, character has been defined as the moral knowing, moral feeling, and moral behavior that influence the types of choices that people make (Elkind & Sweet, 1997; Likona, 1992). Berkowitz and Fekula (1999) stated that the way institutions translate character into character education ultimately depends on each institution’s mission and values. Public universities may highlight aspects of character, which shape democratic citizenry, while religion-based institutions may adopt conceptions of character informed by their particular faith traditions. Schaffer (1999) noted the definition of character education developed by the Character Education Partnership, which states: “The long-term process of helping young people develop good character, i.e. knowing, caring, and acting on core ethical values, such as fairness, honesty, compassion, responsibility, and respect for self and others” (p. 3). Other suggestions include having a comprehensive approach to character education that is diverse, multifaceted, and systemic (Berkowitz & Feula, 1999). Character education must be understood as a pervasive and school-wide endeavor that is based on clear core values and missions related to that school. Once these core elements have been established, schools can create an environment conducive to influencing how students think, feel, and act regarding the issues of right and wrong. There are varying methods of creating this type of environment, but most can be narrowed down to three different approaches—all of which integrate character components that foster improvements in
students’ character traits.

One method is to use a school-wide character-based program. This method requires that schools teach about character across the curriculum with an espoused values approach. This method has been very common in elementary schools across the country. For instance, an elementary school study conducted by Olsen (1995) examined the effectiveness of a school-wide character education program on student behaviors and attitudes as perceived by the teachers. The school taught kindergarten through grade six and included a student population of 642. Olsen administered a pre-test and post-test survey to the 29 classroom teachers at the school. The two-page questionnaire covered five categories of character, including respect for authority, respect for others, courtesy, self-respect, and responsibility. The study concluded that student behavior improved after the implementation of the character education program, according to teachers’ perceptions. In three separate studies spanning almost 20 years, the Developmental Studies Center in Oakland, California, has documented positive outcomes for students who attended elementary schools that implemented its Child Development Project (CDP) (Haynes & Thomas, 2002). This research showed that students in CDP schools engage in more pro-social behavior (e.g., more helpful and cooperative), are more skilled at resolving interpersonal conflicts, are more concerned about others, and are more committed to democratic values. In addition, former CDP students are more “connected” to school, harder workers, more engaged in their middle school classes, and have higher course grades and achievement test scores. These two studies have shown that school-wide programs can have positive effects and be effective.

A second character education approach is to integrate character principles into a single classroom. In this method, students display character in role-modeling situations and also engage in more of a Socratic approach through discussions and simulations. This method has
been found to be effective in a variety of ways. This powerful approach actively engages students and forces them to critically analyze ethics, values, and other character aspects. This has been practiced more in middle schools and high schools. An outcome study conducted by Shultz, Barr, and Selman (2001) used a program called Facing History and Ourselves (FHAO) to illustrate a developmental evaluation methodology developed by the Group for the Study of Interpersonal Development (GSID). The GSID approach evaluated a character development program in eighth-grade social studies and language arts classes in public schools located in suburban and urban communities in the United States. The sample included 346 participants in 14 FHAO classes. This study demonstrated that eighth-grade students in FHAO classrooms showed increases in maturity levels and decreases in racist attitudes and self-reported fighting behavior in relation to a comparison group of students. Other single-classroom approaches focusing on character development also have produced positive results. In a study with students trained in Positive Action, a character education program, the average number of behavioral incidents requiring discipline referrals (including violence and substance abuse) dropped by 74% after the program was implemented for one year and by an average of 80% during the next six years (Hanson, Dietsch, & Zheng, 2012). These in-class character programs have shown demonstrated value in reducing discipline issues and increasing academic grades, but rarely have they provided students with opportunities to display positive character traits beyond the classroom setting.

The last approach applicable to this study incorporates character education in schools is based on service-learning. Service-learning allows students to learn in the classroom the principles that comprise positive character and incorporate those principles into some type of service project with the purpose of assisting others in the community. One example of this
technique seen early in the 1990s was based on Robert L. Selman’s developmental stage theory of social perspective, which was similar to Kohlberg’s stages of moral development. Woehrle (1993) described a program where students were engaged in service activities ranging from making decorations for nursing homes to raising money for Save the Children to cooking and serving meals in a homeless shelter. The purpose of these activities was to display positive character traits and develop social responsibility among students. Similarly, in 1997, Maryland was the first state to mandate community service requirements in which students were required to complete 75 hours of service learning to graduate from a public high school (Jones, Segar, & Gasiorski, 2008). Howard (1993) suggested that students in grades six through twelve could earn service credits through activities sponsored by religious groups, social groups, community organizations, medical institutions, libraries, or school-sponsored clubs and organizations. Teachers prepared students through class discussions, research projects, and written proposals. This type of character education sought to teach community values, such as justice, compassion, and civic responsibility. The service-learning mode of authentic character education makes character more relevant to students as they comprehend and understand how their beliefs and actions affect others around them. Thompson (2002) noted that “although character education programs like these have been implemented throughout the United States, one of the major criticisms has been the lack of research on their effectiveness” (p. 30).

Character Education in High Schools.

Attention paid to character education in public school settings has also grown substantially (Covell & Howe, 2001; Halbig, 2000; Himmelfarb, 1994; Lickona, 1999; Nash, 1997). Much of this growth has been attributed to continual problems with destructive and irresponsible behaviors among youth. As previously mentioned, character education typically has been
conducted in elementary settings. Character traits of students in the younger grades rarely have been assessed because their freedoms are restricted by parental and educational controls. High school students desire individual freedom and to choose their own paths. For instance, Lockwood (1997) reported that only 5% of current character education programs take place in high schools, while 80% focus on elementary-age children. Lockwood reported that this is due to the culture of elementary schools as well as the culture and mindset of teachers who emphasize the ability of younger children to socialize rather than the development character traits. Leming (2006) reported that when high school teachers were asked to define their professional focus, they tended to say, “I teach history or some other subject area” (p. 83).

This tendency of high school educators to define their role as subject matter specialists is reinforced by the high-stakes testing environment created by NCLB (Berliner & Nichols, 2007). Davidson, Lickona, and Khmelkov (2008) suggested that if academic achievement is the focus of high schools, they are likely to see character education as relevant only to the extent that it supports the academic mission, narrowly defined as teaching and learning the formal curriculum. Even though this has been the typical mindset among educators, some research has suggested that character education can still play a meaningful role in the secondary educational experience. Lockwood (1997) further noted that “character education can be extended and reinforced during the teenage years, a period of time when various antisocial behaviors become much more common among students” (p. 27).

One of the most encouraging studies regarding character development in high school settings was a multi-year inquiry that began in 2003. Williams, Yanchar, Jensen, and Lewis (2003) interviewed 106 high school graduates and had them complete a questionnaire their character development in high school. A majority of the students reported that their experiences
in a character education environment was personalized, practical, and life changing. Their findings suggested that teachers helped students improve character attributes by providing a desirable character education environment. The students indicated that the program helped them develop an appreciation and respect for others and the environment while helping them prepare for higher education. The high school teachers modeled the high character values for the students to follow, and this approach encouraged students to take responsibility for their lives. This model, coupled with a practical course for teens that provides real-life experiences, is the essence of this study’s problem-based service-learning model that seeks to improve character traits.

**Character Education in Ohio.**

According to *Education Week*, Ohio is ranked as the fifth best in the nation with an overall grade of B- (Fields, 2010). This raking is based on college readiness scores of advanced placement tests and math and reading proficiency scores. However, when “the best” schools and states are chosen and ranked by education departments, they do not take into account if schools have programs in place to develop students beyond test scores. Therefore, academics cannot be used as a marker to determine if character is being developed in Ohio schools. Berkowitz and Bier (2005) found that there is a need for large-scale research studies of character education. They also continued and stated that studies of isolated character education implementation strategies and elements are also needed. This indicates a dearth of studies in character education practices to develop the whole student. This is also one reason why few studies have been conducted on character education in Ohio. In fact, the teaching of character is described in the social studies curriculum of the Ohio Academic Content Standards as “citizenship.” It reads, “Students use knowledge of the rights and responsibilities of citizenship in order to examine and
evaluate civic ideals and to participate in community life and the American democratic system” (Ohio Department of Education, 2003, p. 87). This means that a state that is high in academic rankings is specifically required to teach meanings of character in only one untested content area.

However, one study was completed in 1998 in which Ohio received a federal grant to develop and evaluate pilot projects in character education at 14 sites. Researchers for the Ohio Partners in Character Education Evaluation Study (2002) collected data from students, teachers, and parents at elementary, middle, and high schools during a four-year period. Their goal was to evaluate the impact of character education programs on students’ attitudes and behaviors as well as their effects on the overall school climate. The results indicated that while character education contributes to a more positive school climate, improved behaviors, and possibly higher academic achievement, there was more evidence supporting the benefits of character programs in high schools. This study was based solely on quantitative data and demonstrates a void in Ohio high schools where character education has been implemented and students are consistently engaged in helping others.

**Teachers as Action Researchers**

Teachers play a significant role in student improvement from both an academic and character development standpoint. Many schools have a variety of evidence-based practices at their disposal to demonstrate this improvement. According to Sweeney (2003), professional action-based research is a first step towards well-founded change. Action-based research is a phrase that is commonly mentioned to when teachers conduct research in their classrooms in order to help them make informed and data-driven decisions that foster student success. For instance, Wang, Kretschmer, and Hartman (2010) have stated that action research should be methodically planned and involve the systematic collection of evidence to answer specific
questions. Ostensibly, this approach should guide changes in both the practice of teachers and the progress of their students.

Studies in which teachers also serve as researchers have resulted in a variety of positive changes, such as revising practice based on new teaching and learning knowledge, dialoging more about instructional issues and student learning, increasing their own (teachers) critical thinking skills, developing innovative approaches to instruction, and analyzing results more objectively (Babkie & Provost, 2004). Ovens (2000) has suggested that teacher-researchers have two primary concerns when investigating questions that arise from everyday classroom life: (a) seeking practical ways to improve their students’ social and academic behavior and (b) examining ways to modify and improve their own behavior to help students achieve. Babkie and Provost’s (2004) planning guide for conducting research includes seven systematic steps to becoming an effective teacher-researcher: (a) identifying the problem, (b) collecting information, (c) analyzing the data, (d) developing a plan for intervention/change, (e) implementing intervention/change and collecting data, (f) analyzing the data to evaluate the results, and (g) planning for the future by revising for improvement.

Courses as an Intervention

Creating a well-rounded environment for learning has become more challenging by the day. Growing concerns regarding increases in school violence (e.g., school shootings) and chronic behavior problems (e.g., noncompliance, class disruption) have left researchers and practitioners to find ways to positively impact student behavior. One way schools have approached these growing concerns is by implementing universal behavioral interventions and promoting a positive school climate (Sugai, Sprague, Horner, & Walker, 2000). Creating classroom environments that support teaching of both academics and proper behavior can
influence students in a variety of ways. For instance, Lohrmann and Talerico (2004) stated that universal interventions are designed to create a classroom climate that fosters and celebrates social competence, thus creating an environment conducive to academic learning. These productive classrooms commonly include behavioral expectations that are operationally defined using positive language. Teachers use direct instruction and role-playing events to teach expectations, and students are reinforced with rewards when they meet the behavioral criteria (Lohrman & Talerico, 2004). As referenced by Shores, Gunter, and Jack (1993), consequence-based procedures have led to coercive interaction cycles between teachers and students. Furthermore, research has indicated that schools that react to risky and challenging behaviors in punitive ways with zero tolerance and exclusionary practices have been ineffective at improving behavior because they distance these students from educational opportunities (Sugai & Horner, 2002).

Summary of Literature Review

The intent of NCLB was to improve education for years to come and prepare students for the 21st century. However, an unintended consequence of NCLB’s focus on accountability and assessment is requiring states to test students in mainly reading and mathematics in third through eighth grade. Recent comments by Webley (2012) have suggested that NCLB also created a culture of “teaching to the test,” narrowing curricula, and putting a lot of pressure on students and teachers—all with little payoff. A more balanced educational approach has been promoted by the Partnership for 21st Century Skills Organization (2011). This educational approach has been designed to provide students with tools and resources to help the U.S. educational system maintain focus on critical thinking skills, problem solving skills, communication skills, collaboration skills, and creativity. These skills can be taught in schools that view test taking
only as one component of well-rounded development, not the entirety of it.

Research on problem-based learning, service-learning, and character education in some form or another has shown positive outcomes for students, allowing them to develop and improve personally, interpersonally, socially, emotionally, and academically. Various components are involved in helping districts meet state-adopted standards in public schools, including teachers, curricula, resources, and assessments. When these components align and they help students meet or exceed those standards. Various accountability systems have been put in place to hold schools accountable for improving academic performance, such as high-stakes testing, teaching incentives, and school performance measures. However, this is not the only way to measure student understanding and performance, and it does not mean that students who have passed these exams are now prepared for life after high school. Employers, higher education institutions, and K-12 institutions have realized the need for students to be creators, collaborators, critical thinkers, and communicators on a daily-basis in real-world situations.

Character education has been rarely implemented in high schools across the U.S., yet teens in high school are in a time of their lives when their boundaries, morals, and beliefs are tested, sometimes on a daily basis. When schools adopt character education programs in which character traits are taught, learned, and demonstrated on a consistent basis, the results have been monumental. For instance, research conducted by RMC Research Corporation (2005) found that students who participated in the Partnerships in Character Education Project (character education integrating service-learning components) in Philadelphia reported gains in pro-social behaviors, such as altruism, caring, respect, and ability to choose between right and wrong. Another study by Lickona and Davidson (2005) evaluated 24 diverse high schools who embedded character lessons into service-learning activities. The results showed increases in civic and social
responsibility and citizenship skills, improvements in school climate, decreases in tardiness and discipline referrals, and increases in academic achievement. Studies like these have demonstrated that weaving character education and service-learning together yields benefits beyond grades and test scores and helps prepare students to become responsible and effective citizens.

Research has indicated that character programs are needed at the high school level and can effectively be administered in single-classroom settings in conjunction with service-learning. Problem-based learning requires authentic student learning, collaboration to solve problems, ongoing reflection, and assessments that are appropriately aligned with instructional outcomes. In addition, if service-learning programs encompass the eight NYLC standards of: meaningful service, linking to the curriculum, reflection activities, diversity, youth voice, partnerships, progress monitoring, and duration and intensity, then programs are more likely to be successful. Based on these findings reported in the literature, it is clear that character education supports service-learning and that service-learning allows students to solve problems based on community partnerships and community needs.

Researchers have conducted both quantitative and qualitative studies on the effects of character education, problem-based learning, and service-learning. However, few studies have combined all of them together for a comprehensive study from a mixed methods approach. Even more so, problem-based service-learning is, for the most part, used on campuses and not found in K-12 settings. In this mixed methods study, I conducted research to determine if a problem-based service-learning course in high school could reduce behavior incidents, improve behaviors reflective of positive character traits, and be applied to students’ lives as they prepare for the real world. This research will aid in filling the void that exists in character education and service-
learning in high schools, as well as at-risk students solving problems beyond the classroom and demonstrating their learning first-hand out in the community.
CHAPTER III. METHODOLOGY

To answer the questions relative to determining if a problem-based service-learning course can improve the demonstration of students’ positive character traits as they report the benefits and applications of the course, several methodologies were utilized. This chapter describes the utility of the methodological approaches and the procedures employed in the study. The chapter also explains the participant selection process, data sources (qualitative and quantitative), data collection procedures, strategies for analyzing the findings, delimitations and limitations, the researcher’s role, and anticipated ethical issues.

Characteristics of Mixed Methods Embedded Designs

Numerous research approaches have been used to conduct mixed methods research in education. Campbell and Fiske (1959) are credited with first attempting to develop a mixed methods approach that employed a data “triangulation” process. A data triangulation process involves using different sources of information in order to increase the validity of a study (Guion, Diehl, & McDonald, 2012). Campbell and Fiske administered a survey both to control and experimental groups at the beginning and at the end of the semester. This study was guided by three primary research questions and two different types of questions (qualitative and quantitative); therefore, the project required two types of data. More specifically, this mixed methods study reflects an embedded design. This approach was selected because as Caracelli and Greene (1997) have pointed out, “[an] embedded design mixes the different data sets at the design level, with one type of data being embedded within a methodology framed by the other data type” (as cited in Creswell & Plano Clark, 2007, p. 67).

Data were compiled from interviews, direct observations, and course assignments, such as journals from the experimental group. Using both qualitative and quantitative data collection
methods produced comparable or consistent findings that revealed general patterns and the most plausible explanation for results. Serves as a guide for the reader and identifies the sources of data that were collected from both the experimental and control group for the mixed methods embedded design study. The table also reveals which types of data (qualitative and quantitative) were used to answer the three research questions in the study. The mixed methods approach allowed for common themes to emerge in some contexts, which were not as noticeable in others. According to Creswell (2003), several different ways exists on how mixed methods approaches may be carried out, such as, the sequential exploratory or explanatory approach, the sequential transformative strategy, or the concurrent embedded strategy. For the purposes of this study, a mixed methods concurrent embedded strategy was the best way to capture data from a variety of angles, which not only to improved the validity of the study but also helped ensure that the entire spectrum of students’ behaviors and thoughts were fully understood.

Table 1

*Sources of Data Collected*

<table>
<thead>
<tr>
<th>Types of Data</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative for Research Question #1</td>
<td>Discipline Reports (detentions/suspensions)</td>
<td>Discipline Reports (detentions/suspensions)</td>
</tr>
<tr>
<td>Qualitative for Research Question #2 and #3</td>
<td>Three Interviews (pre-course, post-service, and post-course)</td>
<td>None Recorded</td>
</tr>
<tr>
<td>Qualitative for Research Question #2 and #3</td>
<td>Three Course Assignments (ethical dilemmas, Friday assignments, and personal reflection paper)</td>
<td>None Recorded</td>
</tr>
<tr>
<td>Qualitative for Research Question #2 and #3</td>
<td>Two sources of observations (During group work/At service-learning sites)</td>
<td>None Recorded</td>
</tr>
</tbody>
</table>
Experimental and Control Group

The first research question exploring how participation in a problem-based service-learning course can reduce behavior incidences of students at-risk lent itself to a quantitative measure that focused on how a reduction may be measured. The students’ accumulated discipline reports were used to collect data in an attempt to answer this research question. The discipline reports were particularly useful because it allowed me to embed a quantitative component within a qualitative design. The discipline data acted as a supplement to support the overall qualitative design.

Experimental Group

For the second research question focusing on how participation in a problem-based service-learning course can improve behaviors reflective of positive character traits, the experimental group of students completed semi-structured interviews and course assignments, and the partnering teacher and I recorded observable actions/comments in class and at the service-learning sites (see Table 1). The interview protocol that I followed by Merriam (1998) suggested the use of a partnering teacher who I trained to participate in the study. This female teacher was originally asked to help with the class at the very beginning of course development in the spring of 2012. This is due to her expertise in working with local service agencies, her business background, and knowledge of presentations to groups of people. She was also a good fit for being the partnering teacher because she did not have any specific teaching responsibilities during the period the course was offered. This meant that she was available to help with the class as little or as much as I needed. The partnering teacher ended up assisting in a few course activities and interviewed all experimental students. However, I was still the main teacher of record for the course.
Merriam (1998) also noted that most qualitative interviews are semi-structured; consisting of (a) several specific questions that the researcher asks all participants, (b) some open-ended questions that could be followed up with probing questions, and (c) some questions that allow the respondents to addresses specific topics or areas in which I wanted to learn more.

The interviews, course assignments, and observations served as the qualitative data. All of these sources were triangulated to include multiple data sources for the study and show support for the effectiveness of the experimental course or class. Rogers, Day, Randall, and Bentall (2003) have suggested that a qualitative explanation of the experimental results will have increased meaning and add value to the measured outcomes.

The third question focuses on what high school juniors and seniors who are considered at-risk report as the benefits and applications of a problem-based service-learning course to their lives. This was explored using a qualitative approach that featured the same semi-structured interviews from the second research question. For this question, qualitative data helped determine whether the treatment of the course, as an intervention, was successful. The students’ insights and first impression responses to the interview questions provided rich data, which demonstrated the students’ understandings of the beneficial applications of the treatment or course. Furthermore, Creswell and Plano Clark (2007) reported that “few examples exist and little has been written about embedding quantitative data within traditionally qualitative designs” (p. 71). Therefore, the advantages of the embedded design method align with purposes of this study and add to the existing body of literature.

**Characteristics of Case Study Research**

The case study approach was chosen based on a variety of researched and well-documented definitions that align closely with this study. For instance, Yin (2003) described
case studies as empirical inquiries that investigate contemporary phenomenon within real-life contexts (a) when the boundaries between phenomenon and context are not clearly evident and (b) in which multiple sources of evidence are used. In this case study design, students provided their own beliefs about their behaviors for the interviews. Furthermore, Stake (2005) has offered an alternative definition of case studies. He has described them not as a method but rather as interest in an individual case.

In this study, students were located in one school district and in one classroom and were engaged in one course that featured problem-based service-learning. A rich and holistic view of the experimental group of students allowed me to investigate real-life and complex situations that may assist in understanding why students display certain types of behaviors—behaviors that ostensibly may influence and reflect their character development. The insights and behaviors that students displayed helped to elucidate and explore the phenomena under investigation. As Merriam (1998) pointed out, educational processes, problems, and programs have been improved through case study research. Studying character development and service-learning applications through a case study approach provided the potential for programs to be improved and policies to be better informed. Therefore, a case study design provided the best opportunity to investigate the problem and answer the research questions.

**Experimental Group**

A convenience sample of accessible students located in a local high school where I am an administrator was utilized for the study. A maximum of 15 students were permitted to participate in the experimental class was established with a cap of 15. Setting a limit on the number of students allowed sufficient time for teaching, facilitating, grading, recording data, and supervising. The first 15 students who enrolled in the course were accepted. To qualify for the
course or the study, students must have earned at least 10 detentions and/or one suspension in the fall semester of the previous school year.

The target population for participants of this study were junior and senior high school students. These students were enrolled in a suburban school district in northern Ohio consisting of approximately 780 students in grades 9-12. At the close of course registration, 10 students enrolled in the problem-based service-learning course. The experimental group of students considered at-risk consisted of 7 males and 3 females with a mixture of demographic characteristics. The student participants who chose to enroll in the course were an approximate representative sample of the school’s racial demographics, which include at least 85% white or non-Hispanic students, 6% black and non-Hispanic students, and 4% multi-racial students. The student sample included 7 students of white or non-Hispanic origin (70%), 2 black and non-Hispanic (20%), and 1 student was multi-racial (10%). While the school population reflected a special needs population of 14%, the study sample had 2 students with learning disabilities (20%).

These student participants were under the age of 18 at the beginning of the 2012-2013 school year. Upperclassmen were selected for three primary reasons. First, upperclassmen typically have been exposed to a greater variety of life situations. Secondly, these students would soon be entering the workforce or transitioning into higher educational opportunities (e.g., college) where they would be able to apply the character, service, and leadership content that this course offered. Third, the treatment consisted of an elective course in which students chose to enroll. Schedules of freshmen and sophomores are less flexible because their schedules require more core classes. In addition, all freshmen and sophomores in this particular school have a
team project period, which further limits the number of electives in which the underclassmen can be enrolled during a school day.

The reason 10 students were selected for the experimental problem-based service-learning course was because of the nature of the group activities being conducted as part of their service-learning projects. This class size allowed groups of three to four students to collaborate as they worked to solve the problems that were identified by the service sites and discuss character and leadership topics.

Control Group

After the experimental group had been identified, a control group of 14 students was established. These students were identified because they had also met the requirements of the junior or senior grade levels and earned at least 10 detentions and/or a suspension in the previous year but chose not to take the course. Throughout the semester, the students in the control group were provided access to typical educational experiences, but were not enrolled in the problem-based service-learning course and thus did not receive the treatment of the course. The typical educational experiences included the control group enrolling in core content courses and choosing other elective courses in place of the problem-based service-learning course at the same school as the experimental group. The next sections will address the data sources of the study, the data collection procedures, the strategies for analyzing the findings, the delimitations and limitations of the study, my role as the researcher, and the accommodation of any ethical issues.

Quantitative Data Source

The quantitative data source consisted of student records indicating the number of disciplinary infractions: detentions or suspensions students in both groups had accumulated in the year prior to the study. These documents were recorded as descriptive statistics and were
compared to detentions and suspensions that the students had accumulated at the end of the problem-based service-learning course. The consequences were recorded on a tracking sheet (see Appendix A). These archival documents were easily accessible from the school database and included the students’ names and the assigned consequences. It also must be documented that the assistant principal does not always assign consequences. In fact, detentions can be and are typically assigned by faculty members, student aides, or the head principal.

**Qualitative Data Sources**

The majority of data gathered for this study were qualitative in nature and focused on the experimental group. Students in the experimental group participated in student interviews, course assignments, and student observations. This allowed for a broad overview of the ways in which students were learning the course content as well as providing precise insights into students demonstrating evidence of positive character traits. According to Creswell (2003), all forms of qualitative data can be grouped into four basic types of information: observations, interviews, documents, and audiovisual materials. For this study, I gathered data belonging to each of the four types of information described by Creswell. To support this multiple-data-sources approach, Yin (2003) has suggested that the various sources be highly complementary and that a quality case study will, therefore, make use of as many sources as possible. The qualitative data sources offered students opportunities to verbally and physically provide evidence to help to determine whether the course had an impact on the demonstration of whether the students reported any benefits or applications of problem-based service-learning.

**Course Assignments.**

Three types of documents were examined and utilized for course assignments. Two of the three types consisted of (a) the online course assignment questions and scenarios called
ethical dilemmas (see Appendix B for example) and (b) Friday assignments (see Appendix C for example), which were submitted each week for me to grade. The third type of course assignment was the personal reflection paper the students completed following their service-learning activities. The responses that students provided both online and on paper provided a consistent and stable stream of information that reflected students’ progress throughout the semester. Students were asked to repeatedly respond in these documents and provide exact names, references, and details of service events. These documents also provided a broad range of material during the entire semester and from a variety of class periods, events, and service-learning settings.

**Observations.**

The second type of qualitative data source included direct observations of the students interacting with other students in class and at their service-learning site of choice. These observations were recorded as field notes. Three service sites were available for students to visit. These sites included (a) a soil-and-water conservation site, (b) a senior citizens center/veterans retirement home, and (c) a center that provides services to adults with disabilities. At these service-learning sites, students interacted with service-learning site employees and/or residents and then reflected in writing on their experiences to create the documents mentioned above.

In class and at these sites, the partnering teacher and I were able to document events that happened in real time as well as the context of the events. The partnering teacher recorded her observations during group activities during which I may or may not have been present. Her observations were recorded on a protocol form designed to assess the students’ progress and development of the learned character traits (see Appendix D). Geometrical shapes were used for ease of recording as different shapes represented a different level of progress towards improving
a character trait. There was also a section to track completion of lesson objectives. A comment box was also available, and students’ comments and actions could be categorized as positive and negative. An observational protocol form was utilized and included daily lesson objectives for students to complete, students’ comments and actions during the lessons, and evidence of character traits being demonstrated (see Appendix D). This form was completed during each service site observation and during certain activities in the classroom. This protocol allowed the partnering teacher and I to document students’ comments and behaviors and to determine whether there were trends in character traits displayed at the sites.

**Interviews.**

The third type of data was derived from interviews with the students. These interviews were conducted by the partnering teacher and provided me with first-hand accounts from the students. Patton (2002) has reported that interviews provide the purpose and allow the researcher to enter into the other person’s perspective. Each student from the experimental group was interviewed three times during the course of the semester. These interviews took place (a) within the first week of the semester, (b) following the completion of their service site visits, and (c) at the end of the semester.

Three interviews were chosen for a few reasons. The first interview provided baseline information about each student’s perceptions of his or her character and of service-learning (see Appendix E). The second interview permitted me to read how students responded to the service-learning activities (see Appendix F). The third interview helped me assess how much students learned about service-learning and whether behaviors reflective of positive character traits resulted from participating in the problem-based service-learning course (see Appendix G). From the students’ responses in the interviews, I coded consistent themes, which matched the 18
different character traits discussed throughout the course (see Figure 1). These interviews took place at school with the partnering teacher and during a study hall period. The interviews were conducted in a semi-structured format, and a set of common interview questions were presented to each student. Based upon students’ responses, additional follow-up questions were presented. The questions were all established prior to the interviews.

The last type of data was derived from the interviews using an audio device. Each interview was audio recorded to capture verbatim the student responses, even though the interviewer wrote down descriptive field notes during the interviews. Each interview lasted approximately 15 minutes. Following the interviews, a compensated transcriptionist transcribed each interview verbatim and kept the transcribed document as an additional source of data. In addition to reading and analyzing the transcripts, I also listened to the audio recordings of each interview. Through reviewing these audio recordings at the end of the semester, I was able to recognize laughter or varying tones in the students’ recorded voices, which added to the richness of the data.

Using multiple qualitative data sources served to strengthen the validity of the case study. Yin (2003) has noted that using multiple sources of data and evidence in case studies allows researchers to address a broader range of historical, attitudinal, and behavioral issues. According to Yin, the most important advantage of multiple sources is that they develop converging lines of inquiry. This means that I was better able to triangulate data and draw conclusions that were more accurate.

Data Source Validity

To address the validity of the data sources, I used four specific strategies. First, my long-term involvement with the students enhanced the study because it allowed me to be very candid
with the participants and very accurate about observations in the classroom and at the service
sites where the students were working. According to Maxwell (2005), “Not only does long-term
involvement provide more, and more different kinds of data, but also the data is more direct and
less dependent on inference” (p. 110). Maintaining a constant, daily presence in the school
building allowed me to recognize different social situations that may have been atypical and
worth reporting. Moreover, students were more likely to trust the partnering teacher and me and
feel more comfortable during the observations. The repeated interviews and documented
observations during group work were completed by the partnering teacher, which allowed me to
assess the results at the end of the semester and compare students’ responses and tendencies.
This long-term commitment empowered me to collect “rich” data—that is, data originating from
verbatim interview transcripts as well as observations (Maxwell, 2005). I was also the instructor
of the problem-based service-learning course. This allowed me to talk with the student
participants every day. At the end of each class session, I recorded detailed and descriptive notes
that included observations and personal feelings.

The second strategy consisted of respondent validation or “member checks.” This
occurred after all three interviews had been conducted and after all the formal observations had
been completed. The formal observations included four classroom observations conducted by
the partnering teacher when the students were working on their service-learning projects and my
observation of students at the service-learning sites. The partnering teacher asked the
participants to read through these transcripts to determine if anything that she or I recorded was
inaccurately portrayed or written. Once these were reviewed, corrected, and signed by each
student, the transcripts were handed back to the partnering teacher for safe storage until the end
of the semester.
The third strategy involved using methodological triangulation to validate the qualitative data. Methodological triangulation of the study provided a diverse range of sources from which to retrieve data and draw upon for conclusions. Students were provided a multitude of opportunities to share their thoughts and demonstrate their actions. For instance, students wrote responses in their reflective online journals or course assignments. As mentioned previously, participants were interviewed three times during the semester and observed during group work and at the service-learning sites. With all of these data sources, I was better able assess and explain their reactions and comments from a variety of perspectives and to accurately report perceptions on what happened before, during, and after the service-learning activity.

The last method used to address the validity of the qualitative data sources used in this study were quasi-statistics. Becker (1970) has stated that “one of the greatest faults in most observational case studies has been the failure to make explicit the quasi-statistical basis of their conclusions” (p. 81-82). For the study, I calculated descriptive statistics, including the number of detentions and suspensions that the students earned during the course of the semester. These data helped to answer the first research question.

In order to ensure that future replications of this study yield similar findings, I accounted for the reliability of qualitative data sources. As this chapter describes, I made the study’s procedures as systematic and repeatable as possible. I also maintained a chain of data as suggested by Yin (2003). These data initially came from research questions that have been determined and constructed in advance for interviews and course assignments. Then the information gathered from these data sources was documented continuously each week and compiled into a case study database with citations regarding times, dates, and responses of the participants. Another strategy to indemnify the reliability of these data sources was the review of
drawing conclusions as I cross-referenced the findings. By citing relevant portions from the data sources, the chain of evidence can be easily followed to assure that quality control has been followed appropriately and the study can be replicated. The next part of this chapter will discuss the data collection procedures that enhanced the research quality of this study.

**Data Collection Procedures**

The experimental and control groups were established at least two weeks before the start of the school year in August of 2012. Each week of the treatment course followed a similar format (see Appendix H) as indicated in the course syllabus. Data were collected with the four methods of online course assignments, observations, interviews, and discipline incidences (detention and suspension) totals. Each method occurred at various intervals and with varying procedures as described below.

The problem-based service-learning course was linked with a website that students could access at any time and from any location with an Internet connection. This website contained links to the syllabus, weekly ethical dilemmas, class handouts, assignments, copies of lecture notes, weekly PowerPoints, and clips of weekly role models on YouTube. Each week, two pieces of information were collected from students that required approximately 10 to 15 minutes to complete (e.g., ethical dilemma and Friday assignment). On Monday of each week, an ethical dilemma (see Appendix B) was accessible on the website and was accompanied by approximately three questions to which students responded. The questions encouraged students to think about the character trait of the week and how it applied to them. I required the ethical dilemmas to be completed electronically and turned in on Tuesday (before class) using a digital dropbox, which the students were aware that I was the only one who had access to through the school’s online server. On Fridays, questions were posted for students to answer by Monday,
and this was referred to as their online journal, or “Friday Assignments” (see Appendix C for example). These online assignments were submitted to my digital dropbox. The online course assignments allowed students to demonstrate their perceptions and understanding on a variety of issues covered in the class and offered me a running log of data with which to assess their character development throughout the course.

The next data collection method, which included the observations, took two forms as well. These observational recordings occurred at varying intervals throughout the semester. However, all records were kept by the partnering teacher in the observation protocol form (see Appendix D). During weeks two and three, guest speakers were brought in from the service-learning sites to describe their programs, opportunities, and pose a problem that they wanted the class to help them solve. The guest speakers were representatives or employees of the soil-and-water conservation agency, the senior citizens center/veterans retirement home, and the adults with disabilities agency. Once the whole class had listened to all of the presentations, the students formed groups consisting of three to four students based on which agency they were most interested in working and which problem area most complemented their skills. The students then began to follow the Illinois Mathematics and Science Academy (IMSA) process to solve the problem through research and discovery. Students were given two days out of the week to work on their problems during weeks four, five, and six. During these days, I worked with the groups to keep them focused, listened to their conversations, and observed them working with others. The partnering teacher recorded some of these conversations and actions on the observation protocol sheet four times over the course of the semester for each of the three groups.
The three groups of students visited their service-learning sites on two different occasions. One visit occurred during the first quarter (weeks 7, 8, and 9), and the next visit was during the second quarter (weeks 10, 11, and 12). While students were engaged at their respective service-learning sites, I also took field notes with bullet points and wrote a reflection log to document the students’ interactions. In the classroom group sessions and at the service-learning sites when students were working with adults, I listened and watched for behaviors and language that I would consider displaying negative and positive character traits. For instance, negative comments and behaviors included making references to drugs, alcohol, or profanity; not following my directions or directions given by other adults; looking up inappropriate material online; engaging in verbal or physical altercations; harassing other students; or violating any school or classroom rules. Positive comments and behaviors included using manners and being polite in the classroom or at the service sites by shaking hands with others, saying “please” and “thank you,” or offering to assist someone in need. Other positive character traits included being timely in submitting assignments; not talking back to students, the teacher, or other adults; and completing their assigned group tasks. These observations were recorded and helped me formulate purposeful questions to use during the subsequent interviews.

The partnering teacher conducted in-depth individual interviews with each student in the experimental group to explore their perceptions of their character traits and their service-learning experiences (see Appendix E-G). Three interviews were conducted, (a) within the first week of the semester, (b) following the completion of their service site visits, and (c) at the end of the semester. The interview process provided insight not available in other data gathering. For each interview, the following protocol was followed:

I. Pre-Interview:
Step 1: A time and date were established with each student that fit into his/her schedule during weeks 2 (beginning of semester), 14 (following both service-learning visits), and 18 (end of the semester).

Step 2: Permission to audio record the interview was granted by the student and parent (see Appendix K and L).

Step 3: A conference room request was completed, and permission was obtained from the central office to conduct each interview.

Step 4: The partnering teacher arrived at the interview site five minutes early to set up and test the audio recorder as well as to review the questions being asked.

Step 5: A checklist of materials to bring and set up was reviewed (see Appendix I).

II. Interview:

Step 1: The student entered the room and sat across from the partnering teacher (interviewer) in a chair that was separated from her chair by a large table. The student’s back was to the clock.

Step 2: The student was greeted upon entry and thanked for agreeing to participate in the study. The student was asked to turn off his/her cell phone.

Step 3: The name, time, date, and location were recorded on the interview protocol form (see Appendix E-G). Then approximately 10 semi-structured questions were asked to each student.

Step 4: Field notes were typed on a computer by the interviewer during the interview.
Step 5: After the interview had concluded (approximately 15 minutes), the student was asked to return to his/her class, a handshake occurred, and the student was thanked again for participating in the interview.

III. Post-Interview:

Step 1: Within one or two days following the interview, a verbatim transcript of the interview was produced by a compensated teacher within the school building.

Step 2: Within seven days after conducting the interview, the partnering teacher provided the student with a paper copy of the transcribed interview. The student was instructed by the partnering teacher to conduct a member check for validation purposes. Each student was given about two days to read over the interview and offer any corrections. Then each student signed his or her name on the transcripts and returned them to the partnering teacher.

During the interviews that were conducted following the service-learning events, I asked the partnering teacher to follow van Manen’s (1990) guidelines for interviewing. For instance, van Manen suggested when interviewing participants about certain experiences, it is imperative that the interviewee respond with questions or comments that are as closely associated with the experience as possible. Lastly, the field notes compiled by the partnering teacher during each interview followed the three suggestions offered by Creswell (1998) when he stated that a header should be used to record essential information about the project, space between the questions should be made on the protocol form, and closing comments should be written out to thank individuals for their participation in the interview process.

The last data collection procedure that took place involved the control group and the experimental group. Through the school’s discipline database, I collected all of the suspensions
and detentions the students accumulated from the fall semester of 2011 and the fall semester of 2012. Examples of these infractions included insubordinate or disrespectful behaviors, fighting, or degrading acts towards other students and school personnel. After data from the documents, observations, interviews, and discipline data were collected, the data were analyzed.

**Strategies for Analyzing the Findings**

In this section, the data analysis methods are presented. Because this was a mixed methods study, two separate strategies were used to analyze the data. Emerson, Fretz, and Shaw (1995) suggested that the initial step in qualitative analysis should be to read the interview transcripts, observational notes, or documents that are to be analyzed. While I read through the documents, analytic memos were also written by me. Miles and Huberman (1994) cite analytic memos as write-ups or mini-analyses that are written about what is learned during the analysis process. They suggested that writing analytic memos is an essential technique for qualitative analysis. After the data were read and memos written, the data collected from the discipline logs from the previous year and current year were entered into a spreadsheet format (see Tables 2 and 3). The discipline logs were categorized by the number of detentions and suspensions earned from both the experimental and control groups. The course documents, observations, and interviews were compiled in separate electronic folders and a hard copy was kept in three-ring binders. This was organized in an Excel spreadsheet program that allowed me to code the data and to gather material into themes, or nodes. In addition, I was able to uncover trends and to see how ideas were related.

The qualitative data were reduced into manageable units by applying codes. These codes included both inductive and deductive measures. The inductive codes were developed as I coded the data. These categories were broad and included home life, personal beliefs, intergroup or
interpersonal relations, behavioral management issues, or work ethic. Deductive codes were established prior to the study as they related to the 18 character topics and traits from Hoedel’s curriculum (see Appendix J). Both sets of codes were recorded in the data spreadsheet. Then once all data were coded, the data were triangulated in the spreadsheet and sorted by my unaided eyes to identify the constructs, themes, and patterns that exist to draw conclusions.

The second strategy used to analyze the data was quantitative. I determined the means from both the experimental and control students’ individually and collectively as a group. This allowed me to compare and evaluate if students increased or decreased their number of earned detentions or suspensions from the previous fall semester. If the quantity of these incidents increased, results would suggest that the students from either group did not improve their positive character traits with or without the course as an intervention.

**Delimitations and Limitations**

With these data collection analysis strategies in place, there were delimitations and limitations to the study. One delimitation of this study was that research was only being conducted on one high school with junior and senior students in a public school system. This northern Ohio school was purposely selected, as it has provided students the option to enroll in the class as an intervention, if the students have at least 10 detentions and/or have a suspension within the last school year. This limited the number of students to be studied to no more than 15 students. However, the readers should note that the goal of the study was not statistical generalizability, but instead to gather evidence from themes to determine the effectiveness of this course. Lastly, this study was limited to studying students and not educators’ or parents’ perceptions of problem-based service-learning. This selectivity was due to only students, not
other parties, being engaged in the course on a daily basis to learn the background, structure, and operations of the course.

A limitation of this study includes the fact that I had never taught a high school class before this study. I knew that there were going to be adjustments and learning on my part when lessons were taught and classroom management policies were enforced. Another limitation is that there was a strong need for a balance between being an administrator, the teacher of the course, and the researcher at the school of the study. Therefore, the biases and preconceptions of me as the researcher were taken into consideration. These biases were controlled by building trust and rapport with the students in the previous year, so that open and honest beliefs and experiences could be shared to hopefully add more validity to the study. The daily immersion and in-depth interactions with the students allowed me to connect with students from a variety of emotional and social aspects to determine what influences their behaviors. However, I kept in mind that if a student crossed the line and deserved a consequence to immediately improve a behavior, I took action as any teacher would do and issued the student a detention, asked the student to go to the hallway, or sent the student to the head principal.

**Researcher Role**

For this research study, I took into account certain considerations. The first is that there was potential for researcher bias. Maxwell (2005) has warned that not understanding one’s own research role as it relates to his or her values and expectations can influence the execution and conclusions of the study. Not only was I the teacher of the problem-based service-learning course that focused on developing and improving the demonstration of student’s positive character traits, but I was also was the sole researcher and an administrator at the school where the research was conducted. Wearing all of these different “hats” required a balance each day.
However, Babkie and Provost (2004) mentioned two things to keep in mind when conducting action research. The first is that it is the teacher’s job to teach, and data collection should not interfere with this primary role. Secondly, these authors have warned that action researchers should not change their behavior during data collection because it may influence the results. Maxwell (2005) has suggested that a goal in a qualitative study is not necessarily to eliminate this influence but to understand it and to use it productively. The role as a teacher researcher enabled me to hear, observe, and comment freely as the study evolved. I took these points into careful consideration and asked the partnering teacher to record observation data during group activities and also asked her to interview students. The evidence the partnering teacher collected helped to control for any potential biases. Because I was unaware of these pieces of data until the conclusion of the course (partnering teacher’s recorded observations and students’ interview answers), my behavior was not altered.

In addition to these considerations, it must be noted that even though I had a direct connection to the school, I was not required to teach the intervention course. Therefore, I was not emotionally attached to the course and remained open to changes. In addition, students completed this course on a voluntary basis, and a maximum of 15 students was established so that I could address all students’ needs as thoroughly as possible.

**Anticipated Ethical Issues**

Before the study began and was approved by the Human Subjects Review Board (HSRB), I agreed to adhere to certain ethical conditions in my study. For instance, even though the partnering teacher was a part of my original plan to assist with the class, she was also required to and did follow a strict code of ethics. When she observed and recorded students working in-group settings, her documentation of the students was completely independent of
mine and I did not have access to her observation protocol forms until the conclusion of the course. In addition, during each of her three interviews with the students in the experimental group, she kept all audio and written records in a location not accessible by me. The only other person that knew the results of the interviews was the transcriptionist who typed out the interviews and handed them to the students for member checking purposes. Then at the end of the semester and in accordance with HSRB approved procedures, I was allowed to review the interview transcripts and listen to the audio recordings. With this procedure in place, I attempted to account for any anticipated ethical issues and the students could be more comfortable during observations and interview settings.

One obvious ethical issue in this study deals with conducting research on a vulnerable population of human subjects because the participants were under the age of 18. I knew that informed consent must be obtained from the parents or guardians and that the children participating in the study must grant permission to be interviewed. These issues were resolved before the first day of this class. The consent and assent forms were sent to the homes of students in both the experimental group and the control group at least two weeks before the course started in the 2012 school year (see Appendices K, L, M, N). Additional informed consent and assent forms were also collected at the end of the semester so that course documents and observations could be used as data (see Appendix O and P). All students enrolled in the course decided to sign and turn in the consent and assent form, even after they realized that the course was also going to be used for research.

Two other ethical issues pertained to the identities of the participants and reporting legally required information as an employee in a school setting. When the high school or its staff, students, service organizations, or service employees at these organizations are referred to
in the research, they were given pseudonyms to preserve anonymity of the participants. Also, students kept an online journal and responded to questions posted by me. Students submitted documents that revealed information about their own lives. These submissions were all tracked by online usernames and by requiring them to place their names on assignments. If information of a personal nature were revealed to me concerning a home-life issue or a situation where the student had been threatened or potentially harmed, I would have reported the necessary information to district and police authorities.

The last ethical issue is one that was alluded to earlier but must be mentioned here as well. Wearing the different hats of teacher, researcher, and administrator definitely required a balance each day. I understood and reassured HSRB that my responsibilities as a researcher came last and this is where the partnering teacher was crucial to my study. I knew that my job as an assistant principal was a first priority and if I had to step out of teaching the class for any moment in time, the partnering teacher could cover the class. Since I was hired as the assistant principal in charge of discipline, there were times a student in the experimental group incurred a suspension for his or her misbehavior in other classes. This occurred twice during the study—both instances involving the same student. Knowing that this would affect this student’s attendance and participation in class, I was obligated to fulfill the role of assistant principal first and teacher-researcher second.

The remaining two chapters report and discuss the study’s findings. Chapter Four presents the results of the quantitative data analysis and the findings of the qualitative data analysis. Chapter Five presents my personal reflections of the study, a summary of all of the findings, recommendations for further studies, and the implications for the education field.
CHAPTER IV: RESULTS OF THE DATA ANALYSIS

Chapter Four presents the results of the analysis of data that were collected during the semester-long problem-based service-learning course. This study presents the results from the following methodological procedures: (a) discipline data means, (b) coding and determining consistencies of interviews, course assignments, and observations, (c) and triangulation of the quantitative and qualitative data to answer the research questions. This chapter is divided into three sections that align with the research questions focusing on behaviors and responses that reflect (a) a reduction of discipline incidents, (b) improvement of behaviors reflective of positive character traits, and (c) benefits and applications of a problem-based service-learning class. This chapter also includes one additional section at the beginning describing a student’s reflections about the course.

Student Narrative

The following narrative depicts a student’s beliefs as they relate to the second and third research questions of positive character traits and benefits/applications of the course. This student made tremendous personal gains and shared her insight about the experiences she had during her service-learning activities. The excerpts below, taken from her personal reflection paper, display the intrinsic impacts a problem-based service-learning course can have on certain students who are considered at-risk.

Jada is considered a high school senior only by title and age. She is credit deficient, and she will not graduate on time with the class of 2013 from the cooperating suburban high school in Ohio that served as the research site for this study. During the 2011-2012 academic year, Jada had been removed from classes for insubordination and other defiant or disrespectful behavior towards students and teachers. With an “I’ll do things my way” attitude, her past is cluttered
with infractions that include violating the school dress code and inappropriately using school computers and her cell phone. Because she has been consistently unprepared for class and socially distracted from engaging in productive school activities, she has struggled in a school setting, to say the least.

However, there is also another side of Jada. She is frequently seen in the hallways with her headphones on singing to music. When she is having a good day, she will joke with her classmates and flash a smile that will light up a room. If she is presented a problem that she knows how to solve and enjoys the nature of the content, she will apply herself with a great deal of effort. Jada may never want anyone to know, but she has a kind heart. When Jada engages in a one-on-one conversation, she can be reasonable, logical, and understanding about important issues. After she completed an interest and career inventory, I was not surprised that her scores reflected a strong interest in social occupations. Jada enjoys her relationships with others and possesses some valuable and positive character traits. When she is placed in a setting in which she is able to excel and demonstrate her ability, her social skills become clearly evident.

For the problem-based service-learning activity, Jada chose to work with adults with disabilities based on the results of her interest inventory and the fact that she wanted to work with her friends in the class. During her two visits to the service-learning site, she assisted clients by training them in proper methods to greet visitors, answer phones, and complete office procedures at the front desk. She also conducted a memorable tie-dyeing t-shirt activity from start to finish with the clients, who had never previously tried tie-dyeing.

Jada was asked to reflect on her service-learning project in a reflection paper. In her paper, she commented, “I learned a lot from these citizens. I learned to have more patience, which was a big thing I lagged on before taking the course.” Jada was aware of the areas of
character that needed improvement, such as patience and respect. She also wrote, “I learned to be more open minded and respectful to those less fortunate, and working with people with disabilities gave me more of an appreciation of life.” Her pride in recognizing and overcoming these character deficits is further reflected in the following statement: “I proved to myself that I am capable of stepping out of my comfort zone to help others in need. Helping others really made me feel good. It also made me more appreciative of my life and my family.”

Providing an opportunity that allowed Jada to step into an environment and utilize her personal and social skills allowed her to learn more about herself and, as she put it, learn “how to love more and be more considerate.” Providing students with adequate resources and placing them in environments in which they naturally excel allows their character to shine through and their behaviors to be improved.

After her service-learning experience, Jada was able to reflect on what she had learned and apply these extracurricular experiences to school situations. For example, after her service-learning experience, Jada received only one detention and zero suspensions during the semester of the course (compared with last year’s nine detentions and two suspensions). She finished her reflection paper with the following sentence: “I thank Mr. Neiderhouse for this opportunity and pushing me to strive for the best.” These experiences resonated with Jada and at least three other students in the class.
Research Question One: Does Participation in a Problem-Based Service-Learning Course Reduce Behavior Incidents Requiring Discipline Intervention of Junior and Senior High School Students Considered At-Risk?

Reduction of Behavior Incidents.

Data for the first question were collected from the records of students earned detentions and suspensions during the duration of the semester of the study. These discipline results consisted of only detention and suspension (in-school and out-of-school) logs from one fall semester of 2011-2012 and the fall semester of 2012-2013 (course duration).

Discipline Results.

To determine whether students reduced their behavior incidents from the beginning of the semester to the end, data were collected from both the experimental group (students who chose to take the problem-based service-learning course) and the control group (students who opted not to take the problem-based service-learning course). Table 2 illustrates the discipline results from the control group and Table 3 displays the results from experimental group. The highlighted portions represent the differences from semester-to-semester for each group of students. As presented, the experimental group had 50 fewer reported cumulative detentions and 10 fewer cumulative suspensions from the previous fall semester. The control group had 8 more cumulative reported detentions and 11 fewer cumulative reported suspensions than the previous fall semester. This showed that both groups did decrease their suspension totals as a whole, but the experimental group had a greater reduction in their number of earned detentions at 50 less than the control group.
Experimental Group Discipline Results

A closer inspection of the experimental group shows that the mean detention score for the experimental group for the fall semester before the intervention was 7.8 detentions and the mean score for the experimental group during the intervention was 2.8 detentions. Eighty percent of the students in the experimental group had fewer detentions during the intervention and 20% remained unchanged. In addition, the experimental group had 1.2 suspensions before the intervention and .20 suspensions during the intervention.

Table 2

Control Group Discipline Results

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</tr>
<tr>
<td>Totals</td>
<td>30</td>
<td>38</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Means</td>
<td>2.14</td>
<td>2.71</td>
<td>1.14</td>
<td>0.36</td>
</tr>
</tbody>
</table>
Table 3

Experimental Group Discipline Results

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-Intervention Fall 2011 (Detentions)</th>
<th>Post-Intervention Fall 2012 (Detentions)</th>
<th>Pre-Intervention Fall 2011 (Suspensions)</th>
<th>Post-Intervention Fall 2012 (Suspensions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vince</td>
<td>11</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Emily</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Brandy</td>
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<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Jada</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Jim</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Rick</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Eric</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mike</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Bill</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Don</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>78</td>
<td>28</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Means</td>
<td>7.8</td>
<td>2.8</td>
<td>1.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

When analyzed from an individual perspective, the discipline results are even more revealing. Nine out of 10 students in the experimental group averaged more than 5 fewer detentions from the fall semester of 2011 to the fall semester of 2012. Emily and Rick did not earn a single detention during the semester of the course (2012-2013). Jada and Jim earned 8 and 10 fewer detentions, respectively, when compared to the previous year. Only 1 student was suspended during the semester in the experimental group. Eric was suspended twice for reacting
to situations with physically hitting another student. His behaviors were similar in nature to last year, and he continued to struggle with his anger and inappropriate reactions in certain situations.

*Control Group Discipline Results.*

The control group results display that before the 2012-2013 school year started, the group had a mean detention score of 2.14 detentions over the duration of the previous fall 2011 semester. However, after the fall semester of 2012, the control group increased its mean detention scores to 2.71 detentions per student. Fifty percent of the control group of students increased the number of detentions they had earned from the previous year. For the control group’s suspensions, the per student ratio was 1.14 suspensions in the fall 2011 semester and for the fall semester of 2012 the ratio was .36 suspensions per student.

The seven students in the control group who increased their detention totals from the previous fall semester, averaged 2.7 more per student. On the other hand, 5 students decreased their detention totals by an average of 1.8 less per student. Consequently, when compared to the experimental group, the control group increase of 8 detentions overall did demonstrate that the control group of students did not reduce their behavior incidents requiring discipline intervention over the course of the semester. Furthermore, students in the control group did have 5 total suspensions from 5 different students, compared to 1 student in the experimental group, who earned 2 suspensions.

In summary, the discipline data suggest that the students who were engaged in the problem-based service-learning course (experimental group) demonstrated fewer discipline incidences as indicated by earning 50 fewer detentions and 10 fewer suspensions from the previous school year. Furthermore, when compared to the control group, the control group
increased their detentions by 8 and over 50 percent of the control group increased their detentions totals from the previous call semester.

**Research Question Two: Does Participation in a Problem-Based Service-Learning Course Improve Behaviors Reflective of Positive Character Traits of Junior and Senior High School Students Who are Considered At-Risk?**

**Improvement of Behaviors Reflective of Positive Character Traits.**

The second research question was addressed by collecting and analyzing three sets of data. All three sets of data were based on qualitative information, and all three were collected from the experimental group only because these students were enrolled in the problem-based service-learning course. The first set of data was collected by conducting three interviews: (a) before the beginning of the course, (b) following the service-learning activity (approximately halfway through the course), and (c) at the end of the course. The second set of data was collected by gathering student assignments referred to as “ethical dilemmas,” “Friday assignments,” and “personal reflection logs.” The third set of data was collected by conducting periodic observations, as well as recording students’ comments and actions in the class during group work sessions and at the service-learning sites.

**Interviews.**

The partnering teacher for the course conducted the three separate semi-structured interviews and I did not gain access to the transcripts until the conclusion of the course. These semi-structured interviews allowed me to gain insight into students’ thoughts and feelings about themselves and the course. With some of the same questions being asked in the first and last interview, I could have more information relative to the improvement of positive character traits over the semester. These interviews enabled me to access information about their perceptions of
the world around them and better understand stories that reflected their experiences. The interviews also elicited more personal information from students than did the survey because the partnering teacher had knowledge of the course’s lessons and was able to probe students by asking follow-up questions.

*Pre-course Interviews.*

As mentioned in Chapter Three, all interviews were audio recorded and then transcribed verbatim by a paid teacher transcriptionist. The first interviews were conducted at the beginning of the semester, and the partnering teacher asked students in the treatment group 13 questions each (see Appendix E). These interviews provided a baseline indication of students’ thoughts and feelings about their own positive character traits, learning styles, examples of people with positive and negative character traits, and the students’ problem-solving abilities and experiences. Analysis of information from the first set of interviews revealed five themes within the students’ responses: (a) defining character, (b) self-perceptions of their own behaviors, (c) service experiences, (d) the main character trait cited to improve upon, and (e) learning styles.

*Defining Character.*

The initial question about how the students would define character was problematic for some of the students. For instance, Emily stated that character is “making the best of how you bring yourself up,” Eric described character as “how you come across to people,” and Ryan said, “I don’t really know… how they [people] think of things their way.” Because these students provided limited responses, it was clear that the 10 students had difficulty articulating a definition of “character.” They were able to provide examples of people with both positive and negative traits that related to character, but they could not articulate a thorough definition and pinpoint the essence of character.
Self-perceptions of Behavior.

The second theme that emerged was students’ perceptions of their own behaviors. While I classified these students as students who are at-risk behaviorally because they had each earned at least 10 detentions and/or 1 suspension during the previous fall semester, the students also had developed similar perceptions of themselves based on their discipline records relative to last year. Students were asked to rate their characters on a scale of 1 to 10, 10 indicating that they displayed many positive character traits and their behavior was nearly perfect. For example, Jada rated herself a 6, Jim a 4, Eric a 6, Mike a 6, and Don a 6. Jada said her behavior last year was “horrible, unnecessary, and irrelevant.” Jim said that he was a “troublemaker who chooses the wrong path.” He also said, “I try to be mean so people wouldn’t talk to me.” Eric laughed when he was asked about his behavior last year and commented, “It was horrible; I got suspended and detentions for being in fights.”

Service Experiences at Work.

Next, at least three students indirectly cited a core element of service-learning without realizing it. This is the element of providing a service to others. Vince was asked to rate his character and said that he would rate himself a 2 in the past, but now it would be a 7. When the interviewer asked why he thought his character had improved during the last school year, he said, “Working and helping others made me more responsible and kept me out of trouble.” Vince worked at an amusement park, and he stated, “I learned to be on time and help drivers stay on the track.” Bill also said that by working and by providing a service at a restaurant and a sailing company, he “made better choices and was more responsible.” Furthermore, Jim lives with his grandparents and said that he is constantly serving them by “fixing her [his grandmother] peas and soup and doing chores to make their lives easier.”
Main Character Trait to be Improved

A reoccurring theme that was cited by 7 out of 10 students in the first interview was the character trait of “attitude.” For question number five in the semi-structured interview, students were provided a list of character traits that would be discussed in class during the semester and asked to review the list. Then they were asked to select one or a few character traits from the list which they felt they needed to improve during the course of the semester. Jim, Eric, and Mike were the only students who did not directly indicate that they needed to work on their attitude. Emily remarked, “I can have an attitude here and there on a bad day.” Don noted, “My attitude probably. I try to improve that, but sometimes it gets negative.” Brandy felt that her attitude needed to be improved and stated, “My attitude sometimes gets in the way, and I need to learn some self-control.”

Learning Styles.

The last overriding theme to emerge as a result of analyzing the first set of interviews was the students’ learning styles. For question Number 13, students were asked to indicate in which type of learning environment they felt they learned the best, and 9 out of 10 students made statements relating to group work and hands-on activities. Jim was the only participant who preferred to work one-on-one with the teacher and preferred not to give presentations. Vince remarked, “I learn by hands-on and projects. It even helps if I work with someone else, like in a group.” Rick said that he enjoys “designing and building things from scratch, learning how to do it... like taking apart laptops and putting them back together.” Emily commented, “Tests are okay sometimes; projects are probably more efficient because it’s working with groups of people, and that helps.” Mike used the adjective “interactive” to describe his ideal learning environment. Bill said the following:
I like learning with people... like, projects are fun. Being in groups and stuff—I like that a lot more. You can communicate with people, and that gets it done easier, quicker, and seems a lot more simpler. I mean, I’m not taking the easy way out. I like a challenge, but I’m not the creative type, so I need a group to help me out.

Even though I did not know how students responded to these questions until after the class, I was relieved to hear these answers upon analysis because many of the class activities centered on collaborating with others and hands-on learning. Students indicated that they desired a classroom environment that is interactive, where they are encouraged to communicate, where they can work in groups on projects to solve problems, and where they can construct meaning and understanding in a hands-on manner. Coincidentally, this was exactly the type of classroom that I had attempted to create in both the design and implementation phases of the course.

*Post Service-Learning Activities Interview.*

During the second interview, the partnering teacher asked the 10 students in the experimental group questions about the character traits they believed they displayed and improved at the service-learning sites, which included assisting the veteran’s, building of the green roof and rain barrels, and training adults with handicaps (see Appendix F). These interview results are divided according to the three different service-learning projects that were completed by the students during the semester. The results were analyzed in an attempt to answer to the second research question concerning positive character development being impacted by the problem-based service-learning course.

Students in the experimental group studied and were taught the Illinois Mathematics and Science Academy method for problem-based learning (see Figure 1). Then the directors at the service-learning site presented them with at least one problem. The students gathered the
information about the site and or clients being served to develop a plan of action while at the site. The experimental groups shared this information in presentations they prepared for the class and for service-learning site representatives. Then each experimental group made two visits to the service-learning site to apply what they were learning in class about character, helping others, and problem solving. Their primary goal was to improve the site and or help the clients.

The first experimental group of students went to a local veterans nursing home with three specific purposes. First, the nursing home wanted younger students to meet their residents and bring the residents joy and conversation. Secondly, the nursing home wanted assistance completing the Veteran’s History Project, which was sponsored by the United States Library of Congress. This involved interviewing, making audio and video recordings, and submitting forms relating to the veterans’ service experiences. Third, during the second visit to the nursing home, the students met with veterans to help them learn about computer technology. The students completed a step-by-step manual and showed the veterans how to email and Skype with their families and friends.

The group of four students (Jim, Mike, Bill, and Don) who were interviewed and completed the service-learning project, each responded similarly, which permitted a common theme to arise and assist in answering the second research question. The two positive character traits that all four students readily cited that they developed during the course of the service-learning activity were respect and a deeper appreciation for others. Jim said that the service-learning project allowed him to “learn more about myself and how I hope to be a better person. I developed more respect by listening and understanding about the situations that they [veterans] were in.” When Mike was provided the list of character traits that we had covered so far in class and asked to comment on the ones he believed he had improved, he stated, “...respect and
appreciation the most.” He further said, “...because they’re veterans so you’re supposed to respect them because they risked their lives to protect our country. I appreciate what they have done for our country.” Don realized that when individuals are in the service, they can work on their character. He remarked, “I could see what kind of character my veteran received from going to war and also from growing up in that situation.” He continued, “I have learned respect when I listened to the veteran talk. I showed appreciation for him fighting for our country and some empathy when he was talking about his wife and his family that he rarely sees.”

Don said he improved the positive character trait of empathy, and other students in this group also alluded to improving a greater sense of empathy from their experiences with the veterans. Bill said, “We went there to help respect the veterans, and we had to help them out with what they needed help with, like technology and interviews.” Bill expressed a deeper sense of appreciation when he said, “We got to appreciate and learn about what their experiences were in life and especially in the service.” He then referred to improving empathy as he commented, “empathy… we felt like when we had to interview, we had to put kind of ourselves in their shoes and realize what happened to them back when they were in the army.” Bill said he thoroughly enjoyed his experience and has a desire to be a Marine one day. Bill said he learned academically about history content from his veteran because the veteran was in the Navy, the Korean War, and in a submarine. Bill liked meeting someone new because, as he would admit, he is rather shy at times around strangers. However, Bill made a profound comment: “...getting to meet the person and getting to help someone else for a change… instead of having people help you and you feel like you can and were meant to do it.” Through these experiences with the veterans, it was apparent that each of the four students was able to articulate the character traits
of respect and appreciation by meeting someone new and understanding the hardships endured in someone else’s life.

The second experimental group of three students (Vince, Rick, and Eric) partnered with a local environmental agency to add an addition to a traveling educational house. Their problem to explore was to decide what they could add to the house so others could learn about conserving and better utilizing the environment around them. The students researched green roof technology and the benefits of rain barrels. They contacted a local greenhouse and asked for donations of materials, and when the students arrived at the service-learning site, they had to construct and add the green roof to the existing shingled roof. This project was problem-based learning at its finest since the students had received very little instruction from the environmental agency about how to measure, cut, and affix the plant trays (sedums) to the top of the roof. In between the first and second visits to the site, the students created a brochure explaining the uses and benefits of green roofs and rain barrels (see Appendix Q). On the students’ second visit, they constructed and personalized rain barrels to be secured under the roof’s eave spouts. The barrels were to be used to conserve the water runoff from the roof for later use and so that as an academic exercise, students could measure the amount of cool water coming from the green roof side and the amount of warm water runoff coming from the shingled side. This project required teamwork, communication, and application of mathematics and science standards.

The two positive character traits that students said they improved during the environmental project were attitude and respect. During the interview conducted after the service-learning activity, Rick set the tone concerning attitude and respect for his group. He said, “We needed to have a positive attitude because you want to be in public showing a positive attitude. We had to show respect to the women we worked with on the project. Women should
always be shown respect.” Eric expounded on respect with the simple statement, “Being respectful goes a long way.” Rick believed the service-learning project helped him to see “what people [group members] are really made of. Are they respectful? Are they honest? I learned more about judgment and if people are nicer, you can show respect, attitude, and learn from body languages.” Eric further discussed attitude in terms of internal group dynamics: “We didn’t give any bad attitudes and we had positive attitudes and worked with each other.” Vince also said, “I came closer to my partners at the site through working with them. I got along with them, so my attitude improved.”

The group jointly attributed preparation as a key to their success with the environmental project and as an improved character trait. This was evident as Rick pointed out:

To make the rain barrels and green roofs, we needed to know what it was about, what would and wouldn’t go on it, what would hold it, and we prepared by what I said earlier, by drawing and putting it down on paper and taking it to the site to redraw it or recreate it.

Eric learned more about preparation through his research as he commented, “We learned what a green roof was, what a rain barrel was, and what it does for the ecosystem.” These students learned the applicable background information necessary before engaging in the project. Not only did they learn the problem-based learning process as they connected their cognitive learning about the environment to the project, but internally the students added to their affective capabilities. For instance, Vince stated that they were able to “show people what a green roof and rain barrels were and how just a little bit can help the environment.” He continued to say that he enjoyed “helping others” and said, “We made a difference.” Vince’s comments reflect the fact that students were able to articulate positive character traits of attitude, respect, and
preparation and that this improvement allowed the students to make a difference not only in the environment but also in themselves.

The last group consisted exclusively of female students (Emily, Brandy, and Jada). They worked at a center devoted to helping adults with disabilities, and they worked on two separate problems. The director of the partnering agency presented the first problem before the students’ first visit to the service-learning site. The director said that her agency struggled with helping the clients to learn new life functioning skills, such as cleaning, communicating with staff, socially interacting with other clients, and engaging in other procedures. Once presented with this problem, the students researched typical behaviors for handicapped adults or clients, learned how they could accommodate the handicapped adults and what the most effective strategies would be to teach the clients a new skill. The group created a brochure and made a presentation to the director before their first visit. This presentation included recommendations about how best to teach adults with disabilities, such as providing tips or step-by-step instructions, establishing a routine to reinforce skills, and providing tips on proper communication. Then, once at the service-learning site, Emily taught a client proper cleaning methods, Brandy trained clients how to use the new electronic identification system to check in and check out of the building each day, and Jada taught one client how to manage the operations of the front desk by properly answering calls, greeting visitors, and asking visitors to sign in upon arrival and departure.

While at the site during their initial visit, the site director presented the group of girls with their second problem: creating a group activity for the adult clients that allowed them to try something new during the clients’ activity period. The group brainstormed a variety of ideas back in the classroom and decided to teach the clients how to tie-dye shirts. They created a step-
by-step guide with pictures of the different designs available and instruction for using the rubber bands in different ways to create their chosen design. The group researched the materials that they would need to complete the project and provided me with a list of items to purchase. Then, once at the site, they taught and assisted approximately 30 clients in 3 sessions how to tie-dye a t-shirt. The three girls were interviewed after their two site visits to determine if they could describe positive character traits as a result of their experiences. The two consistent positive character traits that each student cited were (a) increased preparation to complete the project and (b) a greater sense of empathy towards others. Brandy said she helped her group to be prepared for the project by “getting all of our tie-dye stuff and directions for them [clients]. We had everything set out and had a guideline to help them.” Emily further described the extensive planning process that she and her two group members completed:

In class, we had to-do lists of how to help them, what their needs were, and just a whole bunch of stuff in class before we actually went. We had the director tell us what we were supposed to do and were not supposed to do.

Jada further said, “We were prepared, too. We had, like, a 20-minute preparation time, and we set up everything according to how everything needed to be set up. This helped the project go smoothly.” By learning what was required for a successful demonstration, these students were able to develop an effective plan to solve the problems with which they were presented.

The three girls in this group, just like the students who visited the veterans’ service-learning site, also developed a greater ability to empathize once they came to understand the adults they were assisting and serving. When Brandy was asked about improving character traits during the project, she responded, “I guess I had to put myself in someone else’s shoes and be more empathetic.” She further said, “I can now be more empathetic when I run into certain
people.” Emily continued this trending theme as she stated, “it’s nice to help other people who need it. It was a good project, and I learned that I actually made friends there.” Emily recognized the clients’ struggles and tried to help them out because she “always had respect for them, but just, like, being able to see them in person and actually help them... I have so much more respect for them.”

However, Jada was exceptionally reflective in her interview as she remarked, “I showed empathy towards them because I was sincere with how they were and what situations they were going through.” Jada felt that this project “helped me to understand people more because I understand that just reflecting on myself that you don’t know what people go through and why they act like that and things like that.” Out of all of the girls in the group, Jada had much more to say about her experiences with the clients and how these experiences changed her life and perspectives on others. Jada continued, “I learned how to give out a reaching hand to people and be more considerate of people’s feelings... and how to cope with different things that come your way.” She said that she “appreciates more things and instead of looking at the big picture, starts looking at little things because the little things are mainly the ones that matter.” Not only did Jada’s perspectives on working with adults with disabilities change, but her perspective on life changed. In her words, it “opened my eyes and made me realize that I wasn’t looking at these things that I was looking at before.” She further stated that “it was good to work with people like that... people with disabilities... because it made me realize the things people are going through are worse situations than what I am going through, and this opened my eyes.” It can be strongly supported that all three of these students learned the importance of being prepared and by being prepared, they were able to complete the project successfully. Each member of the group also was adamant that they improved their empathy towards others in general and adults with
disabilities more specifically by working side by side with them and teaching them new life skills and new activities.

*Post-course Interviews.*

The post-course interviews were necessary in order for me to definitively answer the second research question and gauge the improvement of the behaviors demonstrating positive character traits that may have evolved from the beginning to the end of the course. In an attempt to answer the second research question, 10 questions were asked by the partnering teacher during the semi-structured interviews in order to determine whether students had gained a better understanding of the word “character” and if they could identify which positive character traits they felt they improved by engaging in the course and the problem-based service-learning opportunities (see Appendix G). After reviewing the post-course interview transcripts and listening to the audio recordings, collective themes appeared regardless of the students’ particular service-learning activity.

To analyze the post-course interviews, I needed to refer back to the pre-course interviews to determine if students demonstrated behaviors reflective of their positive character traits. The first interviews discussed the students’ definition of “character,” and I had them rate their own characters and behaviors from last school year. A few students reported that providing a meaningful service helped their character traits improve. A majority of students (7 out of 10) believed that they needed to work on their attitudes in school. They reported that they preferred learning in a classroom environment that was hands-on, interactive, and collaborative when completing group projects.

I did not have the partnering teacher ask the exact same questions as she did during the first interview; rather, she presented questions to the students designed to elicit responses that
would reveal whether students demonstrated behaviors reflective of positive character traits. For instance, when students were asked about how they would define “character” after discussing the topic during a course of 18 weeks, students offered more precise definitions. Originally, when Jim was asked about character, he admitted, “I don’t really know... like, a person or how they are or act.” Then, during the post-course interview, Jim defined “character” more accurately by saying, “I would define character as what type of person you are and what decisions you make and how you act on them.” Bill also improved his understanding of character. At the beginning of the course, his definition was “a form of how you act and what you represent”; however, at the end of the course, he defined “character” as “a personality type or trait that you have that defines who you are as a person.” Even though these definitions did show improvement in the understanding of character, students displaying their understanding of a definition did not lead me to conclude definitively that their character had changed or improved.

However, students’ responses to other questions during the post-course interview did allow me to surmise that changes in their understanding and awareness of positive character traits may have occurred. Nine out of 10 students who decreased the number of detentions they had earned from the previous fall semester provided an assortment of reasons indicating why they believed that their behaviors were reflective of positive character traits that improved throughout the current school year. When the interviewer asked them why, students reported that they did not play around as much, wanted to earn better grades, began to hang out with a different crowd, and simply matured as a result of being a senior. It can be implied that some students improved as a result of the course due to their responses they offered at various intervals. For instance, the components of problem-based learning and service-learning were referenced by the students when they discussed teamwork, research, linking the curriculum to
their projects, and the four consistently cited character traits. The character traits that they reported being improved from the beginning to the end of the course included respect, preparation, empathy, responsibility, and appreciation.

The reoccurring positive character trait that was alluded to by 7 out of the 10 students at the beginning of the course was also mentioned by 6 out of 10 students at the conclusion of the course: attitude. Vince reported that:

Last year my attitude was really poor and I didn’t do anything in school, and I disrespected the teachers and didn’t care. I will still run my mouth a little bit, but if a teacher tells me to do something, I just do it. Last year, I would have walked out of the class.

Vince and other students recognized the improvement of a better attitude as a positive character trait. When asked about which trait he felt that he improved the most, Don responded, “Probably attitude because I had a bad attitude last year. I still do, but I don’t use it as much because I have learned that it doesn’t get me anywhere.” When Emily was asked the same question, she stated, “My attitude. I’m not as rowdy and irrelevant as I was; yeah, I’ve grown up a lot.” Rick’s commented that his improved attitude was “the most important thing. He [Mr. Neiderhouse] could have talked about it [attitude] the whole time.”

The students reported in the post-course interviews that they had gained a better understanding of character and reported that improvements occurred most in the improvement of their attitudes. In fact, the number-one positive character trait students reported improving during the course of the semester was “attitude.” These interviews also elicited additional information from students that focused on the outcomes of the class and the positive learning environment for the students. For instance, Eric reported,
We took a field trip for the green roof, and most classes don’t do that, and most classes don’t allow you to do that hands-on stuff. It was a different topic per week and different quizzes, and I thought it was fun.

Before the class started, Don believed that he learned best when engaging in group projects and in hands-on environments. At the end of the course, he stated that the course “really opened my eyes to what character really is. We had many discussions, and students interacted with each other. Most classes are, like, essays and all of that stuff.” The students consistently reported that the problem-based service-learning course was different from other classes and that it was fun. Rick cited that the class was the “only one that has had field trips, and they were fun because we got to actually do hands-on things and learn more about ourselves than in other classes.” The students did learn about themselves as they were asked reflective questions that placed them in a variety of scenarios that they may encounter in their lives. They practiced appropriate responses so their positive character traits could be displayed. This helped the students because they could then apply the positive scenarios they practiced and try to avoid a negative or detrimental situation. Because students practiced behaviors reflective of positive character traits repeatedly, they developed good habits and could apply those habits in a hands-on, interactive, productive manner in school and outside of school at the service-learning sites.

When Mike was asked about the benefit of practicing positive character traits, he responded, “It will come natural after a while. You won’t have to think about it and keep trying as hard.” This mode of thinking reflected in Mike’s comment is precisely the mode of thinking that I knew the students were capable of achieving.
Summary of Service-Learning Interviews.

From the interviews, students reported emerging themes of attitude, respect, empathy, and preparation. Based on an analysis of all three interviews, the second research question (Does participation in a problem-based service-learning course display the behaviors reflective of positive character traits of behavioral junior and senior students at-risk?) can be partially answered. The overriding positive character trait in which students reported that they showed improvement was their attitudes. By having an increased focus on having a positive attitude, students appeared to be able to handle classroom situations more appropriately and respectfully respond to other adults outside of the classroom. In addition to attitude, students in each of the three service-learning activities improved other similar behaviors reflective of positive character traits, including respect, empathy, and preparation. Students both in the veterans group and environmental group noted respect as an improved positive character trait. This improved respect was for the veterans’ service to the United States and for respect of the environment. Meanwhile, students in the veterans group and the group working with the adults with disabilities reported that they improved their empathy for the adults. The veterans group stated that they learned about the daily struggles that these veterans faced either on the battlefield or in everyday functioning. Lastly, students in the environmental group and the group assisting the adults with disabilities reported developing an understanding and awareness of the positive character trait of preparation, which helped them succeed in completing their projects. Therefore, depending on the project and clients with whom the students were working, the four positive character traits that were reported by the students as being improved through participation of the course were (a) attitude, (b) respect, (c) empathy, and (d) preparation.
**Course Assignments.**

Another source of qualitative data included homework assignments collected throughout the semester. These assignments were categorized into three categories (ethical dilemmas, Friday assignments, and a personal reflection paper), and allowed me to cross verify information from these sources with information from my interviews.

**Ethical Dilemmas.**

The ethical dilemmas consisted of a weekly graded assignment presented to the students every Monday. The students were required to complete the assignment before class on Wednesday (see Appendix B for example). These dilemmas supported what the students reported in the interviews as similar findings of the positive character traits of respect and empathy emerged. The ethical dilemmas were submitted to me online and included the time of submission and their email usernames. Each of the 18 different ethical dilemmas corresponded with the character trait students were studying that particular week. Students were instructed to express their true feelings and how they would handle a complex situation involving an apparent internal conflict between moral imperatives. These dilemmas were provided as a graded assignment to the class because I wanted the students to understand and more fully explore the decision-making process and consequences of their decisions.

In analyzing approximately 540 responses (3 questions per ethical dilemma, 10 students, over 18 weeks) throughout the course of the semester, my goal was to determine whether students reported improvement in the similar character traits that they mentioned in their interviews. Additionally, I read how the students’ reflections improved over time. I had originally assumed I would have identified more alignment than I did between the interviews and ethical dilemmas. However, the interviews were more focused on the individual students’
character development and the ethical dilemmas emphasized how the students would react in different situations. It was also challenging to determine whether students were gaining skills relative to building character since the ethical dilemmas were different each week.

Responses on two specific ethical dilemmas suggested that students aligned their interview responses with their ethical dilemmas. The responses were similar because in the interviews, students discussed how they demonstrated respect and empathy for others through assisting and listening to the veterans while trying to imagine life as a soldier. Then in the first ethical dilemma students were asked how they could show respect for others. Students both in the veterans group and the environmental group mentioned respect as a character trait they had improved during the course of the semester. When asked how they could show respect, students in these two groups replied, “making eye contact,” “shaking hands with people you meet to introduce yourself,” “listening to the person you are talking to,” and “using manners, like opening doors for others.”

The responses they provided mirrored some of the behaviors we had discussed in class. From the beginning of class, the students were taught effective presentation skills, such as making eye contact with audience members, shaking hands with guest speakers or classroom visitors, and politely introducing oneself. As part of class activities students practiced listening skills and even engaged in a class challenge, which consisted of “who can open the most doors for people.” As the semester progressed and without my prompting, the students shook classroom visitors’ hands, made eye contact with guest speakers and audiences during their presentations, and opened more doors for others as indicated on their tracking sheets (see Appendix R). While these behaviors were not evident at the beginning of the class students began to demonstrate them to a greater degree of respect by the end of the course.
Another character trait that was identified in the ethical dilemmas as well as the interview data was empathy. The veterans group and the adults with disabilities group reported empathy in their interviews as a trait improved during the course. The students referred to this when they were asked the question, “As you get older, do you think you have a civic duty to give time and money to people less fortunate than you?” When asked this question in her ethical dilemma during Week 13, Jada responded, “Yes. It would be something that I feel would be right. I love making other people happy, and if giving back to the less fortunate put a smile on their faces, then I’m all for it.” Other students, such as Mike, asserted, “I’ll try to help the less fortunate.” The sense of empathy improved by the students over the course of the semester was manifested in their responses, as Emily stated:

Yes, I feel I have a civic duty to give others my time and my money because there are people out in the world who have it worse than me, and I feel that if I don’t at least do something for them, it wouldn’t be right.

These statements demonstrate that they improved the capacity to recognize emotions that are being experienced by another human being and have an awareness that they can and have vicariously made a difference in the lives of the less fortunate.

*Friday Assignments.*

The second set of data collected from the course assignments was called “Friday Assignments” (see Appendix C for example). The findings from the Friday assignments allowed me to cross reference the data with the student interview data. The Friday assignments revealed the similar positive character themes of preparation and respect, when compared to the student interviews. These were again posted in an online format on Friday to which the students responded and then submitted their work electronically to me before the start of class on
Monday. The Friday assignments differed from the ethical dilemmas in that they did not ask about scenarios that may or may not have happened to the students; instead, they ask for direct answers and specific examples about students’ experiences in their lives. The Friday assignments provided students opportunities to set goals for themselves, express their opinions about different topics (e.g., cultural competency, bullying, fighting, etc.), engage in reflective thinking, and admit mistakes, and consider how they would improve for the future.

Similar to the ethical dilemmas, comments alone from one Friday assignment would not be sufficient to assess the improvement of behaviors reflecting positive character traits that occurred through participation in the course. Therefore, evidence from observations must also be considered in conjunction with the students’ comments. One particular Friday assignment from Week 2 required students to create their own personal mission statement, goals, and action plan for themselves. These documents could reflect school performance/activities, home-life, extracurricular activities, or the course itself. This assignment allowed students to create a foundational philosophy upon which they could establish goals and work towards accomplishing them before the conclusion of the semester.

When they reported their goals, students referred to positive character traits that they wanted to improve, comparable with their responses to the pre-course interview questions. For example, Emily wrote, “My purpose is to come to school more prepared and focused so that I can improve the skills needed to be successful in life.” Then, in Emily’s post service-learning activity interview, she claimed that she improved the skills to be more prepared for different tasks. She said, “We had to do lists on how to help them [handicapped adults] know what their needs were and a bunch of little stuff in class before we actually went.” Because she had engaged in problem-based learning in class, she was able to apply her learned positive character
trait of preparation to the service-learning project. Jada also referenced preparation in her Friday assignment school goal: “I will come to class prepared, and I will also have an open mind to learn.” Similar to Emily’s response, Jada stated in her post service-learning interview that “we [group members] were prepared, too. So that helped me understand people more.” Here, Jada was referring to the way her group members researched typical behaviors of adults with disabilities and methods for addressing their needs properly when they were working with them and training them to develop a new skill. I can also confirm that both students were prepared to complete each project, whether it be practicing their presentation, developing a skills training brochure, or creating a tie-dying handout.

Rick directly mentioned another positive character trait in his Friday assignment goal for the course: “I want to be nicer to teachers and show them more respect so they are more lenient and they can work with me to help solve problems that I don’t understand when they explain them the first time.” He also said, “I also want to stay out of trouble so that I can be focused on doing work and be helpful with family and friends.” Rick stated in his post service-learning activity interview that he had developed more respect for the environment and women over the course of the semester on two separate occasions. He said, “Respect… you have to show it to women,” and regarding the service-learning activity, he said that “it helped figure out what people are made of… are they respectful or honest people?” Rick is one of the two students who did not earn a detention or suspension during the course of the semester (compared to 10 detentions he had earned the previous year). He was consistently respectful to me as the instructor of the course, to other students in the course, and to the two females assisting with the environmental project. His respectful actions were evident in and out of the classroom as he won the “opening the door challenge” by tracking the number of times he opened a door for his
mother, a teacher, a student, or a friend (22 times during a 2-day period). Emily, Jada, and Rick provided three impressive examples of how preparation and respect emerged as themes in the interviews and the Friday assignments. These students also displayed observable behavioral evidence improving these two positive character traits during the course.

*Personal Reflection Paper.*

The last data source used for triangulation was the personal reflection papers that the students completed following their service-learning activity. This paper consisted of three overarching guidelines. Students were instructed to (a) reflect on the problem-based learning process, (b) provide examples of character traits learned and displayed at the service-learning site, and (c) express their personal feelings about whether or how the service-learning experience affected them. The emergent themes from the reflection papers include demonstrating positive character traits of attitude, preparation, appreciation, and respect. Because Jada’s personal reflection was used to begin Chapter Four, other students’ reflections will be emphasized.

In Vince’s pre-course interview, he explained that he wanted to improve his attitude and become more respectful because he recognized that he needed to grow in both of these character traits the prior year. When I cross-referenced these comments with his reflection paper, I found that he wrote:

> The project helped us with our character, our attitude, and how helping others is a good thing, and what we did helped the environment. With character, we did something that most teens wouldn’t want to do. My attitude changed a lot because I really like helping other people now. I showed respect by giving them my time and listening to what they had to say and did what they told me to do.
Vince acknowledged that he needed to improve the positive character traits of attitude and respect at the beginning of the semester; however, at the conclusion of the service-learning activity and the class, he reported that these traits had been improved as a result of his engagement in the environmental service project. When Mike was initially interviewed, he said he wanted to improve the character traits of preparation and appreciation. He stated, “My preparation because I procrastinate a lot of things, like school work” and “appreciation because I probably take advantage of a lot of things that I shouldn’t.” Then when writing about the improvement of his character traits in this reflection piece, he reported:

I also showed appreciation because they [veterans] risked their lives to keep us safe when we haven’t done anything to help them. They deserve more appreciation than they get and should be treated like heroes, not like old people in a retirement home.

Mike identified and accepted his lack of appreciation for certain things in life, and he was forthcoming in his personal reflection. Because Mike took advantage of the opportunity to research veterans’ hardships, learn their stories, and help them, he was able to develop a greater sense of appreciation for his life and the lives of others.

Other students’ personal reflections, such as Rick’s and Jim’s, also complemented ideas they expressed during their interviews at the beginning of the course. Jim set a goal for himself of respecting others during his first interview. Then later, in his personal reflection, he stated, “We showed respect as we listened to the veterans share their war stories and how it has affected them to this day.” He further expressed these sentiments later in his personal reflection paper and reported, “As we continue to complete these projects, we showed a lot of empathy, respect, and gratitude to them, which is well deserved because they have showed it to us before we were even born.” Rick reported in his initial interview that “attitude plays a big role in life.” He also
said, “If you have a bad attitude or posture, you’re not going to get nowhere in life. Nobody’s going to take you seriously; no one’s going to want you to be hired.” Then later, when reflecting on his environmental service project, he emphasized:

I showed respect toward the water conservation workers and toward Mr. Neiderhouse.

Showed multiple affections for positive attitude; I went there with a smile and left with an even bigger smile. I didn’t complain about the paint being runny in front of the workers.

Rick’s beliefs showed that he was capable of exhibiting a positive attitude if provided the right opportunity and setting. He was proud of what he accomplished and improved his attitude as a result.

Students’ responses to the course assignments (ethical dilemmas, Friday assignments, personal reflection papers) were compared with students’ interview responses to establish a better understanding of student growth and awareness of the importance of the data to answer the second research question. At this point and with one data source remaining (observations), it can be inferred that participating in a problem-based service-learning course promotes reflection, introspection, and conversation that may lead to the improvement of positive character traits. Thus far, common trends of nearly a handful of positive character traits (attitude, respect, empathy, preparation) have come to the forefront of the research because students indicated during the initial interviews which character traits they wanted to improve and then supported their statements with comments in their course assignments. Students identified some character traits in the ethical dilemmas and Friday assignments they completed, but I needed observable evidence in order to confirm the students’ improvement. The next section discusses additional observations that help answer the second research question.
Observations.

The final set of data that was collected to answer the second research question consisted of observations of students’ behavior in school and at the service-learning sites. The partnering teacher and I conducted these observations. The goal was to observe whether remarks that students made during interviews and within the course assignments aligned with their behavior in group activities and with adults at the service-learning sites. This triangulation method allowed for me to double and triple check results to ensure the accuracy of the findings. The findings revealed that students demonstrated the positive character traits of attitude, preparation, respect, and perseverance during group collaborations.

The partnering teacher reported observable behaviors in the character trait categories of attitude, respect, preparation, and perseverance. She was the teacher of record in the class and recorded observations when I was with other groups on the service-learning visits. She also came into the class three other times when I was present to move about the classroom and from group to group to watch and listen in on the students’ conversations and behaviors.

Each group she observed showed different levels of progress and improvement and, at times, different character traits. For instance, the students in the veteran’s group started on September 24, 2012, by being off task. For example, Mike was listening to music and did not have his instruction paper that explained the directions on the types of interview questions to construct and ask the veterans. Bill and Jim were not working and commented that they “didn’t know what to do.” Don was making jokes about Bill and also made a negative remark about the project and me. The following week on October 2, 2012, Mike was again listening to music and looking up random items on the computer, Don was complaining again, and Jim was not paying attention to the other group members. While it took more than a month for this group to
demonstrate behaviors reflecting growth of positive character traits, on November 7, 2012, the partnering teacher reported observing positive character traits of attitude and preparation exhibited by Mike, Jim, and Bill. These students worked diligently on their reflection papers during the class period and did not make negative comments. The only student who did not seem to be improving on these traits was Don. He continued to complain that it was the “stupidest project.” He also failed to complete the lesson objectives on November 7, 2012, when all of his other group members did.

The group of girls who worked with adults with disabilities progressed even more slowly. Their positive comments and actions were infrequent and scattered throughout the semester, and some days were better than others. For instance, on September 24, 2012, they completed the lesson objectives for the day and asked me a lot of questions about how to begin their project. However, the partnering teacher observed Emily stating, “I don’t even like projects.” Brandy told Emily “to shut up” and that “she [Brandy] does most of the work anyway.” At the beginning of the project, all three girls showed signs of frustration and made negative comments. While the frequency of these comments did decrease as the semester progressed, they still continued. On October 10, 2012, Emily said, “You’re such a bad partner,” and Brandy said, “You weren’t trying to help me five minutes ago” in a sarcastic tone.

In October, however, signs of perseverance and preparation improvement were marked or evidenced on the observation chart from October 10 to October 31. The group was collectively persevering as they created a brochure to teach new skills and designed a new logo for the adults with disabilities agency. This behavior continued on October 31 as the group completed their brochure. They showed improvement in preparing their project from October 17 to October 31
as they asked for feedback, completed their brochure, and completed the presentation they would present to the partnering agency.

Students in the environmental group started their projects off task on September 24, 2012, as they were talking about football and listening to music when they should have been discussing the research on their topics. On October 2, Rick stated, “I don’t care,” and Eric and Vince did not attempt to complete the lesson’s objectives for the day because they did not have the necessary papers, they were listening to music, and they were sending text messages during class. A review of the observations records indicated that it took until October 31 to find evidence that students in this group demonstrated positive character traits. On this day, all three students demonstrated progress in their attitude, perseverance, and respect. Vince allowed Eric to borrow his headphones, and all three were working hard on their environmental information brochure. Rick was adding the information to the brochure that Eric and Vince were finding through research. The partnering teacher noted that Rick demonstrated respect as he questioned Eric’s color choice for the rain barrel sketch, and Eric responded in a positive manner with, “I like the earth colors.” Rick also responded to me appropriately, by stating, “What else do you think I need?” when I said that I needed to see more information for the brochure.

In summary, the partnering teacher observed and recorded instances of students demonstrating behaviors reflective of positive character traits, such as an improved attitude, preparation, respect, and perseverance during group collaborations. The noticeable addition of the character trait perseverance had not been mentioned by the students in their interviews or course assignments. This raises a notion of perseverance as a behavior better observed by an outsider than the actual participant. Perhaps students did not personally see themselves as progressively persevering towards meeting their service-learning project goals, but the partnering
teacher documented their progression over the months of September and October. On the other hand, even though trends were noticed and documented, the evidence collected was not consistent enough to make a determination about whether the positive character traits from the interviews, course assignments, and observations of the partnering teacher were aligned. This is because the partnering teacher was able to meet with only one group at a time and most likely missed numerous comments and conversations during the semester.

My documentation of observations consisted of my personal reflection logs that I recorded after every class as well as my visits to the service-learning sites. I observed primarily behaviors that reflected the character traits of self-control, attitude, respect, and perseverance. For example, Vince and Brandy demonstrated more self-control than they had during the previous school year. On the first trip to the environmental site, Vince remarked, “I have not been kicked out of class and sent to the office this year. Actually, I have not had a detention for discipline, only tardies.” Vince also experienced a situation in his science class in which his cell phone went off during instruction. The teacher asked for the cell phone, and he gave it to her without any comment back to her. This type of self-control was not evident last year in Vince’s behavior. He also encountered a situation in which a girl next to him at lunch had been posting comments on Twitter, and he was angered by what she was saying. Instead of reacting negatively to the situation, which may have caused more trouble, he came to me to discuss the comments and to avoid getting into a fight. He handled these types of situations throughout the semester in a mature fashion and demonstrated self-control. In addition, Brandy also had experienced several verbal and physical altercations last year. However, this year during class, she said, “I was about to hit the girl, but I remembered what we talked about in class, and I kept my composure.” The ability to refrain from displaying negative character traits (e.g. arguing,
fighting, disrespect) demonstrated an improvement in the decision-making processes of these two students.

Of all the students, Rick demonstrated the most improvement in his character. He demonstrated a complete change of attitude about school, life, and his teachers compared to the prior school year. For instance, Rick was noticeably excited about constructing the green roof and the fact that he was going to be in the local newspaper. During the interview held at the beginning of the class, he commented that he needed to change his attitude and also said in his last interview that the class allowed the students to “actually learn about ourselves” and that “the class was the only one with fun field trips.” On the field trip, he was aware and proud that he had not earned a detention or suspension during the course of the semester. He said, “This has been my best school year since probably kindergarten; I’ve got no detentions or anything.” Perhaps the most revealing sign of his attitude change was his essay that he wrote in English class. His English teacher was very proud of his writing, and without my asking her, she showed me one of his essays since she knew that I was working with Rick. In his essay, Rick wrote,

Attitude directly impacts your life. Having a positive attitude can make life so much easier. By having a good attitude, you will gain more respect from others. Attitudes are also contagious. The one you choose to have can rub off on your peers. Your attitude also influences the options you can have in your future.

His paper included many positive comments about his attitude changes, and he concluded his essay with the following thoughts:

I changed my attitude, and now my future has more options. I now know what I want to do after high school. I have set positive life goals for myself. I have the respect of my
loved ones, and I am no longer bringing everyone else down with me. By changing my attitude, I have directly changed my life.

When Rick wrote these comments about his change in attitude, he was not merely providing “lip service” in order to complete an assignment. He truly meant what he said as evidenced by his improved attitude during group work and at the service-learning sites.

I also observed an increased willingness to show respect for me as the instructor and assistant principal of the building. Bill usually was the first one to arrive in class because his previous class was held in the next room. I would ask him daily about his life and how school was going for him. He respectfully answered each time, and as time passed, he began to ask me about my life. He began to trust me and open up to me more frequently as the semester progressed. He also demonstrated more respect when he worked with the veteran by assisting him with his technology needs. Bill said in his post service-learning interview that he “respected the veterans more and appreciated them as we learned about what their experiences were in life… especially in the service.” Don was another student who developed a greater sense of respect towards me. While he demonstrated little improvement in his positive character traits, we nevertheless developed a relationship, and he was more reasonable and cordial when I had to discuss serious situations with him. For example, when I had to reprimand him about his constant cutting in the lunch line or his being on his computer during art class, he looked me straight in the eyes and listened to my comments. Don had not demonstrated this type of respectful behavior the previous year. In fact, last year, he always had a rebuttal to any comment I made to him and did not maintain eye contact with me.

The last character trait that I observed among the students was perseverance. While visiting the service-learning sites with the students, I observed that every group met the
challenge of successfully completing their projects. At the beginning of class, students exhibited signs of discouragement; they complained and expressed their fear of the unknown as they worked in groups. However, after visiting the service sites, they demonstrated persistence in their attitudes and their actions. When the students noticed difficulties or obstacles, they overcame them every time. The veteran’s group worked with veterans who had never touched a computer keyboard before, and the students sat next to the veterans, patiently guiding them step by step through the training until veterans’ email and Skype accounts were established. The environmental group had experienced no prior training about how to construct the green roof except reading some articles on the Internet. Nevertheless, they worked together, took accurate measurements, accounted for their materials, and worked hard to complete the task at hand. The group working with adults with disabilities found themselves working with adults who had never tie-dyed anything before in their lives. Instead of giving up or getting frustrated with the clients’ impatience, the group who assisted the handicapped adults worked hard to help nearly 30 clients to create their own tie-dyed shirts.

These observations resulting from my daily interactions with students were valuable in many respects. They allowed me to provide parallel support for the responses in the interviews, course assignments, and observations of the partnering teacher. My observations also permitted me to keep track of multiple instances of students’ behaviors both in school and outside of school. My perspectives provided insights into ways that the students were applying what they learned about character traits, whether this application occurred in an English class or by avoiding an argument with another student.

The second research question (Does participation in a problem-based service-learning course improve behaviors reflective of positive character traits of junior and senior high school students?)
students considered at-risk?) was answered after reviewing data from three sets of interviews, three different course documents, and two independent records of observations. An analysis of the data from these three sources revealed a consistent set of themes. A majority of students enrolled in the course, but not all, demonstrated behaviors reflective of the positive character traits of attitude, respect, empathy, and preparation. These four traits were constantly reported and or observed through student comments, student actions, or teacher observations. While perseverance was noted through observations, the students did not actively reference perseverance as a trait that they needed to improve.

**Research Question Three: What do high school juniors and seniors report as the benefits and applications of problem-based service-learning to their lives?**

**Benefits and Applications of the Course**

The third and final research question was answered through an extensive review and analysis of three sets of student interviews, students’ responses to three main course assignments (ethical dilemmas, Friday assignments, and a reflection paper), and observations of students’ responses during class and during off-site service-learning visits. This review and analysis revealed consistent themes. These themes included improvement in teamwork, thinking before acting, communication skills, college and career readiness, and academic learning.

**Student Interviews: Teamwork Improvement.**

The students first commented that the problem-based service-learning course was beneficial to them because they learned how to better work in groups by completing the hands-on learning projects. Only Jim stated that he rather would have worked by himself on the project. Other students made positive statements, such as Bill, when he indicated how important it is to work successfully with others:
I like learning with people, like projects; projects are fun. Being in groups, I like that a lot more. You can communicate with people and get it done easier, quicker, and it seems simpler. I mean, I’m not taking the easy way out. I like the challenge.

Even though in September Emily commented that, “she didn’t even like projects,” at the end of the semester, she expressed her appreciation of group work: “Projects are probably more of an efficient thing [referencing class activities], because it’s working with groups of people, and that helps.” She then commented on her on-site service-learning experience and said, “It’s nice to help other people who need it. It was a good project, and I actually made friends there. I learned to help others and assist with their needs.” Don asserted, “I like a group project. Group projects are fun. There is hands-on learning, and you can show an example by creating something.” Participating in opportunities for students to flourish and grow as they worked together to complete their group projects increased students’ engagement and commitment levels.

**Student Interviews: Thinking before Acting.**

The second theme that emerged after analyzing the interview transcripts and listening to the audio recordings was students’ comments about thinking before they act. Since the students practiced different life scenarios, read about appropriate behaviors, and watched videos about consequences resulting from actions, they became more aware of how their actions can impact their future. For instance, Vince said, “Everything we learned in class, we will have to face in life, and we will have to deal with it.” He further stated that engaging in classroom activities “puts them [students] in check and makes them think about what is going to happen when they grow up and turn into adults.” Brandy reported that one benefit of the course is that “it makes me think twice about stuff. If I am about to do something that is not right, then I think of the
traits we learned.” The partnering teacher further asked the students how the course applies to their lives, and Bill replied,

My character changed... changing the way I act and feel about things. Back when I was making those stupid decisions, I wasn’t thinking about what could happen after, and now I do. Now I know if I act a certain way, there could be consequences.

As evidenced in the interviews, the course helped some students reflect on their behavior and consider how reasoning out consequences can influence their decisions.

**Student Interviews: Communication Skills.**

Because student interaction and presentations were requirements of the course, a few students reported that they benefited from the training involved in preparing the presentations. The partnering teacher, who is a business and marketing teacher, practiced with the students and taught them the proper techniques for presenting their ideas to the partnering service-learning sites. When Jada was asked to identify an idea or skills that the class taught her that she had not known before, she stated, “Speaking. Standing up in front of a group of people and how to give speeches.” Mike also said, “I learned how to give a speech better.” However, I believe that Bill gained the most from learning about presentations since Bill typically had been timid, hesitant, and lacked self-confidence at times. He felt that the course “helped me be a lot more outgoing, and I feel a little less shy definitely.” He said, “We had to make a presentation; we had to make, like, brochures, and we had to figure out the whole problem with what they needed help with.” The course benefited the students by teaching them how and why it is important to step out of their comfort zones and learn good public speaking skills.
**Student Interviews: College and Career Readiness.**

Students also reported that the problem-based service-learning course prepared them for their futures beyond high school. Many students commented that the course could help them with their upcoming careers. Emily said that she learned about building a resume and “since I helped those type of people, I could be put in a job position and would be good for it.” Rick also said, “If I really wanted to, I could use that information for jobs, offer to volunteer, get into college; it’s just an advantage with whatever you want to become.” Eric believed the class applied to life outside of school. He said that the course concepts could be applied “with a job or out with friends; you can show leadership.” Mike worked with the veterans on his project, and he said, “It helped me learn about [life] out there, and it can apply to my future because I’m going to the military.” Even Don, who struggled with positivity throughout the semester, made the connection between the course and life. He said, “Because without a strong character, then you probably won’t get that job in life that you want.” Because students made these authentic connections, they gained a better understanding of reality. They began to grasp the concepts of the course, and, regardless of their stage in life, they learned that possessing character and leadership skills could benefit them for years to come.

**Course Assignments: Academic Learning.**

The student interviews revealed the benefits and applications of the problem-based service-learning course in four different ways. Students learned how to be effective in group work, they understood how their thoughts and actions are linked, they learned communication techniques, and they learned how to apply the course to their futures. The analysis of the course assignments also disclosed two documented trends.
In addition to providing a meaningful service to others, students also learned academic content along the way. The learning component and its link to the curriculum are significant components of any service-learning project. Students in the environmental group and the veteran’s group reported the service and learning connections most explicitly in their reflection papers. In his paper, Vince commented,

What I learned from my research is that there are only a few plants that can last all year in our weather, such as cedars. Also, how much green roofs and rain barrels really help the environment. I learned that if more people would use these, the more energy we would save and how much cleaner our water would be if more people had a rain barrel.

Rick also linked various content areas when he stated, “We needed the academics of communication skills, mathematics, and a little bit of biology.” He reported that his group provided important information to the public about the environment and energy conservation:

[We] helped the public by creating information dealing with run-offs, saving the natural environment, and by using green roofs. By informing the public about run-offs and hazard waste going into our community water supply and killing our community species. Storm water is affecting our drinking water by running off parking lots, fields, and driveways.

Jim, from the veterans group, also reported that he learned new information: “I learned a lot about history and citizenship through the visits.” These students indicated that through their first-hand experiences and background research about their projects, they learned that learning was synonymous with the services they provided.


Course Assignments: Communication Skills.

Another theme also emerged from the review of the students’ course documents and assignments. Similar to the results of the interviews, the students reported that the problem-based service-learning course benefited them and applied to their lives by improving their communication skills. To illustrate, Don admitted the following in his veterans reflection paper:

My communication skills with older people haven’t been the best. I can’t really relate to them; they have different views than what people have today. Ever since then [following interviews], I have something I can relate with them, and I’ll be sure to use it in the future.

Don continued and said in the latter part of this paper that the service-learning project was very interesting and helpful because “it built my communication skills up, and I also got to meet someone new. I heard an interesting story about warfare and the struggles veterans had to go through at the time.” Mike, who reported that he wants to go into the military after he completes high school, said that “it also helped with my weakness of not being able to talk to people I don’t know.” One of the course goals was to encourage students to reflect and gain a different perspective on themselves as individuals. Their strengths and weaknesses were brought to light, and suggestions were provided for improvement. Perhaps Bill was the most introspective about his experiences when he remarked, “Helping others made me feel great; I developed a relationship with them and got to learn from them.” Bill even felt that he taught them a new method of communication: “They [veterans] learned how to some way use a computer and communicate with their family through Skype and emailing.” The students developed an understanding of the reciprocal benefits of working and communicating with different groups of people besides their peers. Brandy said, “The kinds of academics I’ve
learned from this project were better communication skills because with individuals with disabilities you have to be patient, really speak clear, and be specific with your words so they understand you.” These communication skills can last for years, and knowing how to collaborate with their elders and individuals with disabilities can add to their knowledge base.

**Observations of Students’ Responses.**

The main theme that materialized from observing students’ actions and responses in class and at the service-learning sites was the concept of teamwork. Just as the students conveyed in their interviews that they learned how to better work in groups in a hands-on, project-based environment, they also demonstrated noticeable differences in collaboration throughout the semester.

The partnering teacher recorded how students interacted when completing the service-learning projects from the beginning to the end of the projects. In September, the students were off task and demonstrated minimal signs of group unity and motivation. For instance, on September 24th, the partnering teacher said that Mike was listening to music, Don was picking on Bill, and Jim was showing little effort and that he said he did not know what to do. On the same day, students in the environmental group were also distracted. Eric and Vince were talking about Michigan football and listening to music, while Rick was conducting research on his own. On October 2nd, the partnering teacher said that Emily, Brandy, and Jada were off task and were distracted by joking around with each other.

However, as the time drew closer for the students to produce a presentation and have a plan before going to their service-learning sites, indications of teamwork began to appear. On October 31st, Emily, Brandy, and Jada were observed working on their tie-dye activity handout together and respecting each other throughout the class period. On the same day, Rick, Vince,
and Eric were all engaged in completing their green roof and rain barrel handout and were described as having positive attitudes throughout the session.

On the service-learning visits, I also noted that when presented with the challenge of helping others, students in each group worked together to accomplish their main goals. The students spent approximately two hours during each site visit, and therefore, efficiency was essential for each group. For instance, Rick, Vince, and Eric measured the sheet metal together before it was cut, brainstormed and agreed on where to exactly place the seedems, handed up the seedem trays to each other to be placed on the roof, and held ladders and screws to be inserted. Emily, Brandy, and Jada together set up the tables for tie-dying by filling up the bottles and setting out the shirts, cardboard, plastic wrap, and rubber bands. When Emily did not know how to make a certain design of tie-dye, Jada assisted her on numerous occasions. Students in the veterans group also displayed teamwork when Mike helped Jim. Jim was struggling with setting up his veteran’s email and Skype accounts, and since Mike’s veteran already had a Skype account, Mike was free to float around and assist other students and veterans.

These corroborated displays of teamwork in and out of the classroom settings benefited the students since they were in the class together working on solving problems to help others. They exhibited their abilities to focus on the same problems even though each student sometimes had a different opinion and mindset. As the semester progressed, students provided mutual support for each other and realized that collectively they needed to cooperate with each other in a productive manner to make the projects successful.

To summarize, the answer to the third research question was found by analyzing the three main sources of data. Students reported six central benefits and applications from the course. These included:
• Hands-on learning
• Teamwork improvement
• Thinking before acting
• Communication skills
• College and career readiness
• Academic learning

However, a few of the reports can be categorized together. For example, students believed that they learned best in an environment supported by hands-on learning and working together to achieve group goals through teamwork. Their communication skills were enhanced not only by conversing with diverse groups of people, but they also learned the appropriate methods of presenting their research. The students reported that they learned new academic content about either history or the environment and they conveyed that they could use their experiences in the class to improve their resumes, college opportunities, or careers (e.g., the military). The most important influence of the course was reflected in how students learned to think about the consequences of their actions before acting upon them. Learning self-control and not making poor spontaneous decisions that could cause them to earn negative consequences at school was especially important. By learning to think about and articulate their thoughts before engaging in negative behavior, students were able to internalize character traits that can serve them throughout their academic and professional careers.

**Summary of Findings.**

The three different research questions yielded positive results if the study is observed holistically. The first research question was answered as the experimental group of students did reduce the number of behavior incidences, but the control group of students increased their total
number of incidences by 8 detentions. This improvement for the experimental group was noticed as the group had a large reduction in school behavior problems and reduced their number of school detentions by 50 as a class. This difference between the two groups may have be a result of the experimental group of students receiving the problem-based service-learning course as a treatment to improve their behaviors.

For the second research question, the experimental group of students reported behaviors reflective of four positive character traits of attitude, empathy, respect, and preparation. These themes emerged after an exhaustive analysis of student interviews, class assignments, and observations. The positive trait of attitude was most the frequently cited trait by the experimental group of students from the three student interviews and personal reflection papers. Students such as Vince, Jada, Rick, and Bill indicated that their attitudes changed towards the diverse groups of people they worked with and with me. These students also stated that they enjoyed helping others and this made them feel good.

Empathy was the second most reoccurring positive character trait evidenced through the student interviews and personal reflection papers. Jim, Don, and Bill referenced displaying empathy for others as they felt they had to put themselves in the veterans’ shoes to see the veterans’ perceptions of the time period. When Jada was interviewed, she thought she showed a sincere empathy towards the adults with handicaps as she reflected on what the clients go through on a daily basis.

The positive character trait of respect emerged as a third theme from student responses mostly during course assignments and during observations. The students not only demonstrated respect towards the adult clients they worked with, they also reported a respect for the environment by building the green roof and rain barrels with much dedication. In one of the
ethical dilemma assignments, the students described how they displayed respect towards others, such as opening doors, shaking hands, and listening to others. Many of these actions were practiced daily in the classroom and when the students listened to the guest speakers.

The fourth positive character trait that was commonly cited by the students was preparation. Preparation was noted during the student interview responses and during observations. Students again practiced being prepared for class everyday with the necessary materials, practiced their presentations, and prepared their projects to be implemented successfully. For instance, Brandy was recorded by the partnering teacher, as working with her group and preparing the brochure to handout to their service-learning agency.

The third research question was admittedly more open-ended as students in the experimental group were asked to report their beliefs about the benefits and applications of a problem-based service-learning course. The second and third interviews disclosed that the 10 students benefited in a variety of ways. The first theme was when the student emphasized hands-on learning and teamwork. They reported that they improved their communication skills by working with different groups of students as well as senior citizens and disabled adults. The students also were able to learn and directly apply new academic content, especially content related to historical and environmental studies. The course offered students in the experimental group opportunities to explore different careers and learn the skills required to present a project and construct a professional resume. Most importantly, students in the experimental group described how the course taught them the consequences that may occur from certain actions in and out of school. The three questions were answered by teaching the students how to display positive character traits and having them practice in real life setting. This greatly influenced the students by a numerous facets during the duration of the problem-based service-learning course.
Next in Chapter Five, I will be linking the literature and theories on problem-based service-learning and positive character traits to my results. I will also provide my personal reflections of the course and the implications of the study’s results. Then how my research can be furthered by others will be discussed and a final summary of the study will be provided.
CHAPTER V.

PERSONAL REFLECTIONS, IMPLICATIONS OF STUDY, RECOMMENDATIONS FOR FUTURE RESEARCH, AND SUMMARY

Throughout the course, students were required to reflect on their experiences in and out of the classroom. I also took it upon myself to reflect daily on how the lessons were going and how the students were reacting and growing from week to week. I kept a personal reflection log that recorded and guided my thoughts about improving future classes and courses that I would teach using the problem-based service-learning curriculum. My personal reflection logs enabled me to evaluate all of my experiences in the problem-based service-learning class and comprehend their effects on the students, the clients who were served, and myself. By reflecting, I developed a questioning frame of mind and gained new perspectives that can help the class next year as well as other practitioners in the future. By reflecting on various situations and class periods, I was able to make the connection between the theory and actual practice. Below is a summary, from my perspective, of the impact the course had on some students and myself, the class activities that were the most effective, and the changes I would recommend in the course for future practitioners and researchers.

Course Impacts: Personal Student Benefits

While I would prefer to state that the problem-based service-learning course had an equal and positive impact on each student, I know that this was not the case. When he was asked if he thought his character improved over the semester, Vince said, “It’s improved but not a lot. One class isn’t going to build my character up in one semester; it is going to take a while.” After a review of the results, not every student improved as a result of the course.
From the standpoint of the students, I can confidently say that 4 out of the 10 students in the treatment group personally benefited from the course. These four students were Bill, Vince, Jada, and Rick. Each one made improvements in their character during the course of the semester as evidenced by information they provided in the interviews and course documents, or in the discipline results data and observation recordings. All 4 students decreased their detention and suspension totals from the previous year with an average of 6 fewer detentions and 1.5 fewer suspensions per student. Bill reported that he made decisions that helped him improve his character as a result of the course:

It [the course] shouldn’t be underestimated as much as it is... because a lot of people think that you are a bad kid if you are taking Mr. Neiderhouse’s class. So every one of us in the class has been in trouble before, and we got picked for the class because he thought that he could help us with it. It is true. Most of the people in the class changed. Some of the people did and some still really don’t care about it. Like me, I changed definitely. I feel the class helped me realize how to be more respectful to people.

While Bill stated that the course helped him realize that he needed to be more respectful, the other three also shared similar comments. In his personal reflection paper, Vince wrote,

My attitude changed a lot because I really like helping other people now. Helping people from the service-learning site made me feel really good. I have never really done that sort of thing before, and it was to help people who were going to help the environment.

This quotation is even more interesting if one looks back on what Vince said on the second day of class. He had made a comment with a negative connotation out loud in class about the students in the class being “my hamsters” since I was gathering data. However, during the last week of class, Vince was the first student to ask me if he was allowed to take the class again the
following year. I was proud to see his change in attitude as well as his growth as a student and person throughout the semester.

Admittedly, Jada had her moments in class where it seemed the course personally had minimal impact on her. Conversely, at the adults with disabilities service-learning site, she was a different person. She reflected intensely on her experiences there in her second interview, which followed the completion of the service-learning activity: “Being in the program [the course] really helped me out and understand people more because reflecting on myself, I didn’t know what people go through.” Later in the interview, she said, “I’ve had a better attitude, and I’m not snapping and retaliating to things. I’ve learned to be more patient, and that is important because that was a huge thing that I needed to work on.” Jada truly felt that the course and service-learning project opened her eyes and changed her perspective on people she viewed as different.

Rick was also personally impacted by the course as was evidenced in his interview responses. As stated earlier in the study, Rick emphasized that the most important thing he learned in the class related to his attitude. He said, “He [Mr. Neiderhouse] could have talked about it [attitude] the whole time.” Rick also felt that his “responsibility went up, and so did my appreciation for others. I appreciate my teachers more and haven’t got into trouble.” Rick relished the hands-on learning aspect of the course and commented, “We actually got to do hands-on things and learn more about ourselves than in other classes.” These four students did show significant progress throughout the semester as they started to embrace the purpose of the course, which was to help them grow as individuals and to help them learn to help others. Therefore, the four students whom I believe did make positive changes in their character represented enough of a success for me.
On the other hand, there were 6 students who did show evidence that the course benefited them personally, but this evidence and their comments were not as visible as with the other 4 students. I believe Emily’s statement characterized how she and 5 other students viewed the course: “It’s just another class to me.” These 6 students seemed to be more focused on passing the class to earn credit rather than internalizing the lessons and becoming better individuals. This was especially true for Eric and Don because they either matched or raised the number of times they were cited for school behavior infractions. Don consistently attempted to distract others in the class to get them off task, and Eric’s self-control issues played right along with Don’s antics. These students’ successes were seen in glimpses, but not as consistently as the other four students. As with many high school-aged students, some days are better than others and some classes are better than others. If the activity interested them, then they were more engaged. At times it was evident that a student did not enjoy practicing a certain character trait or reading about role model for the week. These students did not do their homework during that week or read their role model textbook to prepare for the weekly quizzes.

In any case, the course did not do any harm to any of the students as they learned a variety of topics, which can help them prosper later in life. Admittedly, all 10 students were attentive, involved, and active during the service-learning experiences. Providing the opportunity for students who are considered at-risk to explore and learn outside of the classroom can have incredible results for student motivation and academic learning.

**Course Impacts: Academic Student Benefits**

In terms of students learning how to serve others and the importance of doing so, I noted in my personal reflection logs that students did add to their academic knowledge base in a few ways. The students who worked with the veterans learned about sociology and gerontology
while interacting with people from different generations. These four students learned about the military draft regulations and warfare conditions from the veterans of the Korean War, the Vietnam War, and World War II. The students were also given a tour of the veterans’ museum, which was filled with artifacts from the Revolutionary War to the Iraq War and included food rations, uniforms, and artillery. In two short visits, the students learned a variety of historical lessons from the first-hand accounts provided by the veterans and the museum curator. These hands-on experiences were arguably more valuable educationally than if students had learned the same material seated in a history classroom.

The three students who researched and built the green roof and rain barrels also benefited academically from the course’s service-learning activities in a variety of ways. They learned about green roof technology and how green roofs can conserve water; eliminate roof cracks and leaks; act as a protective shield from Earth’s elements; and help reduce flooding, erosion, and artificial heating of water to protect aquatic life. The students studied the cost savings of rain barrels and how they provide free “soft water” that contains no chlorine, lime, or calcium, making it ideal for gardens and flowerpots. Again, the scientific and environmental benefits of the students’ hands-on learning experiences created an authentic learning arena in which to cultivate their knowledge.

The students who worked with the adults with disabilities learned social, relational, and communication skills necessary to work with disabled clients. By using their school-issued computers, the group effectively created a brochure, a step-by-step guide for making tie-dye t-shirts, and a Mac application “Keynote” presentation. All three of these products demonstrated that students improved their writing and presentation skills. They also researched and learned about the proper etiquette when working with disabled clients, such as being patient, flexible,
supportive, and respectful as well as the importance of repeating instructions when working with clients to their skills. The female students’ research and brochure created in the class were directly and successfully applied during the two site visits with how they interacted with the adults with handicaps. These two visits provided unique opportunities, which very few classes other than service-learning classes can provide to students.

**Course Impacts: Personal Administrator Benefits**

Being an administrator, teacher, and researcher was challenging from time to time, but it also provided valuable opportunities throughout the semester. When referring to principals, teachers are famous for stating that “they have been out of the classroom for too long” or that “they have lost touch with what we as teachers deal with every day.” I once again had the opportunity to plan lessons each week, develop activities that were aligned with objectives, grade assignments and assessments, and use the online grade-reporting tool the exact same way that teachers do during a semester. These experiences allowed me to share the struggles teachers experienced when trying to fit an hour lesson into 45 minutes or re-teaching a lesson in which the students did not grasp the concepts. I could once again relate to teachers who complain about the difficulties of teaching a last-period class on a Friday in a productive manner while maintaining order in the classroom. In addition, having no previous high school teaching experience required me to adjust my classroom management practices frequently in order to determine the best practice for teaching students behaviorally at-risk. Making these adjustments included repeating directions often, regularly altering seating charts, and adopting effective verbal and non-verbal signals to maintain on-task behavior and classroom order.

Making these adjustments and being flexible throughout the teaching of the course was paramount, as the schedule for an administrator is fluid and ever changing, especially when one
has the responsibility of overseeing discipline for 800 students. There was only one class period where I had to have another teacher cover my class while I dealt with a suspension of a student for fighting in school. Nonetheless, I enjoyed having the ability take the 10 students enrolled in my class, out of a study hall or their lunch period from time to time. For instance in study hall or during lunch, the students were often talking to someone nearby or simply off task. I then pulled them out of these periods to get them caught up on homework for my class and other classes or to converse with them about problematic issues they were experiencing. For example, one time Vince had not completed his homework for my class for two weeks in a row, and when I asked him in study hall about his missing assignments, he claimed that he had lost his textbook for the class. However, little did he know that before talking to him, I had gone to his locker and retrieved his textbook. I then handed it to him. I was able to hold students accountable for their actions and discuss topics with them in a way that no other teachers could. They knew that regardless of what happened throughout their day, they ended the day with the assistant principal, and they knew that I knew whether they had earned a detention or caused a class disruption during the day.

In review of my personal logs, I noted that some of my most rewarding personal experiences were also at the service-learning sites. When driving the school van and traveling with the students, I got to eat lunch with the students at nearby restaurants before arriving at the sites. This permitted me to listen to discussions and talk with the students about a variety of topics from high school relationships and family dynamics to careers and what types of drugs area schools were known for using and distributing. These insights are rarely gained inside the school walls because students felt less constrained in public and more open to me casually asking questions.
Each service-learning activity provided its own rewarding experience for me personally. At the veterans’ home, it was watching the students pushing their veterans in wheelchairs and talking to the veterans about their families and education when they had gone to school. It was also interesting to observe the generational gaps and watch students teach the veterans how to type, use email, and log into Skype for the first time. When building the green roof, the students were using teamwork to construct the roof and put aside any animosity or differences the students had with each other to complete the project successfully. Watching them think critically and solve problems was a special memory that will last for a long time. On day 46 in class, I indicated that I too felt good after leaving the adults with disabilities facility. This was because I had observed my students bring smiles to the clients’ faces and help others learn a new skill. The three girls each remarked how enjoyable their experiences were and that they would definitely volunteer there again if they were given the opportunity.

During each service-learning experience, I also was engaged in the activities, and I worked side by side with the adults and students alike. Each activity brought out a different emotion and sense of accomplishment within me. I believe that it was the realization that I made a difference in not only the students’ lives but also that the students were extending their hands of service to others. Students were stepping out of their comfort zones, not because I was requiring them to act a certain way or forcing them to talk to other people; rather, it was due to the fact that after the students first met their working partners at the service-learning sites, they had a desire to help someone in need and problem-solve along with them.

The culminating and single most significant event for me as the administrator, teacher, and researcher was watching the students’ responses and reactions when they found out that they had been written about in the local newspaper for something good that they had accomplished.
The largest viewing population of the newspaper was on Sunday, and members of two of the three groups were on the front page. The students’ pictures and an article were published in the newspaper. Every one of the students was being featured in the newspaper for the first time in their lives because of their accomplishments and because they were serving others. As I laminated and provided a copy to everyone, they smiled and were reading the headlines aloud in class. Mike even said that he didn’t need one because his mom had already cut it out and taped it on the refrigerator. For a class activity, each week the students read the newspaper to find positive and negative examples of character being displayed, and many of them had commented that it was much easier to find and cite negative acts. However, on that one Sunday in October, the students’ positive characters shined through.

**Effective Class Activities**

It is without question and well documented that the most effective class activities for students to practice improving their positive character traits were the service-learning activities. However, I would also recommend other class activities, which may have affected the results of this study. These include guest speakers, role-playing skits, completing basic skill activities aligned with the character trait of the week, and using computer technology.

Several of the most productive class periods during the semester occurred when guest speakers shared their knowledge with the students. Even when I shared my personal stories and experiences, the students were more attentive during lecture settings. Including each of the three service-learning agencies’ representatives, there were seven guest speakers during the course of the semester. The guest speakers ranged in their vocations from superintendents and principals to college professors and law enforcement officers. Each speaker was asked to relate the character trait of the week to his or her lesson presentation to the students. Some guest speakers
actually taught a lesson with videos and hands-on class activities, while others shared stories and conducted question-and-answer sessions. In either case, the speakers not only shared their expert experiences in their career fields, but they also provided advice to the students from the hard lessons they learned as they were growing up in high school. The students heard stories of leadership, character, and self-respect earned by making the correct choices. Through the guest speakers’ stories, the students learned how the positive character traits from the class apply to life and careers beyond high school.

Learning by doing has been in education since the ancient Greek philosophers, and even in contemporary times, this educational pedagogy is effective. Approximately every few weeks, the students were provided scenarios that they may have encountered or will encounter during their lives. I provided the students with either an ethical dilemma or a character trait, which they had to act out for the class in pairs or groups. For instance, the students had to act like they found out their boyfriend or girlfriend had been cheating on them or what to do with a bag of money they had found in school. Other scenarios included fighting, pirating movies/music, or abusing sick days at work. They were also asked to demonstrate both positive and negative methods of displaying certain character traits. These role-playing activities stimulated students both socially and intellectually. These role-playing activities encouraged the students to use their critical-thinking skills because they involved analyzing and solving problems. The cognitive learning approach allowed students to make decisions and support their decisions with sound judgment. This approach also taught the students lessons about society, competition, cooperation, and empathy.

The follow-up activities after the role-playing activities were conducted included what were called “basic skill activities” and were aligned with the character trait of the week. For
example, the students were taught how and why to open doors properly, i.e., out of respect, as people entered a room. They were blindfolded and asked to locate items in the room with only their sense of hearing and touch, i.e., as though they were blind. They also conducted the “falling back” activity, where someone caught them as they were falling off a desk or chair. In this activity, a student stands on a chair and falls backwards without trying to stop him or herself. Other classmates stand behind the falling student and catch the student so that the student does not hit the ground and get injured. These exercises taught students about empathy for disabled people and how to trust others as they were guided throughout different parts of the room or fell backwards from an elevated level. Other activities were solely school-based as students learned the appropriate way to enter a room and address the teacher when they were tardy or the reasons for using a daily planner to remain organized. These activities reinforced the traits for the week, and students were connected to the topics intellectually, emotionally, and behaviorally. By practicing these basic skills, the students could utilize them on a daily basis in and out of school.

The last activity that I thought was effective and would recommend when teaching character and leadership was incorporating computer technology into their lessons. Each student in the class had a school-issued laptop computer as a result of the district’s one-to-one initiative, and much of the students’ in-class and homework assignments were completed through my class website. For every lesson covered, character trait taught, or role model read about and discussed, there was a YouTube video clip available to reinforce the content. I showed a variety of short clips so students could see the actual role model in action, either on an athletic field, in a government position, or in a movie. These clips were creative methods that helped to teach students about compassion or respect through recorded events around the globe. In addition to the videos, the students were provided another ethical dilemma scenario, and they partnered with
a classmate to create a comic strip. They found pictures, produced cartoon characters, and wrote captions in the dialogue balloons to describe what happened and what the correct choice in the scenario would be. The students enjoyed this activity because they could add sounds and music as well as record their voices. For example, Brandy remarked, “This is fun; can we do this again?” Integrating technology into the lessons encouraged the students to be more interactive and engaged because they were provided with the opportunity to actively construct their own learning.

**Implications for the Field of Education**

One of the original problems providing an impetus for this study was that instructional time in critical student developmental areas, such as character, citizenship, and social skills, has been reduced in order to meet the reading and math mandates dictated by No Child Left Behind (NCLB). In addition, this study sought to explore how students who are behaviorally at-risk could be taught positive character traits to improve their behaviors. This is necessary considering schools have taken a reactionary approach to student behaviors and are suspending and expelling students at a rate more than double that of 1974 (Planty, Hussar, & Snyder, 2009). As cited in the beginning of the study, researched methods for improving students’ behaviors have come in a variety of forms, including character development courses and service-learning pedagogy. However, implementing new courses that focus on character and service-learning has remained challenging.

NCLB accountability legislation from President George W. Bush in the early 2000s is now fading in 2013. New terminology and other standards initiatives have been set into motion. The current President, Barack Obama, is one of the leaders of this change in educational reform and stated,
Because economic progress and educational achievement go hand in hand, educating every American student to graduate for college and success in a new work force is a national imperative. Meeting this challenge requires that state standards reflect a level of teaching and learning needed for students to graduate ready for success in college and careers. (Office of the Press Secretary, 2010)

These state standards, now commonly referred to as the “Common Core or CCSS,” have been completed by the National Governors’ Association and the Council of Chief State School Officers (NGA/CCSSO) (Mathis, 2010). This support of national standards is an effort to create common standards to help meet the workforce needs of the 21st century economy. Policy makers and educators have attempted to integrate the CCSS into schools with an emphasis on enhancing creativity, collaboration, communication, critical thinking, and problem solving (Magner, 2012).

The CCSS will then be assessed according to the Partnership for Assessment of Readiness for College and Careers (PARCC). The PARCC is a group of 22 states, including Ohio, working together to develop a common set of computer-based K-12 assessments in English language arts/literacy and math linked to the new, more rigorous CCSS (PARCC, 2013). These tests aim to measure students’ critical thinking and problem-solving skills and their ability to communicate clearly. The tests will provide more meaningful and timely information for educators, parents, and students. These assessments align precisely with a problem-based service-learning course because students in my course practiced problem-solving techniques and worked to improve their communication skills in writing and verbally. Also parallel to the problem-based service-learning class, the PARCC assessments determine if students are ready to engage in solving real-world problems.
Furthermore, preparing students to meet the new CCSS and the expectations of being 21st century learners requires a paradigm shift in education. In previous centuries, students were charged with the task to locate information through books or communicating directly with people and now locating information is becoming seamless with the advent of technology, computers, and the Internet. Now students can easily access information and are being asked to analyze, explain, and apply what they have learned to real-life settings to be more prepared for either a career path or a college path. Within this concept is where problem-based service-learning resides. Students in problem-based service-learning classes are thinking creatively and critically about how to solve problems in their schools or communities, collaborating within student groups or with external service agencies, and communicating to other students and adults to provide solutions to problems. In addition, students in problem-based service-learning classes are required to learn core academic content as well as enhance their social and relational skills. My study demonstrated that a problem-based service-learning course can prepare students to be college and career ready as well as enhance their 21st century skills.

**Implications on Leadership Practice**

One characteristic of leadership is being a problem-solver. Devising solutions to problems before they become larger problems is indicative of a leader willing to lead a change. In this study, I was willing to lead a change and be proactive for the students in the study. Introducing, practicing, and instilling character principles within students did yield positive results. Having the course as an intervention provided a variety of opportunities for students to grow as better individuals and make connections to improve teacher/administrator-student relationship.
A key component to service-learning is being reflective. Students were constantly reflecting in their course assignments, especially their reflection paper, how their experiences were helping them grow and learn about themselves as individuals. This relates to Lawrence Kohlberg’s theory of moral development. For instance, Kohlberg (1981) believed that children and adolescents do not merely soak up or internalize the morals and values of others around them, rather through experiences of moral conflict, children construct their own values and morals. He further described how teachers need to stimulate the natural process of development toward more mature reasoning and it is the responsibility of the educator to be supportive and a questing guide or Socratic teacher. This is where leaders, either teachers or administrators, need to create an educational atmosphere where students do come into conflict with moral conflicts, where they have to reason and decide on choices that best represent their values and beliefs. I provided students scenarios on a weekly basis where they had to think and reflective about their own values. This practice allowed the students to grow and develop as I questioned them about appropriate responses in varying life situations.

This study also implied that educational leaders can form better relationships with their students if they set aside time daily to work with them. By having a class period each day to discuss issues and situations in students’ lives, a natural rapport can be developed with the students. Instead of only talking to the students when they were in trouble and in the office for a disciplinary incident, I took the opportunity to talk to the students about personal and positive events in their lives. This demonstrated to the students that I was there for them in any circumstance and that they were important to me.
Reducing School Behavior Incidences by Improving Positive Character Traits

The three guiding research questions revealed themes that are supported by previous research that has been conducted on problem-based service-learning. The first research question resulted in students enrolled in the course reducing their school behaviors. The 10 experimental students decreasing their total number of detentions by 50 and the total number of suspensions by 10 indicated that the experimental group of students did improve their positive character traits. The experimental group of 10 students learned daily about problem-solving methods and the importance of displaying positive character in school and out of school. Each week during the 18-week course, the students practiced how to appropriately react to an ethical dilemma or character dilemma, which they may have already encountered or possibly will encounter in the future. Students watched character-building videos, listened to guest speakers, role played scenarios, read about role models, engaged in ethical dilemma discussions, and completed a service-learning project to practice their learned character traits in real-life settings. This habitual practice and constant awareness of the 18 character traits influenced students’ decision making in school, and this was evident in the experimental group’s discipline data.

The control group of 14 students chose not to enroll in the problem-based service-learning course and did not engage in the daily practice of learning and displaying positive character traits in school. Students in the control group chose not to have the opportunities to learn, practice, or apply positive character traits in a formalized and regular classroom setting because they did not enroll in the course. Admittedly, students in the control group could have read a book about role models or watched a movie that taught a valuable character-building lesson; however, they did not attend a daily class to discuss and follow up with the purposes and meaning behind their learning. This lack of daily awareness and interactions with other students
learning the same appropriate behaviors allowed students in the control group to continue their
typical negative behaviors (behaviors resulting in consequences) without daily classroom
practices or influences. This was evidenced in the control group’s discipline data, as students in
the group increased their number of accumulated detentions by 8 (see Table 2). Even more so,
fifty percent of the control group of students increased their number of detentions from the
previous year, suggesting that school behavior problems still persisted with the control group.

In reference back to the first research question and from analyzing the existing data set, it
can be suggested that the experimental group of students engaged in the problem-based service-
learning course improved their positive character traits. Students in the experimental group
learned that there are consequences in school for displaying negative character traits towards
other students and adults. Whether they focused on responsibility, respectfulness, or self-control,
the 10 students in the course worked on improving and displaying more positive character traits,
and it was evidenced in their discipline results. Therefore, it can be suggested that when a
student exhibits a positive character trait in a stressful or challenging situation, he or she is less
likely to earn a detention or a suspension in school. Students in the control group did not receive
the daily instruction and practice of improving their positive character traits, and as a result, they
increased their number of detentions. This increasing number demonstrates that when students
from the control group encountered a difficult situation in school, they were more likely to
display a negative character trait, such as being disrespectful or losing self-control. Then this
caused students to earn detentions more frequently because they failed to exhibit positive
character traits in those situations.

These results align with a study by Oregon State University in which researchers found
that a positive action program that taught social and emotional skills and character development
had powerful results, which included student suspensions dropping by 70% (Vuchinich, Acock, Washburn, Beets, & Li, 2010). Similarly, Laird (2008) found that out-of-school and in-school suspensions dramatically were reduced over time among students who participated in service-learning. With the course having a considerable focus on character building activities, it was refreshing to see the students improve during the course of the semester. Brannon (2008) has supported a focus on character education because she said that character education programs have a positive effect on achievement, classroom behaviors, and long-term test scores. Having character building lessons complement the service-learning components of the course demonstrated how students can improve their positive character traits and become engaged in fewer at-risk behaviors. Bradley (2006) found that students who participate in service-learning showed fewer behavior problems, were less likely to be referred to the office for disciplinary reasons, and showed reduced levels of alienation. These cited studies, along with my study, suggest that service-learning courses can influence and improving students’ behavior and positive character traits.

**Improving Positive Character Traits: Attitude, Empathy, Respect, and Preparation**

**Attitude.**

The results from the second research question (Does participation in the course improve behaviors reflective of the positive character traits of students at-risk?) also displayed consistent themes after triangulating the three sources of data: interviews, course assignments, and observations. The four character traits that were consistently cited by the experimental group of students as being improved were attitude, empathy, respect, and preparation. A majority of the students strongly felt that attitude was the most prominent positive character trait that improved during the course of the semester.
The improvement of attitude as a result of a problem-based service-learning course has been regularly cited in research as well. For instance, in Kansas, Kraft and Wheeler (2003) found that alternative school students who participated in service-learning showed strong gains across time on measures of attitude toward school. The students in my study, when asked in their interviews about a character trait they improved, such as Rick, stated, “Having a positive attitude was the most important lesson we learned. We could have talked about it the whole time.” The students in the class were taught that approaching different situations in life with the right attitude can influence the outcome. Laird (2008) found that students participating in service-learning improved their attitudes when comparing the pre-test and post-test scores of an experimental group with corresponding scores in a comparison group. A meta-analysis of the impact of service-learning on students also revealed an increase in positive attitudes and behaviors related to community involvement during service-learning and gains in social skills relating to leadership and empathy (Celio, Durlak, & Dymnicki, 2011). Interestingly enough, as the last researchers noted, empathy can also be a byproduct of a service-learning.

**Empathy.**

The second most popular character trait that students referenced being improved during the course was empathy. When asked during his post-course interview about a positive character trait that he improved, Jim replied, “I would say empathy because I understand people more and how they live their lives. You got to think what you would do in their shoes.” Students in the class learned through active participation in the service-learning projects how to meet the needs of certain populations as well as the needs of the environment. Fox (2010) commented that service-learning is an accepted practice in many middle schools and high schools as a means of fostering empathy for others and promoting character.
The evidence that service-learning increased students’ ability to empathize has grown over the years. For instance, Courneya (1994) suggested that students who engage in service-learning showed greater empathy and cognitive complexity than students in comparison groups. In another study, Lundy (2007) found that service-learning students demonstrated higher post-project empathy scores compared to other students and that only the service-learning students demonstrated a significant increase in empathy scores from the beginning of the semester to the end of the semester.

Not only has the character trait of empathy been observed as being improved in high school students, but as Wilson (2011) discovered, college students involved in a service-learning assignment were significantly more likely to express empathy in their reflective writing than students who did not participate. This was also true for my study as students reflected on their experiences in their personal reflection papers. For example, Jim claimed, “As we continued to complete these projects, we showed a lot of empathy, respect, and gratitude toward them [veterans].” Batlle (2012) has asserted that service-learning improves empathy for a variety of reasons and allows youth to break the barriers between themselves and the people with different needs, diversity of culture, and opportunities. She further stated that students do not limit themselves to feeling and thinking about empathy only; instead, they act on it, and this action allows empathy to evolve into a real attitude. This action to which Batlle refers was evidenced at various times throughout the semester in class and at the service-learning sites, and it helped students build the character trait of empathy.

Respect.

Another student character trait that was improved by students in this study was respect. Students not only demonstrated more respect for the course as the semester progressed, but they
also demonstrated more respect for each other and me as their teacher. In Bill’s post-course interview, he commented that he liked having me as his teacher because he got to interact with me and that most students do not get to do that on a regular basis. Students’ respect for others was also widely documented in this study. Vince directly stated this in his final interview and said, “It [the course] taught me respect for others.” Mike said that he improved his respect for the veterans, and Jada remarked in her reflection paper that she improved her respect for people who are less fortunate, such as the adults with disabilities.

The concept of respect for different groups of people was apparent throughout the semester. Research by Billig (2007) indicated that diversity can come in many forms during service-learning activities: “For example, students can be exposed to people from diverse cultural backgrounds, to people with different ideas, to people with disabilities, to people from different generations, or to people who face life circumstances different than their own” (p. 23). The 10 students in the class were provided ample opportunities in class to work with other diverse classmates and at the service-learning sites as they were interacting with people from different races, genders, abilities, and age groups. In a study by Prentice and Robinson (2010), they reported that service-learning allows students to identify their biases and to replace those biases with accurate information. Because the students observed the actual behaviors of the diverse populations they were working with, they become more appreciative and respectful of others as individuals and not think of them based on stereotypes.

**Preparation.**

In the student-reported results and teacher observations following the course, students stated that they improved preparation skills as a positive character trait. These skills were improved through various means during the class. Every day, students were taught to come to
class prepared with their computer, class binder, writing utensil, and agenda. They were instructed how to plan for their service-learning activities by making lists of supplies, and each group prepared a handout to provide the clients at the service-learning agencies. Every group also had to find a solution to their problem through research and prepare their information in a comprehensible format for their presentations. The students practiced and prepared their Keynote presentations for the visiting agency representatives. All of these activities allowed the students to learn the supreme importance of preparation if they wanted their service-learning project to be successful.

Service-learning advocate Kaye (2007) has suggested that preparation is one of the stages of service-learning because students acquire new information as they read, research, interview, and visit places, all of which leads to a better understanding of real community. Without preparation during the semester, I can attest that the service-learning projects would not have been as productive and would not have rendered the positive results they did. Billig, Root, and Jesse (2007) also have suggested that preparation plays a key role in service-learning. They found that students need to be prepared for all aspects of their service work, including a clear understanding of task and role, the skills and information required by the task, awareness of safety precautions, knowledge about and sensitivity to the people with whom they will be working. By learning what was necessary to complete the projects, students gained skills that can also be applied to life beyond their high school years.

**Additional Traits Not Reported**

While the four behaviors reflective of positive character traits described above were the most consistent of the findings, two other traits that were discussed in class were observed, but not reported by students. During the eighteen weeks of class, eighteen character traits were
discussed and practiced in class and yielded students to comment on attitude, empathy, respect, and preparation (see Figure 1 for complete list). However, the behaviors reflective of the positive character traits of leadership and courage were also noteworthy and were traits I wish I had heard students report either in interviews or course assignments.

The students demonstrated leadership frequently as they led different class activities, such as role playing skits or taking charge in a group activity. The students led the adults with disabilities and the veterans through training sessions on job tasks and computer usage. They also led class discussions on a variety of topics from drugs, law enforcement, family issues, and personal choices. Each student was even a leader in their own right by enrolling in the elective course taught by their assistant principal.

I also anticipated and desired to see the students cite courage, as a positive character trait they displayed. The students did not report courage as a consistent trait of improvement, but the students were extremely courageous on a number of fronts. Many had to step out of their comfort zones to work with senior citizens and adults with disabilities. The environmental group had to use materials and tools to construct a green roof and rain barrels from scratch. This group even had to be courageous as they carried heavy pallets of sedums up ladders and on top of a roof. Each student also had to overcome any fears of giving a presentation in front of their peers. Similar to the partnering teacher citing perseverance as a trait she observed and not reported by the students, perhaps, the positive character traits of leadership and courage are more observable by others than the actual participants in the study.

Benefits and Applications of Course

Service-learning research has identified a variety of educational and personal influences on students. For my study, I wanted students to report not only what they learned in the course
but also how they were going to apply their new or improved skills in life beyond high school. Students revealed the main themes of learning how to work together in teams during hands-on projects, how to communicate better in presentations, and how academic content can be learned and then applied directly in the real world. In addition, the students better understood the consequences of certain actions and how their experiences in the course can help them be college and career ready.

**Hands on Learning and Teamwork.**

The observations from the partnering teacher and myself suggested that students worked well together, especially at the service-learning sites, to accomplish group goals. Eric even commented in his last interview that “we took a field trip to build the green roof, and most classes don’t allow you to do hands-on stuff.” Similarly, Vaughn (2010) noted that because students were highly motivated by their service-learning projects, they were more cooperative and more willing to do their fair share of work. The students in the class did divide their responsibilities according to their strengths because some students were better with technology and using the computer to create the handout, while others researched the information needed to prepare for the projects. Vaughn (2010) also proposed that service-learning lends itself to a team orientation and can help students to have more generally positive attitudes about teamwork. The students benefited from the course by learning that when working together, they could assist each other in a more productive manner.

**Communication Skills.**

For students like Bill and Jim, who were quiet and timid in class, they reported as well as other students, the benefit from the course was from enhancing their communication skills. When asked in his last interview about something he learned in class that could be applied right
now and in the future, he responded with, “learning the character traits to help out in future studies and presenting.” Bill also made a remark in his interview that after the project, “I feel less shy definitely.” Mike directly commented that the course taught him, “how to give a speech better.” By students presenting their learning and having to step out of their comfort zones to talk to new adults, senior citizens, or adults with disabilities, they learned strategies on how to communicate with diverse groups of people. To reinforce the improved communication skills of the students, a program called i-SAFE (2012) who encourages an Internet safety service-learning curriculum, also found that service-learning improved areas, such as critical thinking, communication, teamwork, reasoning and problem-solving, public speaking, and computer skills. With statement such as these, the evidence for the benefits of service-learning continues to build.

**Academics.**

One of the key elements of service-learning is its link to the curriculum (National Youth Leadership Council, 2008). The learning side of the service helps students gain knowledge outside of the classroom. Students reported adding to their knowledge base of environmental sciences, history, and writing skills. For instance, Vince described in his personal reflection paper how he learned which plants survive in Ohio’s climate, how much energy green roofs can save, and the benefits of using clean water. Billig (2000) stated that 83% of schools with service-learning programs reported that the grade-point averages of participating students improved 76% of the time. Not only was the class average a C for the semester with no students failing the course, but students also were able to use my course academic content and make cross-curricular connections in core classes. The course emphasized the importance of achieving good grades, but it also taught positive character traits. According to Benninga, Berkowitz,
Kuehn, and Smith (2003), “Those schools addressing the character education of their students in a serious, well-planned manner tended also to have high academic achievement scores” (p. 31). Admittedly, the students at-risk in the class did struggle to keep their academic achievement scores up in other classes, but with the addition of core academic content in conjunction with how to display popular character traits, the students benefited by me reinforcing academic content in the problem-based service-learning class.

Consequences of Actions.

The students reported the benefits of the course as being development in skills relating to hands-on learning, teamwork, communication, and academics. These skills can be externally applied either to improve a group’s performance, a project, a presentation, or grades. However, making choices based on the resulting consequences of those choices was a significant achievement for the students. In Bill’s last interview, he stated, “The class changed the way I act and feel about things. Back when I was making those stupid decisions, I wasn’t thinking about what could happen after, and now I do.” Brandy also said that the class made her “think twice about stuff like doing bad things.” Don added that the class “showed you how you should act all around in school and outside of school.” He continued and remarked that the course “really opens your eyes of how not to act.” A report by Regis University supported the students’ comments and indicated that service-learning is used in education to engage learners in actions by understanding real consequences (Lee & Abdelhamid, 2013). Because students learned how their actions impact others and the consequences of those actions, they were able to identify the right way and wrong way to conduct themselves in school and out of school.
College and Career Readiness.

Numerous high schools prepare their young adults for the next stage of their lives by teaching them skills they can apply in a variety of settings. The students in the problem-based service-learning class were able to make this connection as they reported how the course prepared them for life’s current and upcoming challenges. For example, Rick said the course was useful in “helping me get into college and getting a job interview that I really want. In school, [the course] helped with getting good grades and showing people respect and honesty.” Billig, Root, and Jesse (2007) also found similar results in that 67% of students reported that they gained job skills and work experience through their participation in service-learning. Vince also cited in his last interview that “everything we learned in that class we will have to face in life, and we will have to deal with it. If we want a job, we will have to learn how to prepare for it and meet the requirements that they want.” The service-learning components to this course helped students become more knowledgeable and more realistic about their career opportunities.

In class, the students learned how to make presentations and resumes and learned how to access the knowledge required to complete their projects. Billig (2000) noted that students who participate in service-learning reported gaining career skills and communication skills in addition to gaining knowledge about career possibilities. Students learned whether they preferred more of a hands-on approach to learning and/or the more social and interactive approach that results from interacting with a large number of different people. In either case, the National Youth Leadership Council (2008) reported that service-learning can improve job readiness for students in the following way:

Service-learning prepares students for adulthood and job readiness in ways that strict classroom learning can’t. Gradually and carefully, it puts the reins in the students’ hands,
shows them the uses of their knowledge and skills, helps them develop communication, interaction, organization, and self-motivation skills – all of which will be relevant to future career choices.

Schools want to graduate students who have been prepared and have developed 21st century skills to apply to either their college or careers choices.

The implications of this study on education are important in a number of ways. The results from the discipline data suggested that a problem-based service-learning course can improve students’ positive character traits and reduce their negative school behaviors. By teaching and practicing with the problem-based service-learning curriculum, administrators and other school leaders can take a proactive approach to reducing discipline infractions instead of removing students from the school building as a strategy for improving behaviors. This is especially important because there is no evidence that frequent reliance on removing misbehaving students improves school safety or student behavior (Losen & Skiba, 2006).

Furthermore, Creswell and Plano Clark (2007) were cited in Chapter Two’s literature review as stating, “Few examples exist and little has been written about embedding quantitative data within traditionally qualitative designs” (p. 71). My study provides this example and adds to the educational research because data from the discipline data confirmed how the qualitative data, such as the interviews, and the quantitative data heavily complemented each other regarding school behavior problems.

The course allowed students to identify their own struggles, including assessing their own character flaws and working consistently to improve them during the semester. Because the students consistently reported improvement in attitude, empathy, respect, and preparation, they took ownership of their actions and were impacted from many angles. While some of the results
need to be interpreted cautiously since not every student indicated growth during the semester, the engagement in the service-learning projects provided new opportunities for students to learn about their strengths and weakness in solving real-world problems. Because I arranged for the students who are considered at-risk to meet and get to know people whose life experiences were unlike their own, they could confront any biases about senior citizens or adults with disabilities. Overcoming their initial fears of the unknown at the beginning of the service-learning projects paid great dividends at the end, as the students reported having a greater sense of respect and empathy for the diverse groups of people they interacted with at the sites.

State testing and national accountability standards, mainly in math and reading scores, are driving and narrowing curriculums in hopes of preparing students for the next stages in their lives. This has forced districts to reduce instructional time in other subjects that teach citizenship and other social skills needed to become a well-rounded citizen in society. If constructed and implemented effectively, a problem-based service-learning course can meet the demands of the recent Common Core State Standards (CCSS) requiring math and reading improvements and also provide students with the skills necessary to become 21st century learners. The course, with its emphasis on building students’ positive character traits and leadership skills, contributes to students’ personal and eventual career development by increasing their understanding of what is required to be responsible young adults. In order to be college and career ready, as government and educational leaders are advocating for, students in my service-learning course were provided with real-world experiences that were connected to academic subjects. These experiences helped students meet community needs and guided them to take action as socially responsible citizens.
Recommendations for Changes in the Course

A variety of lessons were learned regarding the problem-based service-learning class during the course of one semester. On one hand, the previous descriptions revealed what went well and which activities were effective, but on the other hand, some lessons were unproductive. There were three central areas I would like to change when I teach the course next year or if I were recommending the course to someone else. These involve the problem-based learning process, the frequency of service-learning visits, and the length of the course.

The first major roadblock that I discovered occurred during the first few weeks of the course, when I was teaching the students the problem-based learning process. I decided to adopt the eight-step model from the Illinois Mathematics and Science Academy (IMSA) for the course due to the Academy’s focus and reputation for successful experiential learning practices. The school’s cognitive and logical thinking strategies for solving real-world problems allowed students to define problems, gather information, analyze data, and test methods. However, the students in my class stated that they had never completed a problem-based learning project before. Beginning with an abstract concept or problem with no definitive answer was too much for my students to handle at first. They needed proper training and guidance about the problem-based learning process itself. I did show them the IMSA’s training videos so the students could visualize how a solution is achieved. I also divided the eight steps and provided examples of each step. Nevertheless, the problem-based learning process required a larger amount of time devoted to explaining concepts in order to ensure that students were able to grasp these concepts.

The second constructive critique that I had when I reflected back on the course was the frequency of the visits to the service-learning sites. I wanted the students to practice the problem-based learning process before going to the service-learning sites, but I believe if they
would have first visited the sites for a short period of time, they would have been more familiar with the clients, surroundings, and operations of each agency. Having the students plan for the unknown with only one class visit from the service-learning agencies’ representatives was simply not enough. Ideally, if the traveling funds and time were available, more than two visits would mostly likely have made the students’ experiences even more worthwhile. Just as the model I adopted for the project from the National Youth Leadership Council contained the eighth component of duration and intensity as its final component of a successful service-learning project, my class could have benefited from longer or more frequent visits to the sites. Furthermore, the students could have built relationships and continued or expanded their projects into the rest of the year, or even careers.

This last point brings me to my final recommendation for the course. By having the students learn the problem-based and service-learning models in conjunction with each other, planning service-learning activities, learning about character and leadership, completing homework assignments twice a week, reading about role models, and taking quizzes over the role model textbook, the class focus and effort was inconsistent at times. As planned, the classroom was busy with activity each day. The educational euphemism of “learning a little about a lot” was true. I suggest that the class be expanded into a yearlong course in which students take one full semester to learn the foundations of character and leadership and what it takes to solve problems effectively. Then, in the following semester, students could have an ample amount of time to plan a service-learning project with multiple visits. This arrangement would benefit the students even more as they could apply everything they learned to the following semester instead of trying to learn and apply every topic at once.
Recommendations for Further Research

Through the comprehensive review of the data collected from the student responses and actions, a reoccurring trend emerged. This trend poses an emerging question that provides support for further research to be conducted using a problem-based service-learning course. Even though my name was not mentioned during the data collection process, when interviews were conducted, or when assignments were completed, half of the students alluded me in positive ways. Therefore, the following question for further research could be asked: What impact does a principal who teaches a problem-based service-learning course have on the development of principal and student relationships? Certain comments made by students at various intervals throughout the semester indicate that a stronger and a more respected principal and student relationship had been developed without the initial intention of doing so.

The interviews provided students a voice and opportunity to express their thoughts and reservations about the course and any personnel associated with the course either in school or out of school. Three students, Vince, Rick, and Bill, made references to me in a constructive manner while being interviewed. At the beginning of the year, Rick was asked to cite a person of strong character that he personally knew. The partnering teacher did not get an immediate response from Rick, but then she described qualities that a person of strong character may possess. She described such a person as “someone who is loyal, has good leadership, and has tolerance.” Rick then quickly said, “Mr. Neiderhouse,” with a smile on his face [as documented by the partnering teacher]. When questioned why he responded in this way, Rick explained, “Because he backs it up and stays strong. He can be nice, and if you have a good attitude, he will.”

In the last interview, Vince and Bill had similar responses when the partnering teacher asked why they thought the course was different than other classes that they have taken. Bill
stated, “Actually, it’s more fun than other classes because you get to interact with the vice principal and not many people get to do that. Most see him as a high power and not like a teacher.” The partnering teacher continued, “Did you like having him as a teacher?” Bill said, “Yes.” Then, when Vince was questioned, about why he liked the class, he responded, “Because we got to go on a field trip. He [Mr. Neiderhouse] took time out of his day to take us out and help others when he could be doing something around the school.” For the two students to consistently reference me as a distinct difference was admirable and the fact that they noted me interacting and helping them to help others was rewarding.

When students completed their ethical dilemmas course assignments, they answered personal questions that were significant to them. During Week 2, students were asked whom they would want to speak at their funeral should they pass away unexpectedly. They were to cite a family member, friend, and teacher who would address the crowd in attendance. Vince said that he would want me to be the teacher to speak. This was a touching honor, and this type of respect grew as the semester progressed.

In Week 15, Eric was the fourth student to comment and reference a developing positive relationship as a result of the daily interactions and constant support that I offered to them. For this Friday assignment, students were to write down names of people who would serve as a character reference if the students were applying for a job. Then they were to explain why these three people were chosen. Eric submitted my name as one of the three character references and said, “I chose him because he has a lot of stuff put on his shoulders through school, and yet he has the responsibility of helping students in a classroom and doing a great job at it.” This direct citation is another example of the relationship and respect that demonstrated between the students and me.
Lastly, when the students had to express their feelings regarding the service-learning trips in the personal reflection course assignment, Jada was again complimentary of the assistance that I had provided to the class and to her. She remarked, “I thank Mr. Neiderhouse for this opportunity and pushing me to strive to be my best.” The students demonstrated how positive relationships can be formulated in a classroom by devoting time to students and showing care and concern for them as individuals.

It also seems important to investigate further the effects that an expanded full-year course could have on the students. The one-semester allotted for my course allowed students to visit their service-learning sites only on two separate occasions for two hours each visit. An increase in the number and frequency of visits could permit students to develop an even deeper and more trusting relationship with their clients at the service-learning sites. Since students reported improvement in the four main positive character traits of attitude, empathy, respect, and preparation, perhaps an expansion of duration of the service-learning projects could have provided more positive traits to be improved and internalized over a longer period of time.

Even beyond a full-year, a longitudinal study on the experimental groups could be researched to determine the impacts of the course on students long-term. For instance, if students were engaged in the course as freshmen, they could be tracked for the next four years to decide if there were lasting effects following the course. In addition, the students could also be tracked post-high school to observe if the students truly did turn out to be college or career ready following the completion of the course.

Finally, student achievement in regards to academic progress could be tracked to signify any improvements the students may have shown in their grades for other classes. The course did learn mainly about science and social studies and students could be assessed to determine if they
made academic gains in these areas since they completed hands-on service-learning projects. Also in the class, we discussed study habits, preparing for projects/presentations, and the importance of homework. Therefore, research to verify if these skills were carried over to other classes could also be further researched. Given all of the information collected over the course of the study, many opportunities for students to prepare themselves for resume building, an interview, a career, or college were offered to provide an instructional method to enhance both academic learning and college or career readiness.

**Summary of the Study**

The three research questions were answered after collecting, analyzing, and interpreting the quantitative and qualitative data. The appeal of problem-based service-learning was demonstrated in this study time and time again. The course afforded opportunities for students to meet Common Core State Standards and PARCC assessments by providing students real-life contexts for their learning. Nearly all 10 students in the experimental group reduced school behaviors leading to adverse consequences during the semester.

The study provided evidence that teaching and practicing character building on a regular and sustained basis contributes to students’ personal development, communication skills, and an increased awareness of life beyond high school. Students can feel more connected to the school and their communities by solving real-world problems and thereby attain a sense of accomplishment. To solve these problems, students engaged in active listening and collaboration by working with diverse groups of people in the classroom and outside the classroom. They thought creatively and critically about solutions that made a difference to people other than themselves. Embracing humanity and realizing what life is like for those less able was humbling for the students and for me.
As the researcher, teacher, and administrator, I had a rare and unique opportunity to be proactive for once in my educational career as I addressed potential issues before they came up instead of after the fact. I was able to incorporate life skills into the pedagogy of my lessons and challenge students to dive deep within themselves to improve who they are and what they stand for on a daily basis. Through teaching them the positive character traits that will help them be successful in life, I developed trusting relationships that have continued for the duration of the school year.
REFERENCES


APPENDICIES

Appendix A: Detention and Suspension Record Sheet

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Appendix B: Example of Course Assignment (Ethical Dilemmas)

This assignment is worth 7 points. The most complete and thoughtful answers will receive the highest grades. You have until Wednesday before class starts to complete all answers.

1. If someone says, “You have good character,” what are they saying about you?

2. Based on your opinion, list two people who have good character. Explain your answer.

3. Your instructor believes that anybody—regardless of age, intellect, gender or ethnic background—can improve his/her character. Do you agree or disagree? Why?
Appendix C: Example of Friday Assignments (Online Journaling)

This class can be fun at times, especially if the teacher and students are on the same page. When the teacher and students work together toward a common goal, anything is possible. For this to happen, the students and teacher need to feel mutually respected.

1) How do you want your teacher to show you respect?

2) How do you think your teacher wants to be shown respect?

In every class, there are rules. This class is no different. In this class there will be times to talk, times to listen, times to read, and times to write. Perhaps the biggest problem in this class can occur when students do not know the difference between these times. This causes disruptions and can make it difficult to teach this class. With that in mind, if you were the teacher, how would you handle the following:

3) If a student becomes disruptive in class, how would you handle it?

4) What would you do if the student continued to disrupt the class, ignore you and/or talk back to you?
Appendix D: Observational Protocol Form

<table>
<thead>
<tr>
<th>Cases</th>
<th>Lesson Objectives: Accept group roles; begin research on problem/s, start slides</th>
<th>Comments from your observations on staying-on-task and progress being made on group goals</th>
<th>Direct Outcomes (Comments and actions from students in regards to character being displayed)</th>
<th>Evidence of 4 Character Traits covered as of 10-2-12 being displayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Yes</td>
<td>No</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E: Interview Protocol (Beginning of Semester)

Time of Interview:
Date:
Place:
Interviewer:
Interviewee:
Questions:

1. How would you define character?

2. Please give me an example of someone you know or have heard of who has a strong character. Why did you say him/her?

3. Please give me an example of someone you know or have heard of who has a poor character. Why did you say him/her?

4. On a scale of one to ten (ten being really strong), how would you rate your character? Why?

5. Everyone has character traits that need work, as some adjustments are small and others are extremely hard to form into an everyday habit. Here is a list of character traits (provide about 10 seconds to review). Are there any that you feel that you could improve upon? Which ones and why?

6. How would someone go about improving his or her character?

7. On a scale of one to ten (ten being really strong), how would others (friends rating: _____?, family rating: _____?, teachers rating: _____?) rate your character? (If there is a difference) What do you believe is the reason for this difference in ratings?

8. Please provide me an example of a time where you helped someone with a problem they were having? (count how long it takes to think of a situation______?)

9. What steps did you take to help solve this problem?

10. How would you describe your behavior in school over the last school year? Why?

11. What is the most challenging part of school for you? Why?

12. What is the most enjoyable part of school for you? Why?

13. In what type of learning environment do you feel that you learn the best? (provide examples: quiet setting where teacher is lecturing, working alone on given assignments, working with other classmates, building/designing something, or a combination of list)
Appendix F: Interview Protocol (Following Completion of Service Activity)

Time of Interview:
Date:
Place:
Interviewer:
Interviewee:
Questions:

1. Here is a list of the character traits we have discussed so far in class. Which character traits do you believe you demonstrated while at the service site and can you please provide an example of each?

2. What did being involved in the problem-based service-learning project offer you the opportunity to learn about yourself and others?

3. What skills did you gain from being involved in the problem-based service-learning project?

4. How did the problem-based service-learning project tie into what we learned in class about character?

5. Do you feel that completing the problem-based service-learning project helped to develop your character? Why or why not?

6. Do you feel that completing the problem-based service-learning project helped to improve your character? Why or why not?

7. How did you prepare to complete the problem-based service-learning project?

8. Can you provide me an example of a time where you had to be a leader in your group?

9. What is at least one area you would change if you were to complete another problem-based service-learning project?

10. How can the service project that you completed be applied to your life right now and in the future?

11. What was the most challenging part of the problem-based service-learning project?

12. What would you consider to be the biggest success of the problem-based service-learning project?
Appendix G: Interview Protocol (End of Semester)

Time of Interview: 
Date: 
Place: 
Interviewer: 
Interviewee: 
Questions:

1. How would you define character?

2. Is having a strong character an important part of being successful in life? Explain why or why not.

3. How was this class different than other classes that you have taken in high school?

4. Which role model from the book do you believe is someone that you would like to be like in the future? Why?

5. How did this course teach you how to be a better person and build your character?

6. Here is a list of the character traits we discussed this semester. Which one do you believe that you improved the most and why?

7. You (have/have not) reduced the number of detentions or suspensions from last year at this time. Why do you think that you have improved this semester? ___ detentions last year by Jan., ___ detentions this year by Jan., ___ ISI/OSS days last year by Jan., ___ ISI/OSS days this year by Jan.

8. How do you think this course applies to your life in school and out-of-school?

9. What do you think are the benefits of this course to high school students, such as yourself?

10. What is the most important lesson that you have learned in this class?
## Appendix H: Problem-Based Service-Learning Course Weekly Outline

<table>
<thead>
<tr>
<th>Week of</th>
<th>Character Trait/Role Model</th>
<th>Main Activities</th>
<th>PBL/SL</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 27th</td>
<td>Attitude/ Mattie Stepanek</td>
<td>Guest Speaker: Principal, Class Intro., Take Pre-Test, Survey and Interview #1</td>
<td>Illinois Mathematics and Science Academy (IMSA) intro.</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>September 3rd</td>
<td>Preparation/ Captain Sullenberger</td>
<td>Guest Speaker: Retirement Home Agency, Movie: <em>Stand and Deliver</em>, Planning Activity, Interest/Career Inventory</td>
<td>Service-Learning (SL) intro.</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>September 10th</td>
<td>Perseverance/ Booker T. Washington</td>
<td>Guest Speakers: Environmental Agency and Adult Handicap Agency, Form Groups, Study Skills Activity</td>
<td>Begin site research</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>September 17th</td>
<td>Respect/ Dwight Eisenhower</td>
<td>Guest Speaker: Mrs. Stiles, Movie: <em>Coach Carter</em> Quote Exercise, Note-Taking Skills</td>
<td>Continue PBSL for site</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>September 24th</td>
<td>Honesty/ Sherron Watkins</td>
<td>Guest Speaker: School Resource Officer, Grade Commitments Activity</td>
<td>Continue and Practice PBSL for site</td>
<td>Ethical Dilemma/Friday Assignment/ Current Event</td>
</tr>
<tr>
<td>October 1st</td>
<td>Integrity/ Jesse Ventura</td>
<td>Tardy Talk, Values and Beliefs Activity</td>
<td>Finalize PBSL plan</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Group/Activity</td>
<td>Activity Details</td>
<td>Ethical Assignment</td>
</tr>
<tr>
<td>--------------</td>
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<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------</td>
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</tr>
<tr>
<td>October 8th</td>
<td>Courage/</td>
<td>Group 1: Present PBSL Plan and Visit to Retirement Home Agency, Movie: The Majestic, Peer Pressure Activity</td>
<td>Finalize PBSL plan</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td></td>
<td>Amelia Earhart</td>
<td></td>
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</tr>
<tr>
<td>October 15th</td>
<td>Appreciation/</td>
<td>Group 2: Present PBSL Plan and Visit to Environmental Agency, Movie: My Life, Opening Doors Activity</td>
<td>Reflect/Plan/Improve next SL Visit</td>
<td>Ethical Dilemma/Friday Assignment/ Letter to Role Model</td>
</tr>
<tr>
<td></td>
<td>Christopher</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Reeve</td>
<td></td>
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</tr>
<tr>
<td>October 22nd</td>
<td>Self-Control/</td>
<td>Group 3: Present PBSL Plan and Visit to Adult Handicap Agency, Movie: Boycott, Angry Responses Activity</td>
<td>Reflect/Plan/Improve next PBSL Visit</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td></td>
<td>MLK Jr.</td>
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<tr>
<td>October 29th</td>
<td>Empathy/</td>
<td>Group 1: Visit to Retirement Home Agency, Movie: The Blind Side, Communication Skills Activity</td>
<td>Reflect/Plan/Improve next PBSL Visit</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td></td>
<td>Helen Keller</td>
<td></td>
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</tr>
<tr>
<td>November 5th</td>
<td>Gratitude/</td>
<td>Group 2: Visit to Environmental Agency, Movie: Stepmom, Thank You Note Activity</td>
<td>Reflect/Plan/Improve next PBSL Visit</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td></td>
<td>Bob Hope</td>
<td></td>
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</tr>
<tr>
<td>November 12th</td>
<td>Tolerance/</td>
<td>Group 3: Visit to Adult Handicap Agency, Movie: Remember the Titans, Acts of Kindness Activity</td>
<td>Reflect on PBSL Visit</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td></td>
<td>Arthur Ashe</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>November 19th</td>
<td>Duty/</td>
<td>Interview #2, Current Events Activity</td>
<td>Service in your Community Discussion</td>
<td>Ethical Dilemma/Friday Assignment/ Reflection Paper</td>
</tr>
<tr>
<td></td>
<td>Pat Tillman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Theme</td>
<td>Speaker/Instructor</td>
<td>Activity/Assignment</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
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</tr>
<tr>
<td>November 26th</td>
<td>Loyalty/Nancy Reagan</td>
<td>Resume Writing Activity, Character Skits</td>
<td>Service in your Community Discussion</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>December 3rd</td>
<td>Responsibility/Cal Ripken Jr.</td>
<td>Guest Speaker: Mrs. Stiles-Interview Skills</td>
<td>Create your own Character Cartoon</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>December 10th</td>
<td>Compassion/Oprah Winfrey</td>
<td>Guest Speaker: Dr. May, Confronting Bullies Activity</td>
<td>What can we do about bullies?</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>December 17th</td>
<td>Leadership/Mike Krzyzewski</td>
<td>Movie: <em>Rudy</em>, Appropriate Table Manners, Leadership Examples</td>
<td>Bullying awareness</td>
<td>Ethical Dilemma/Friday Assignment</td>
</tr>
<tr>
<td>January 7th</td>
<td>Character/Yourself</td>
<td>Take Post-Test Survey, Interview #3, Present Character Cartoons, Careers Talk Activity</td>
<td>Service Leadership</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
Appendix I: Checklist of Materials for Interview

1. ________ Interview Questions (2 copies)
2. ________ List of Character Traits
3. ________ Audio Recorder
4. ________ Extra Batteries
5. ________ Laptop Computer (with charger)
6. ________ Writing pen
7. ________ Notepad
8. ________ Signed Participant Consent Form
9. ________ Snack and Bottled Water for Participant
10. ________ Working and Accurate Clock
## Appendix J: Sample Coding List

<table>
<thead>
<tr>
<th>Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>Stated positive remarks</td>
</tr>
<tr>
<td>Preparation</td>
<td>Came to class with all necessary materials</td>
</tr>
<tr>
<td>Perseverance</td>
<td>Completed the course</td>
</tr>
<tr>
<td>Respect</td>
<td>Did not talk back or argue with teacher/adults/students</td>
</tr>
<tr>
<td>Honesty</td>
<td>Did not lie or cheat on assignments</td>
</tr>
<tr>
<td>Integrity</td>
<td>Student acted in accordance with values, stood up for others, treated others the way the student wanted to be treated, used appropriate language</td>
</tr>
<tr>
<td>Courage</td>
<td>Student took good risks in group work, tried something that was hard or challenging, student was confident in what he or she was doing, told the truth-regardless of the consequences, faced fears and worked to overcome them, did not give in to peer pressure</td>
</tr>
<tr>
<td>Appreciation</td>
<td>Completed thank you cards to host sites, complimented another or teacher, asked how they could improve project, showed concern for struggling student</td>
</tr>
<tr>
<td>Self-Control</td>
<td>Reacted positively in stressful situations, moved away from group members that were distracting them, kept hands to self, used acceptable language, counted down or drew something to de-escalate</td>
</tr>
<tr>
<td>Empathy</td>
<td>Shared thoughts of wanting to help the less able, asked questions to and about others to show concern, showed concern through facial expressions and behaviors</td>
</tr>
<tr>
<td>Gratitude</td>
<td>Student wrote letters to parent/grandparent, complimented others in class, offered to help others</td>
</tr>
<tr>
<td>Tolerance</td>
<td>Did not make negative comments towards diverse people, did not make fun of others for sharing their opinions</td>
</tr>
<tr>
<td>Duty</td>
<td>Successfully completed the service project</td>
</tr>
<tr>
<td>Loyalty</td>
<td>Completed the goals and upheld signed contract</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Consistently was at school and class on-time each day</td>
</tr>
<tr>
<td>Compassion</td>
<td>Decided to help someone in class or at service site that needed help</td>
</tr>
<tr>
<td>Leadership</td>
<td>Led a discussion or took charge in group</td>
</tr>
<tr>
<td>Character</td>
<td>Consistently followed rules and helped others</td>
</tr>
</tbody>
</table>
Appendix K: Consent Form (Experimental Group)

Dear Parent/Guardian,

My name is Nick Neiderhouse and I am the Assistant Principal at Perkins High School. I am also a doctoral student at Bowling Green State University. For my dissertation, I would like to learn more about how character education can be useful to students in school through a Problem-Based Service-Learning class.

Purpose of the Study:
I will be the teacher and researcher for the Problem-Based Service-Learning course and Mrs. Stiles will be helping me with gathering information from the class. She is the business and marketing teacher at the high school. I am trying to see if the course will have a positive effect on the students and their behaviors. Your child can benefit from this course and research by learning how to develop life skills and how to work cooperatively with others. I am requesting that you allow me to use the information I gather from your child for my research study. Your child has been chosen for this study because she or he has had at least one suspension or at least 10 detentions in the past 2011-2012 school year and I believe this course could benefit your child. I received your contact information through the school’s student information system called Power School.

The Character Development and Leadership Survey:
During the first and last week of the class, your child and all the other participating students will complete an online survey titled: The Character Development and Leadership Survey. The survey will help me learn if the course changed their beliefs about character and leadership from the beginning of the semester to the end. Upon completion of each survey, your child will receive a five-dollar gift card. To make sure the responses are anonymous, students will not put their names on the survey and they will be instructed to clear the history on their computer to keep the information anonymous. I will receive the survey results in the form of a summary without any names attached.

Student Interviews and Course Assignments:
Also throughout the semester, your child will be interviewed by Mrs. Stiles. She will audio record your child’s interview answers. The first week interviews will consist of questions about students’ beliefs about character and leadership. The second interview will focus on the students’ service-learning projects at the Erie County Soil and Water Conservation District, the Ohio Veteran’s Home, or the adults with disabilities organization. The interviews will also focus on the students’ problem solving experiences. A third and final interview will take place at the end of the semester, asking the students how they can apply their service-learning experiences to their lives. After each of the three interviews, Mrs. Stiles will write out all of your child’s answers and you and your child will receive a copy of the answers to review for any corrections. The other data that Mrs. Stiles will be collecting will come from observations of your child’s interactions with others at the service-learning sites and during class.

Students will also be keeping an online journal (Friday assignments and ethical dilemmas) to respond to posted questions about their own lives and how a person or situation relates to them. These journal entries will be grades for the class and will not be used in the research at this time. This course and research will take place within the normal school hours and during one class period.

550 Education
Bowling Green, OH 43403-0250
Phone: 419-372-7377
Fax: 419-372-8448
www.bgsu.edu/colleges/edhd/LPS
Voluntary Participation:
It is your child’s choice to participate and they are free to skip any survey questions or stop participating at any time. If they choose to stop participating, it will not affect their grade, or any other subject of their school life at Perkins High School. The superintendent and the school board have given me permission to conduct my study, and there are no risks to your child. I must have your permission and the signature of you and your child to conduct the study. The permission form for your child to sign is located on the following pages. If you or your child does not give consent for research, then your child can still take the course, but he or she will not be required to complete any interviews or surveys that are necessary for research. He or she will only be required to complete class assignments that will be graded.

Student Safety and Security:
I will not see your child’s answers to interview questions or the observation notes that Mrs. Stiles takes throughout the semester so your child can be as honest and open as possible. The data collected from student interviews and recorded observations will be kept on the school-issued and password protected computer of Mrs. Stiles. Any written field notes will be kept in a locked file in her classroom. She will be the only person that will have access to this data during the semester. I will be permitted to see the information at the end of the semester in January 2013. The information will be kept locked for five years in the high school office and then destroyed before January 1, 2018. Since your student will be earning credit for this course, his or her name, grades, and attendance for the course will be kept separate. All of the information collected and listed in this paragraph will be kept confidential, as false names will be used when results are being reported.

Contact Information:
Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or nneiderhouse@perkinsschools.org. My advisor is Dr. Judy Jackson May and she will be overseeing my research and dissertation. You may contact her at (419) 372-7373 or judyjac@bgsu.edu or the Chair of the Human Subjects Review Board at 419-372-7716 or hsrp@bgsu.edu for questions about your child’s rights as a participant in this research. Thank you for your time.

By signing this form, you are stating that you have had an opportunity to have all your questions answered. Signing also indicates that I have discussed the reason for the study, the plan of the study, the risks and benefits, and that your child can choose not to participate.

Parent/Guardian Printed Name

Parent/Guardian Signature

*Please Note: This form must be completed and returned by Monday, August 27th in the enclosed pre-stamped envelope.

Sincerely,

Nick Neiderhouse
Appendix L: Assent Form (Experimental Group)

Dear Student,

My name is Nick Neiderhouse and I am the Assistant Principal at Perkins High School. I am in school at Bowling Green State University. I have earned my bachelor’s and master’s degrees and now I am earning a doctoral degree. As a part of my degree, I have to work on a big project called a dissertation study. I am doing a study to learn more about how character education can be useful to students like you in school through a Problem-Based Service-Learning Class. You were chosen to take part in my study because you have had at least one suspension or at least 10 detentions in the past 2011-2012 school year. I received your contact information through the school’s student information system called Power School.

Purpose of the Study:
I will be the teacher and researcher for the Problem-Based Service-Learning course and Mrs. Stiles will be helping out in class too. She is the business and marketing teacher at the high school. You spoke to the guidance counselor about the class and I want to know if learning more about positive character behaviors can help students in their daily lives. If you and your parent/guardian agree, you will be in the treatment (students taking the class) group for research. Please understand that your participation in the survey described below is completely voluntary.

To refresh your memory, in this semester long course you will be:
- earning half a credit
- learning how to solve problems that occur in and out-of-school
- engaging in service-learning activities, learning how to respond appropriately in certain situations
- learning life skills

Depending on your interests, you will not only be learning academic standards, but you will better understand why and how to help others in need. I am excited not only about this teaching opportunity, but also the fact that I will research the effectiveness of this course.

The Character Development and Leadership Survey:
You will take the survey on the computer, but your responses will be anonymous, meaning we will not be using your name. Also, you will clear the history on your computer when you are finished to keep your information anonymous. The survey responses of the students like you, who did take the class, will be compared with the survey responses of students who did not take the class.

Student Interviews and Course Assignments:
Also throughout the semester, you will be interviewed by Mrs. Stiles. She will audio record your interview answers. The first week interviews will consist of questions about your beliefs about character and leadership. The second interview will focus on the experiences with the service-learning projects at the Erie County Soil and Water Conservation District, the Ohio Veteran’s Home, or the adults with disabilities organization. The interviews will also focus on problem solving experiences. A third and final interview will take place at the end of the semester, asking you how you can apply your service-learning experiences to your life. After each of the three interviews, Mrs. Stiles will write out all of your answers and you will receive a copy of the answers to review for any corrections. The other data that Mrs. Stiles will be collecting will come from observations of your interactions with others at the service-learning sites and during class.
You will also be keeping an online journal (Friday assignments and ethical dilemmas) to respond to posted questions about your own lives and how a person or situation relates to you. These journal entries will be grades for the class and will not be used in the research at this time. This course and research will take place within the normal school hours and during one class period.

Voluntary Participation:

It is your choice to be a part of the study and you are free to skip any survey questions or stop participating at any time. If you choose to stop participating, it will not affect your grade, or any other aspect of your school life at Perkins High School. The superintendent and the school board have given me permission to conduct my study, and there are no risks. I must have your permission and the signatures of you and your parent/guardian to conduct the study. You will only be required to complete class assignments that will be graded.

Student Safety and Security:

I will not see your answers to interview questions or the observation notes that Mrs. Stiles takes throughout the semester so you can be as honest and open as possible. The data collected from your interviews and recorded observations will be kept on the school-issued and password protected computer of Mrs. Stiles. Any written field notes will be kept in a locked file in her classroom. She will be the only person that will have access to this data during the semester. I will be permitted to see the information at the end of the semester in January 2013. The information will be kept locked for five years in the high school office and then destroyed before January 1, 2018. Since you will be earning credit for this course, your name, grades, and attendance for the course will be kept separate. All of the information collected and listed in this paragraph will be kept confidential, as false names will be used when results are being reported.

Contact Information:

Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or meiderhouse@perkinsschools.org. My advisor is Dr. Judy Jackson May and she will be overseeing my research and dissertation. You may contact her at (419) 372-7373 or judyjac@bgsu.edu or the Chair of the Human Subjects Review Board at 419-372-7716 or hsr@bgsu.edu for questions about your rights as a participant in this research. Thank you for your time.

By signing this form, you are stating that that you have had an opportunity to have all your questions answered. Signing also indicates that I have discussed the reason for the study, the plan for the study, the risks and benefits, and that you may choose not to participate.

Student Printed Name

Student Signature

*Please Note: This form must be completed and returned by Monday, August 27th in the enclosed pre-stamped envelope.

Sincerely,

Nick Meiderhouse
550 Education
Bowling Green, OH 43403-0250
Appendix M: Consent Form (Control Group)

Dear Parent/Guardian,

My name is Nick Neiderhouse and I am the Assistant Principal at Perkins High School. I am also a doctoral student at Bowling Green State University. For my dissertation, I would like to learn more about how character education can be useful to students in school through a Problem-Based Service-Learning class. Your child has been chosen to take part in my research because he or she has had at least one suspension or at least 10 detentions in the past 2011-2012 school year. I received your contact information through the school’s student information system called Power School.

Purpose of the Study:
I will be the teacher and researcher for the Problem-Based Service-Learning course and Mrs. Stiles will be helping me with gathering information from the class. She is the business and marketing teacher at the high school. The purpose of the Problem-Based Service-Learning course is to see if this course can benefit students in their daily lives. Your child did not choose to take the course, but if you agree, your child can still be part of the study. I will compare the character development of your child to students who will be in the course.

What your child will do:
During the first week of the class, your child and other participating students will complete an anonymous online survey titled: The Character Development and Leadership Survey. Upon completion of each survey, your child will receive a five-dollar gift card. The survey will be used to see if students improved:

- their own beliefs about themselves
- their negative behaviors
- their positive responses in certain situations

The survey will ask questions about:
- academics
- behavior (days of suspension, attendance, and attitude and values)
- long-term career plans after high school
- leadership characteristics and handling difficult situations
- drug and alcohol use
- issues dealing with respect for family and dating relationships

The Character Development and Leadership Survey
Students will take the survey on the computer and will not use their names. Students will be instructed to clear their history on their computer to keep their information anonymous.
Voluntary Participation:
It is your child’s choice to participate and they are free to skip any survey questions or stop participating at any time. If they choose to stop participating, it will not affect their grade, or any other subject of their school life at Perkins High School. The superintendent and the school board have given me permission to conduct my study, and there are no risks to your child. I must have your permission and the signature of you and your child to conduct the study.

Contact Information:
Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or rneiderhouse@perkinsschools.org. My advisor is Dr. Judy Jackson May and she will be overseeing my research and dissertation. You may contact her at (419) 372-7373 or judyiac@bsu.edu or the Chair of the Human Subjects Review Board at 419-372-7716 or hsr@bsu.edu for questions about your child’s rights as a participant in this research. Thank you for your time.

By signing this form, you are stating that you have had an opportunity to have all your questions answered. Signing also indicates that I have discussed the reason for the study, the plan of the study, the risks and benefits, and that your child can choose not to participate.

______________________________
Parent/Guardian Printed Name

______________________________
Parent/Guardian Signature

*Please Note: This form must be completed and returned by Monday, August 27th in the enclosed pre-stamped envelope.

Sincerely,

Nick Neiderhouse
Appendix N: Assent Form (Control Group)

Dear Student,

My name is Nick Neiderhouse and I am the Assistant Principal at Perkins High School. I am in school at Bowling Green State University. I have earned my bachelor’s and master’s degrees and now I am earning a doctoral degree. As a part of my degree, I have to work on a big project called a dissertation study. I am doing a study to learn more about how character education can be useful to students like you in school through a Problem-Based Service-Learning Class. You were chosen to take part in my study because you have had at least one suspension or at least 10 detentions in the past 2011-2012 school year. I received your contact information through the school’s student information system called Power School.

Purpose of the Study:
I will be the teacher and researcher for the Problem-Based Service-Learning course and Mrs. Stiles will be helping out in class too. She is the business and marketing teacher at the high school. You spoke to the guidance counselor about the class and I want to know if learning more about positive character behaviors can help students in their daily lives. Even though you chose not to take the class, you can still play a big part in the study. If you and your parent/guardian agree, you will not be in the course, but will be in the control group for research. Please understand that your participation in the survey described below is completely voluntary.

What you will have to do:
During the first and last week of the semester you will complete an online survey titled: *The Character Development and Leadership Survey*. When you are finished with both parts you will receive a five-dollar gift card each time. The survey will be used to see if you improved:
- your own beliefs about yourself
- your negative behaviors
- your positive responses in certain situations

The survey will ask questions about:
- academics
- behavior (days of suspension, attendance, and attitude and values)
- long-term career plans after high school
- leadership characteristics and handling difficult situations
- drug and alcohol use
- issues dealing with respect for family and dating relationships

*The Character Development and Leadership Survey:*
You will take the survey on the computer, but your responses will be anonymous, meaning we will not be using your name. Also, you will clear the history on your computer when you are finished to keep your information anonymous. The survey responses of the students who did take the class will be compared with the survey responses of students like you who did not take the class.
Voluntary Participation:
It is your choice to be a part of the study and you are free to skip any survey questions or stop participating at any time. If you choose to stop participating, it will not affect your grade, or any other aspect of your school life at Perkins High School. The superintendent and the school board have given me permission to conduct my study, and there are no risks. I must have your permission and the signatures of you and your parent/guardian to conduct the study.

Contact Information:
Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or meiderhouse@perkinsschools.org. My advisor is Dr. Judy Jackson May and she will be overseeing my research and dissertation. You may contact her at (419) 372-7373 or judyjac@bgsu.edu or the Chair of the Human Subjects Review Board at 419-372-7716 or hrsb@bgsu.edu for questions about your rights as a participant in this research. Thank you for your time.

By signing this form, you are stating that that you have had an opportunity to have all your questions answered. Signing also indicates that I have discussed the reason for the study, the plan for the study, the risks and benefits, and that you may choose not to participate.

Student Printed Name

Student Signature

*Please Note: This form must be completed and returned by Monday, August 27th in the enclosed pre-stamped envelope.

Sincerely,

Nick Neiderhouse
Appendix O: Consent Form (Experimental Group-Course Documents and Observations)

January 21, 2013

Consent Form for Parent/Guardian

Dear Parent/Guardian,

Thank you for allowing your son or daughter to complete the Problem-Based Service-Learning course for the fall 2012 semester! Since the course has ended, I am now in the process of reviewing and analyzing data from your child’s interview responses and the observation notes that Mrs. Stiles gathered. I will be reviewing the online survey results from the Character Development and Leadership Survey that he or she completed at the beginning and at the end of the semester. Again, this survey was anonymous and I will only receive data in a class summary format. I also will be analyzing and comparing your child’s discipline logs from this semester to last year’s discipline log entries. All of this data will be very valuable for me to determine if he or she has been impacted and have improved his or her positive character traits as a result of this course.

I believe that one more piece of data will also be important for my data analysis. This would be the course assignments, such as the Ethical Dilemmas and Friday Assignments. Your child’s true thoughts and feelings about different scenarios and character traits were revealed in these assignments. This letter is for you to give me consent to use his or her responses from the course assignments in my data reports. Again, your son or daughter’s name will not be reported in my final dissertation, instead a fake name or pseudonym will be used in its place so their answers are confidential. Allowing me to use the course assignments for my research is completely voluntary. You may not allow me to use this data without penalty. Deciding to participate or not will not affect your child’s grade/class standing or the relationship with me, Perkins High School, or Bowling Green State University.

By signing the form below, you are stating that you grant me permission to use your son or daughter’s course assignments (Ethical Dilemmas and Friday Assignments) as part of my research. Signing also signifies that you have had the opportunity to have all your questions answered and have been informed that your participation is completely voluntary.

Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or my advisor, Dr. May at (419) 372-7373. You may also contact the Chair of the Human Subjects Review Board at 419-372-7716 or harb@bgsu.edu for questions about your rights as a participant in this research. Thank you for your time.

Parent/Guardian Printed Name

Parent/Guardian Signature

*Please Note: This form must be completed and returned within two weeks or before Monday, February 4th. If not returned, I will be calling to remind you of this notification.

Sincerely,

Nick Neiderhouse
Assistant Principal
Perkins High School

550 Education
Bowling Green, OH 43403-0250

Phone: 419-372-7377
Fax: 419-372-8448

www.bgsu.edu/colleges/edhd/PS
Appendix P: Assent Form (Experimental Group-Course Documents and Observations)

Appendix P: Assent Form (Experimental Group-Course Documents and Observations)

BGGSU
BOWLING GREEN STATE UNIVERSITY
School of Educational Foundations, Leadership & Policy
January 21, 2013

Assent Form for Student

Dear Student,

Thank you for completing the Problem-Based Service-Learning course for the fall 2012 semester! Since the course has ended, I am now in the process of reviewing and analyzing data from your interview responses and the observation notes that Mrs. Stiles gathered. I will be reviewing the online survey results from the Character Development and Leadership Survey that you completed at the beginning and at the end of the semester. Again, the survey was anonymous and I will only receive data in a class summary format. I also will be analyzing and comparing your discipline logs from this semester to last year’s discipline log entries. All of this data will be very valuable for me to determine if you have been impacted and have improved your positive character traits as a result of this course.

I believe that one more piece of data will also be important for my data analysis. This would be the course assignments, such as the Ethical Dilemmas and Friday Assignments. Your true thoughts and feelings about different scenarios and character traits were revealed in these assignments. This letter is for you to give me consent to use your responses from the course assignments in my data reports. Again, your name will not be reported in my final dissertation, instead a fake name or pseudonym will be used in its place so your answers are confidential. Allowing me to use these course assignments for my research is completely voluntary. You may not allow me to use this data without penalty. Deciding to participate or not will not affect your grade/class standing or the relationship with me, Perkins High School, or Bowling Green State University.

By signing the form below, you are stating that you grant me permission to use the course assignments (Ethical Dilemmas and Friday Assignments) as part of my research. Signing also signifies that you have had the opportunity to have all your questions answered and have been informed that your participation is completely voluntary.

Please contact me if you have any questions about the research or the participation in the research at (419) 625-1252 or my advisor, Dr. May at (419) 372-7373. You may also contact the Chair of the Human Subjects Review Board at 419-372-7716 or hrsb@bgsu.edu for questions about your rights as a participant in this research. Thank you for your time.

Student Printed Name

Student Signature

*Please Note: This form must be completed and returned within two weeks or before Monday, February 4th. If not returned, I will be calling to remind you of this notification.

Sincerely,

Nick Neiderhouse
Assistant Principal
Perkins High School

550 Education
Bowling Green, OH 43403-0250

Phone: 419-372-7377
Fax: 419-372-8448

www.bgsu.edu/colleges/dhdf/PS
What are Green Roofs?

- A green roof is a garden that can be placed on the roof to conserve water.
- It can eliminate cracks and leaks and help to reduce the risk of fire by keeping the roof cool.
- Plants and soil act as a protective shield for your roof from the wind, rain, and sun.
- Plants and soil act like a sponge and absorb excess rainwater, which means septic tanks do not need to be expanded.
- Green roofs help reduce flooding, erosion, and artificial heating of water, which helps to preserve fisheries and aquatic life.
What are Rain Barrels?

http://www.rainbarrelguide.com/benefits-rainwater/

A rain barrel is a system that collects and stores rainwater from your roof that would otherwise be lost to runoff and diverted to storm drains and streams. Too much runoff can cause build up in drains and pollutants will enter into larger bodies of water.

Benefits of Rain Barrels:

- Save approximately $200 on average on your water bills.
- Ensure that your plants don’t suffer in the next drought.
- Lawn and garden watering makes up nearly 40% of total household water use during the summer.
- Create one to water plants, wash your car, or even windows!
- It provides a supply of free "soft water" containing no chlorine, lime, or calcium making it ideal for gardens and flower pots.
- They are easy to assemble at a low cost.
- Go to: (omitted for anonymity) to learn more about rain barrels in your local area.

You should consider getting a RAIN BARREL!
Appendix R: Opening Door Tracking Sheet

Name: _______________________________________

<table>
<thead>
<tr>
<th>Number of Doors Opened</th>
<th>People (friend, teacher, parent, etc.)</th>
<th>Time (rough estimate)</th>
<th>Place (school, store, work, etc.)</th>
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</tbody>
</table>
Appendix S: Human Subjects Review Board Approval

DATE: August 16, 2012

TO: Nick Neiderhouse, Master's Degree in Education Administration

FROM: Bowling Green State University Human Subjects Review Board

PROJECT TITLE: [353947-4] Problem-Based Service-Learning

SUBMISSION TYPE: Revision

ACTION: APPROVED

APPROVAL DATE: August 15, 2012

EXPIRATION DATE: July 31, 2013

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Full Board Review Category

Thank you for your submission of Revision materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The final approved version of the consent document(s) is available as a published Board Document in the Review Details page. You must use the approved version of the consent document when obtaining consent from participants. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

You have been approved to enroll 50 participants. If you wish to enroll additional participants you must seek approval from the HSRB.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on July 31, 2013. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or hrsb@bgsu.edu. Please include your project title and reference number in all correspondence regarding this project.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Bowling Green State University Human Subjects Review Board’s records.