THE EFFECTS OF EXPERIENTIAL, SERVICE-LEARNING SUMMER LEARNING PROGRAMS ON YOUTH OUTCOMES

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To my wife, Erin, who has been my biggest supporter and my best friend. And to my children,

    Alexandria and Norah, who inspire me to do this work every day.
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Abstract
This study examines whether summer programming that relies on the delivery of a hands-on, experiential service learning curriculum to deliver content is able to reduce or eliminate summer learning loss in middle school students. Using Alexander, Entwisle, and Olson’s (2001) faucet theory as a theoretical framework and a qualitative case study design, the study explores two summer programs in Rhode Island. These programs, one in a low-income community and the other in a mixed-income community both share a common curriculum of experiential service learning as the framework for their programs. The findings suggest that these hands-on, experiential summer programs had significant positive effects on a variety of student outcomes. Primarily, stakeholders perceived significant effects of the program on social and emotional learning and the development of 21st century skills including problem solving, critical thinking, collaboration, and communication. Data also suggests that programs do have academic benefits for students as well, but the extent of those benefits are less clear. The study also found that the service learning component was not implemented effectively and therefore had little impact on program outcomes. This research has implications for experiential learning research as well as research on effective summer interventions that can help reduce achievement gaps. It also has implications for policymakers and practitioners seeking to implement different forms of summer programming that can be effective at reducing or eliminating summer learning loss. The need for further quantitative research to confirm these findings is required, but the study does suggest that experiential learning is an effective tool for reducing summer learning loss and helping to stem the growth of achievement gaps during the summer months.
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Chapter I: Introduction

The summer months are filled with potential for youth. However, lack of academic programming during the summer months presents a major challenge for education policymakers as it causes students to suffer from summer learning loss (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996). The focus on student achievement and higher academic standards during the school year is causing policymakers to examine how summer plays a role in student performance (Boss & Railsback, 2002). This study focuses on summer learning loss and its implications for children and the school systems that educate them. It also seeks to understand the potential solutions to address summer learning loss. Doing so is critical, since research indicates that at least a portion of the achievement gap is attributable to differences in summer learning opportunities (Alexander, Entwisle, & Olson, 2001). Specifically, this study will explore whether experiential, service learning programs are effective at reducing summer learning loss for middle school children in urban areas.

Chapter one begins with an analysis of the problem and the significance of this research. The positionality of the author is presented as it relates to summer learning, followed by the research questions of the study and a description of faucet theory and service learning theory, the theoretical frameworks used to inform the design and analysis of this study. Chapter two presents a review of the literature including an overview of the achievement gap in the United States and potential causes. The main component of the review focuses on summer learning loss, summer programming in the United States, and current solutions available to reduce loss. The literature review also includes a focus on experiential learning and service learning and how these programs may have the potential to mitigate summer learning loss and potentially lead to academic gains during the summer months. It concludes with an analysis of why service learning programs should be studied as a potential solution to summer learning loss. Chapter three
focuses on the methodology of the study, including the methodology, research design, research tradition, participants, and recruitment, as well as the data collection and data analysis procedures of the study. Finally, the trustworthiness of the study will be reviewed. Chapter four presents the results of the study, first presenting detailed case descriptions and then identifying themes across the cases. These themes help to answer the research question presented in this paper. Finally, chapter five connects the themes from the research to previous literature on the topic and places this research into the larger base of research on the topic of summer learning loss and summer programming. Chapter five also discusses limitations of this study and recommendations for future research.

**Research Problem of Practice: Summer Learning Loss**

Over 100 years of research has documented the effect that summer vacation has on student achievement (Alexander et.al., 2001; Cooper et.al., 1996; Heyns, 1978; Kolberg, 1934; Morgan, 1929; Morrison, 1924; Parsley & Powell, 1962; White, 1906). Research has also connected the effect of unequal access to summer learning programs on the achievement gap. Longitudinal research studies have concluded that up to two-thirds of the ninth grade literacy achievement gap between low-income students and their more affluent peers can be attributed to unequal access to learning opportunities during the summer months (Alexander, Entwisle, & Olson, 2007a). Despite this, most children in the United States spend between eight and twelve weeks outside of school during summer vacation.

A survey of individual state policies shows that state’s mandate the length of the school year to be anywhere between 160 and 182 days (Education Commission on the States, 2008). While upper income youth have opportunities to attend camps, participate in learning activities, and have access to learning materials during the summer, many low-income children have
limited opportunities for formal learning and academic growth. While the research demonstrates the negative effects of unequal access to summer learning, there is no clear sense of how to address the problem or what types of interventions could help to close the achievement gaps that grow during the summer months.

Previous research on summer learning indicate that most students, regardless of family income level, lose approximately two months of grade-level equivalency in mathematics when not engaged in learning during the summer months (Cooper et al., 1996). Students from low-income households also see a similar loss in literacy when not engaged in learning. This literacy loss is compounded each summer and leads to large gaps in achievement between low-income and upper-income students by the time that students reach high school (Cooper et al.).

Summer learning loss presents a major challenge for education policymakers. The focus on student achievement and higher academic standards during the school year is causing policymakers to examine how summer plays a role in student performance (Boss & Railsback, 2002). Various studies have been conducted to examine the effectiveness of year-round schooling (Faulstich-Orellana & Thorne, 1998; Davies & Kerry, 1999). Others have focused on remedial summer school opportunities to better understand impact (Cooper, 2001; Roderick, Engel, & Nagaoka, 2003). Few studies have been conducted however, on the types of programs that can help students avoid summer learning loss. Specifically, the research is vague on whether experiential, hands-on summer programming can reduce summer learning loss for students. Summer programs have the potential to provide the 21st century skills such as critical thinking, problem solving, and teamwork that many recognize will be necessary for today’s students to compete in a global society, but that potential has also been largely untested from a research perspective. Research focused on experiential, service-learning programs for low-income
students can help to identify whether academic and enriching summer programming can provide a solution to summer learning loss. This research could provide significant information to principals, superintendents, and teachers seeking engaging solutions to combat summer learning loss among their students. The study may also be of value to researchers searching for additional solutions to summer learning loss.

**Significance of the Problem**

Many teachers, especially those in low-income communities, lament that at the beginning of the school year they must often re-teach information and concepts from the previous year. Often the first month of the school year is spent catching students up so that they can move forward with the curriculum for the new school year (Kerry & Davies, 1998). The large research base that identifies summer learning loss among all children not engaged in learning activities during the summer months is something that teachers certainly understand anecdotally (Alexander et.al., 2001; Cooper et.al., 1996; Hayes & Grether, 1983; Heyns, 1978; Heyns, 1987). The gap in knowledge, known as summer learning loss, is a real problem for the education community, and has implications for policymakers, practitioners, and students.

As described earlier, according to one study, nearly two-thirds of the ninth grade achievement gap can be attributed to summer learning loss (Alexander, Entwisle, & Olson, 2007a). This has significant implications for policymakers, as the achievement gap in this country has been the focus of many school reform efforts at the federal, state, and local levels. A large achievement gap exists in the United States between Whites and other minority groups. Specifically, there is a 31-point gap between White and Black students in achievement on math standardized test scores, and a 26-point gap in literacy (United States Department of Education, 2009). Wiggan’s (2007) research identifies several causes for the existence of achievement gaps.
These include lack of teacher expectancy for students, student alienation in the learning process, and social class and cultural poverty. Wiggan argues that it is a combination of these elements that causes the achievement gap between high-income and low-income students. Noguera (2008) affirms this conclusion, arguing that while the history of the United States often leads to the conclusion that race is the reason for achievement gaps, the cause is much more nuanced, and is because of a variety of factors. If two-thirds of that achievement gap can be traced to the unequal access to learning opportunities during the summer, it is imperative that research and policy begin to assess how access to summer learning opportunities can be increased.

In addition to the policy implications for summer learning, research on this topic provides opportunities to explore implications for practitioners at the local level. While the topic of summer learning loss has been explored by many researchers, few studies have examined the types of programming that effectively address summer learning loss. Hands-on experiential programming is one option to provide students with enriching learning activities during the summer months. Those types of opportunities have been studied in the afterschool setting and have been found to increase social and academic development in children, helping them to gain content knowledge and apply it to real-life situations (Junge, Manglallan, & Raskauskas, 2003). For example, a summer program in Providence, Rhode Island, teaches marine science by taking middle school students on boats and having them take and analyze water samples and explore fish species (Merrow, 2012). Another high school math program in northern Rhode Island teaches math by having students develop business plans for their own social enterprises (Daddona, 2013). Experiential programs have also improved what are known as 21st Century skills, including collaboration, adaptability, critical thinking, problem solving, communication, and use of technology (Junge et al., 2003; Pittman, Irby, Yohalem, & Wilson-Ahlstrom, 2004;
Malone, 2007). Studies have not been conducted to examine experiential learning in the summer setting.

Such research would have macro-and micro-level significance. For instance, if the programming is effective, it would change the way that superintendents allocate resources to address summer learning loss. With reliable programming that gets results during the summer months, those superintendents may be more apt to invest in this type of programming over remedial summer school or other school-year programs that may not be as effective. This would also affect principals and teachers, as it has significance to curriculum design and pacing. With summer programming that addresses summer learning loss, principals and teachers do not have to spend the first few months of school re-teaching curriculum and can instead focus on teaching new material. Most important, this research has significance for students. Discovering effective summer programming can boost academic achievement for students and can ensure that they do not fall behind during the summer months. Keeping pace with their more affluent peers during the summer will support efforts to close achievement gaps for low-income students specifically, and will further ensure that they are prepared for college or careers upon graduation from high school.

The significance of these findings to the research community is also clear. This research fills a gap in the knowledge that exists regarding the types of programs that effectively address summer learning loss. Additionally, the research will expand the knowledge around experiential learning and the areas in which experiential learning is effective at addressing academic, social, emotional, and other types of learning. The implications for researchers, policymakers, principals, teachers, and students makes exploring options for addressing summer learning loss an important focus of study and research.
Positionality Statement

Utilizing the broad research on summer learning loss as a frame this positionality statement analyzes my positionality and researcher bias as it relates to summer learning loss and the students that suffer most from that learning loss. I will frame the importance of both my background and upbringing and my experiences as an educator and education advocate to my research topic. I will also discuss my interest in the topic of summer learning loss as it relates to the achievement gap and outline my biases on topics related to education broadly and summer learning specifically. Finally, I will look at how I will account for these biases in my research to ensure that the research is objective and presents an accurate portrayal of the findings.

Researcher background. Growing up in an upper-middle class, predominantly White neighborhood of Philadelphia, summer learning loss was a concept that I never really thought about. My mother attended college, but did not graduate, while my father was a graduate from college. Early in my educational career, my mother emphasized the importance of earning a college degree, and my family did everything to ensure that I would do so. While I did attend Philadelphia public schools, the schools I attended were high-performing and summers were always filled with educational and recreational camp experiences, summer reading lists, and opportunities to grow academically, rather than fall behind. After each summer, I would often return to school better prepared than when I had left school in June. Opportunities for academic growth were ever-present, and I had a supportive network of family and friends that further encouraged academic growth during the summer months.

Access to books and reading material was never an issue in my household, and for that reason, I could continue to enhance my reading abilities during the summer months, which researchers have found is the critical aspect to ensure that summer learning loss in literacy does
not occur (Heyns, 1978). In general, I was provided every opportunity to grow academically and could build the cultural and social capital necessary to achieve academic success (Bourdieu, 1986). Additionally, as some scholars argue, my race also provided me with the privilege that minority groups do not receive (Ladson-Billings, 1999).

**Interest in summer learning loss.** Following college, I taught sixth, seventh, and eighth grade in Camden, New Jersey as part of the Teach For America program. It was during this three year experience that I saw the realities of the achievement gap and the importance of summer learning. It is also where my interest in these topics first developed. Jupp and Slattery (2009) refer to structural deficiencies or systemic issues that lead to poor student performance, and I witnessed firsthand the structural deficiencies that lead to low-achievement during my time in the classroom. Many of my students had a substitute teacher in their mathematics class for the entire school year. This substitute had no formal background in mathematics and was not a fully certified teacher. In addition, classes in the school were constantly interrupted by announcements and assemblies, and for two months of the year the focus shifted from learning to test preparation so that students could pass high-stakes testing. These interruptions and problems in the education system were no fault of my students, but one could argue that they led to the low achievement that my students faced.

My school, and my district as a whole, did not have options for students during the summer months. There was no summer school, no summer camps, and certainly no opportunities that I enjoyed in my childhood. There was only one main library in the city of Camden, and its collection was extremely old and dated. This led to summer learning loss in my students that I documented in my second year of teaching when I taught my former students in their next grade. Understanding my inclination to blame structural inefficiencies for summer learning loss is
critical to ensuring that my positionality as it relates to the topic does not compromise my ability to see other potential reasons for the learning loss that occurs in students during the summer months. Since I left the classroom I have worked to connect schools with out-of-school time partners in the afterschool hours and during the summer. In my current position, I am overseeing a major statewide initiative in Rhode Island to address summer learning loss. This work with summer learning programs, specifically those that address literacy, is an outgrowth of what I witnessed and experienced during my teaching career.

**Documenting and addressing biases.** It is clear from my background that I have clear passions and biases toward the causes of the achievement gap and potential solutions to reduce the achievement gap by improving options for summer learning. First, I have a clear bias toward structural deficiencies as the cause for student performance rather than student deficits. I believe there systems, not students are to blame for poor student performance and that it is those structural and systemic failures that lead to the large achievement gaps between races and economic classes in this country. My Teach For America experience has had a profound impact on these beliefs, but it also helped to crystallize for me that an excellent teacher is not enough to change the trajectory of student achievement. The school calendar is one component of a system that must be evaluated and redesigned to ensure all children are educated and have the opportunity to be successful in life.

My work with enrichment programs and with summer school offerings by school districts have both biased my beliefs on how summers should be used to address learning loss and the achievement gap. In my work with afterschool and other enrichment programs, I have witnessed the ways that academic content can be embedded into fun and engaging hands-on, experiential activities for youth. I have also seen many school districts fall back on traditional summer school
focused on moving students from one grade to the next. These programs often attempt to cover an entire year of learning into six weeks, and those that I have observed do not change teaching practices. This negative view of summer school is a certain bias, especially when coupled with my belief that summer programs can be constructed in a way that is hands-on and engaging, but also covers academic content.

**The author as a researcher.** Ensuring that those biases do not affect my objectivity as a researcher is critical. Machi and McEvoy (2009) assert that research interests often arise from everyday experiences, and this presents both opportunities and challenges for the researcher. However, acknowledging the bias, and recognizing it, makes it more likely that I can control for it in the research. As such, I plan to retain objectivity by grounding any of my preconceived notions in a thorough and extensive literature review. If my preconceived notion is not supported by the literature, I will not include it in the research. Additionally, when studying summer programs and designing my research and methodology, I will look at other studies to determine how other researchers have studied summer learning loss and summer programs designed to address that loss. Much like the literature review, these methods of others can ground my design and ensure that my biases did not affect methodology. I will also solicit feedback from colleagues and mentors that can provide critical feedback on my research methods and design to appropriately address any potential issues with regard to bias.

Through introspection, any biases and positions can be brought into light, and can ensure that while a researcher may hold bias, his or her research may still be free of it (Machi & McEvoy, 2009). Throughout this paper, I have attempted to disclose how my positionality and potential research bias arise as it relates to summer learning loss. While other examples of bias
and positionality are sure to present themselves throughout the research process, continued introspection will ensure that they do not affect my final research product.

**Research Question**

A qualitative study will be conducted to determine the effect of experiential service learning on reducing summer learning loss.

**Research Question: Qualitative**

How do experiential, service learning summer programs keep academic knowledge flowing for urban middle school students during the summer months?

**Theoretical Framework**

A review of the literature on summer learning loss and service learning detailed in Chapter two of this study reveals a gap in determining whether service learning programming is an effective intervention to reduce or eliminate summer learning loss. The purpose of this research is to qualitatively explore reasons that service learning programming may be effective at reducing loss during the summer. Such research can be grounded into two theories: faucet theory and service learning theory.

**Faucet theory.** Faucet theory was developed by Entwisle, Alexander, and Olson (2001) as part of their seminal research studying the longitudinal effects of summer vacation on student achievement. Entwisle, Alexander, and Olson liken learning and academic resources to the water that comes out of a faucet. The amount of water you receive depends on whether the faucet is on or off. The same is true for academic knowledge. Faucet theory states that during the school year, all students have access to academic resources and knowledge through school. However, during the summer months, access to academic learning and resources is not as universal. Typically the faucet is turned off for low-income and middle-income students whose parents
cannot afford academic resources and activities during the summer months. According to Entwisle, Alexander, and Olson, shutting off these resources widens the opportunity gap between low-income and upper-income students and also widens the achievement gap. Additionally, the theory states that if academic resources continue throughout the summer for low-income students, those losses can be minimized or eliminated.

Faucet theory builds on Heyns’ (1978) seasonal learning theory which focused on differences in achievement before and after the summer months. While this theory could also be considered for this research, faucet theory, and its focus on the gap in resources provides a better framework to study whether certain resources keep the faucet open for youth during the summer months. Since faucet theory assumes that resources are turned off for certain populations of youth during the summer and it proposes that quality programming can eliminate the loss, it is a useful theory for testing what happens when a summer program is implemented. Many studies focused on summer learning programs have utilized faucet theory as their theoretical framework for this reason (Allington et.al, 2010; Borman, Benson, & Overman, 2005; Borman & Dowling, 2001; Graham, McNamara, & van Lankveld, 2010; Graves, 2011; Kim, 2006; Stone, Engel, Nagaoka, & Roderick, 2005).

**Service learning theory.** While faucet theory provides a theoretical framework for the study itself, service learning theory provides a conceptual framework to better understand the intervention utilized in the study. Service learning is a relatively new field, but the notion of service and learning has been included in education since at least the late 19th century (Dewey, 1899). Service learning theory was developed by Giles and Eyler (1994), and built on the work of John Dewey. Using Dewey’s philosophy of education as a framework, Giles and Eyler created the core elements that comprise service learning. They include the continuity of an experience,
the importance of interaction, inquiry, reflection, a mix of concrete and abstract knowledge, and a focus on community, citizenship, and democracy. According to service learning theory, these elements must be present for service learning to take place. This aspect is critical to the research, as it will help to identify the program that will be studied, as the program must include all aspects of service learning theory.

Other options were considered in the place of service learning theory, including Dewey’s (1906) experiential learning theory, Kolb’s (1984) experiential learning theory, and Kolb and Kolb’s (2005) learning space theory. These theories have similar characteristics to service learning theory, especially related to the components of inquiry, experience, and interaction. However, in many ways, service learning theory is an extension of experiential learning theory. Service learning theory is also more specific than Kolb and Kolb’s theory, although again, they are related. For this research, service learning theory is the preferred method because it is specific and defines the summer intervention clearly. By focusing on the specific components outlined in the theory, research questions and data collection can be aligned and tailored to understand whether the specific elements of service learning theory contributed to the success or failure of an experiential service-learning program to reduce summer learning loss.

**Application of faucet theory and service learning theory to research.** As described above, the theoretical framework and conceptual framework for this research clearly define the intervention, and then help to determine whether or not the intervention is successful. Unlike much of the research that utilizes faucet theory, the research planned for this study is qualitative. Rather than simply determining whether or not a program improves test scores, this research seeks to understand why a specific program improves student performance broadly, and allows teachers and other adult stakeholders to define that success. For this reason, service learning
theory is necessary to define the exact intervention. Using a case study format, it can be
determined through observation, focus groups, and interviews whether or not the program
includes all of the components described in Giles and Eyler’s (1994) theory. Additionally,
specific questions can be asked of participants to determine whether any of the components
contributed to the success or failure of the program itself.

While service learning theory provides the background and provides a basis for areas of
exploration in the qualitative study, faucet theory provides the framework for the main research
question of whether or not an experiential service learning summer program can keep the
academic resources flowing during the summer months. It serves as the main argument for the
research itself, and like the many other studies that utilize faucet theory it aligns with the
question that is answered through the design. In this case, using the various data collection
methods in a case study design, one can determine whether the program is perceived to keep the
academic resources in place for low-income students, and can also better understand why the
program does that. Utilizing the faucet theory provides proper alignment between the theory, the
research questions, and the design of the study itself. Finally, like all studies that utilize faucet
theory, this study will advance the theory by determining whether a specific intervention can is
effective at reducing summer learning loss and continuing to provide effective resources for
students during the summer months. In essence, the research tests whether experiential, service
learning programming can keep the faucet flowing for youth.
Chapter II: Literature Review

A review of the literature will focus on the problem of summer learning loss and its relation to the achievement gap. It will also explore potential solutions to summer learning loss. The review begins with a look at the achievement gap and causes of the gap. The review then provides a deep exploration of the literature on summer learning loss, a potential explanation for the achievement gap. The review continues with a focus on potential solutions to summer learning loss, including experiential learning, and one of its branches, service learning. The review concludes with a discussion of how experiential service learning could serve as a solution to summer learning loss.

Achievement Gap

Most of the research and data suggests that large achievement gaps continue to exist between races and income-levels in the United States (Braun, Chapman, & Vezzu, 2010; Clotfelter, Ladd, & Vigdor, 2009; Lee, 2002; Reardon, 2011). Specifically, there is a 31-point gap between White and Black students in achievement on math standardized test scores, and a 26-point gap in literacy (United States Department of Education, 2009). The gap narrowed during the 1970s and 1980s, but in the late 1980s, the achievement gap began to grow (Lee, 2002). The achievement gap is not just evident in standardized test scores. It is also found in measures of attainment, including high school graduation rate and other measures (McKinsey & Company, 2009). A gap also exists between income levels. Research shows that low-income students are up to two years behind their more affluent peers of the same age according to measures of standardized test scores (McKinsey & Company, 2009).

The achievement gap between income levels is partially explained by income inequality and economic segregation (Institute for Research on Poverty, 1995; Reardon & Bischoff, 2011; Watson, 2009). Bowles and Gintis (1976) were the first to acknowledge that intergenerational
poverty continued despite access to education. Income-level segregation became more prevalent in the 1980s as laws preventing housing discrimination based on race went into effect (Reardon & Bischoff, 2011). This allowed middle-class Black families to move to suburban communities, further concentrating the poor in even poorer neighborhoods. Those that remain in low-income communities have an even smaller tax-base to support high-quality services such as libraries, parks and recreation, and schools (Brooks-Gunn & Duncan, 1997). This creates a situation where middle- and upper-income children have access to high-quality services including schools, while there is less funding for schools in low-income and working-class neighborhoods.

These differences contribute to an achievement gap between low-income students and their more affluent peers. Brooks-Gunn and Duncan (1997) found that lower-income children score between six and 13 points lower on standard IQ tests than upper-income children. Additionally, for those low-income children, an additional $10,000 in annual income between birth and age five can increase the amount of schooling for that child by a full year. Studies have also found that low-income children who attend school in areas of lower concentrations of poverty have higher achievement scores than those students that remain in schools with high concentrations of poverty (Leventhal & Brooks-Gunn, 2004). A meta-analysis conducted by Sirin (2005) also found a medium association between socioeconomic status and achievement at the student level and a high correlation between socioeconomic status and achievement at the school level.

Some researchers also argue that there is a correlation between racial and income-level achievement gaps for students (Talbert-Johnson, 2004). The reality however, is more complex. Rothman (2002) found that in affluent suburbs, the performance of Black students was lower than their White counterparts. While there are many societal and personal consequences to the
achievement gap, the economic consequences are staggering. Closing the racial achievement gap would increase United States gross domestic project by up to $525 billion per year, or up to four percent (McKinsey & Company, 2009). Instead, McKinsey & Company (2009) conclude that the achievement gaps that exist continue to create a workforce that is ill-prepared to meet the demands of 21st century occupations.

The literature indicates many potential causes of the achievement gap, including school and non-school factors. Singham (1998) identifies socio-economic, socio-pathological, and genetic models as causes of the gap. The socio-economic model has its roots in slavery and the continued oppression of Blacks and other minorities in the United States. This continued oppression leads to fewer resources for Black and other minority students as described earlier, creates cultures of low-expectations and creates other factors that affect the achievement gap (Singham). Epps (1995) identifies this as racial stratification, and points to the attitudes and expectations that school personnel have for Black and minority students as a reason that contributes to the achievement gap. Specifically, Black students, even in diverse settings, are often grouped together based on perceived ability, even if that perception is inaccurate. The socio-pathological model focuses on causes such as lack of parental involvement in education, family structure, peer pressure, and factors such as drug use and crime in minority communities as major reasons for the achievement gap (Singham). Unlike socio-economic factors, which are seen as out of the control of individual people, those that believe in the socio-pathological model seek to place blame on Blacks and other minorities for the achievement gap, despite evidence that connects socio-pathological factors to economic inequality (Brooks-Gunn & Duncan, 1997; Reardon & Bishoff, 2011). Some research has found that minority students will not work as hard in school to avoid the perception of “acting white” (Rothman, 2002). Other research does not
support this hypothesis however (Lee, 2002). Other studies however have found that the level of parental involvement, while not a cause of the achievement gap does influence the gap (Lee & Bowen, 2006). Lee and Bowen found that increased parental involvement correlates positively with higher student achievement.

Within the socio-economic and socio-pathological models identified by Singham (1998), there are many potential causes of the achievement gap. As previously mentioned, teacher expectations and the expectations of other school officials can influence the education of Black and minority students (Epps, 1995; Rothman, 2002; Talbert-Johnson, 2004). Rothman (2002) found that schools where expectations are high for all students, such as Department of Defense schools, had virtually no achievement gap between races or income-levels demonstrating the importance of maintaining high expectations.

**Low expectations and the achievement gap.** Teacher expectations, specifically low expectations, have been linked to the achievement gap. Studies have found that teacher perceptions of students based on ethnicity and social class lead to those lower expectations (Becker & Luthar, 2002; Goodenow, 1993; Murdock, 1996). This is especially true for low-income male students (Auwater & Aruguete, 2010). These low expectations have several consequences for students in the classroom that potentially lead to the achievement gap. First, Black and minority students are often disciplined at higher rates and are more likely to be placed into remedial and special education classes (Talbert-Johnson, 2004). Second, low expectations often lead to a different type of assignment given to students. These assignments are often more tedious and less rigorous (Oakes, Gamoran, & Page, 1992). Finally, low expectations can lead to a self-fulfilling prophecy for students, whereby they begin to believe that they cannot achieve at high levels, and therefore reduce their own expectations for achievement (Ferguson, 2003). The
connection between low teacher expectations and student achievement are not unique to the United States. Several studies have documented the same correlation in other countries in the world related specifically to ethnic minorities in those countries (Rubie-Davies, Hattie, & Hamilton, 2006; van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010).

**Teacher quality and the achievement gap.** While teacher expectations for students is somewhat linked to the quality of the teacher, additional research has found that it is not just teacher expectations, but the performance of the teacher that matter to the achievement gap (Barton, 2004; Borman & Kimball, 2005; Haycock, 1998; Heck, 2007; McKinsey & Company, 2009; Singham, 2003; Talbert-Johnson, 2004). Students in high-poverty and high-minority schools are much less likely to be taught by a teacher certified in a subject area, and teachers in these areas typically have less experience than teachers in more affluent communities (Barton, 2004). This makes a difference for student achievement, as schools that have higher professional standards for teachers such as higher certification and educational attainment, tend to have higher rates of achievement among students in math and reading (Heck, 2007). Additionally, Borman and Kimball (2005) found that classrooms with high concentrations of low-income, low-achieving students tended to be taught by teachers with lower evaluation scores than their peers. Higher quality teachers have specific qualities separate them from lower performing teachers. These include strong verbal and math skills and strong control of specific content knowledge (Haycock, 1998). Haycock argues that improving teacher quality could reduce up to half of the achievement gaps in the United States.

**School funding and the achievement gap.** As described earlier, low-income neighborhoods tend to have fewer financial resources to spend on schools (Brooks-Gunn & Duncan, 1997; Singham, 2003). Despite efforts to improve equity in school funding, evidence
still suggests that school funding is unequal (Card & Payne, 2002). This inequity is a contributing factor to achievement gaps described earlier. Several studies demonstrate the importance of increased funding and its relation to student achievement. Greenwald, Hedges, and Laine (1996) conducted a meta-analysis on the studies that focused on the connection between school resources and student achievement. They found that increased resources positively impacted student achievement. Schools that made increased financial investments, specifically in the areas of teacher professional development and student learning, saw better results than districts that did not make these investments (Darling-Hammond, 2004). Equalizing funding between low-income and upper-income districts narrows gaps in Scholastic Aptitude Test (SAT) scores between those districts (Card & Payne). Additionally, other research finds that poor school funding has a significant effect on student achievement (Payne & Biddle, 1999). Payne and Biddle found that the United States would be ranked second in the world in 8th grade mathematics if all districts were highly funded and included students with low-poverty levels. Conversely, the same study found that the United States would move from 14th in the world to 19th in the world if all districts were low funded and contained high concentrations of child poverty. Taken together, these findings suggest that increased funding could positively impact the achievement gap, reducing those gaps between low-income and upper-income students.

**Student mobility and the achievement gap.** Student mobility is also seen as a factor in the achievement gap, as changing schools in the middle of the year can make it difficult for students to have a steady education. While not all student mobility is connected to income-level, there is a large body of evidence that suggests negative effects of student mobility for low-income children (Barton, 2004; Hanushek, Kain, & Rivkin, 2004; Kerbow, 1996; Rumberger & Larson, 1998). Students change schools for a variety of reasons, including a change in residence.
because of lack of affordable housing, a job-change for a parent, or to move a student from a problematic school environment (Barton, 2004; Kerbow, 1996). While suburban schools typically have a greater geographic reach, population density in an urban environment means that students may switch schools by moving blocks from a previous residence (Skandera & Sousa, 2002). These frequent moves can have devastating effects for student achievement. Rumberger and Larson found that students who make even one school change for reasons other than promotion were twice as likely to drop out of high school as students who did not change schools. Additionally, students who change schools frequently have lower rates of achievement than students who remain in one school (Skandera & Sousa).

There are several reasons that student mobility has an effect on achievement gaps. For instance, students enter new classes, which may not necessarily be studying the same information as previous schools (Barton, 2004). Additionally, students can be misplaced upon entering a school into the wrong ability group, and teachers do not necessarily have the information needed to place students properly (Kerbow, 1996). However, there is evidence to suggest that student mobility does not just affect those mobile students (Hanushek, Kain, & Rivkin, 2004). Teachers often must adapt the classroom environment to acclimate a new student, which changes the learning experience for all students (Kerbow). These changes demonstrate why student mobility is an issue for all students, and not just those affected by a move.

Non-school related causes of the achievement gap. The connection between socioeconomic status and the achievement gap has been well-documented earlier in this section. However, there are several reasons that poverty creates such gaps. Evans (2005) argues that students spend approximately 90 percent of their lives outside of school, and that experience is equally critical to student performance and achievement gaps. Barton (2004) argues that Black
and minority children are much less likely to be read to at home, and are more likely to watch higher amounts of television. Access to early childhood education and pre-kindergarten is also seen as a cause for the achievement gap (Evans, 2005). Black and minority students have less parental availability to be active in schools, even as these parents realize the importance of doing so (Evans, 2005; Lee & Bowen, 2006). Additionally, children of various income-levels have different levels of parental interaction and expectations, which has an effect on the achievement gap (Lareau, 2003). In her book studying several families from various socio-economic backgrounds, Lareau finds that middle-class households tend to have more structured activities available to them after school. Low-income and working-class children are more likely to have unstructured time in the afterschool hours that can result in that time being utilized for watching television or other non-academic or enriching activities. These differences, mostly driven by differences in income-levels, cannot be ignored as potential causes of the achievement gap. However, Evans (2005) also argues that it is not just what happens at school or at home that matters, but that the structure of schools, specifically summer vacations, is a legitimate cause of the achievement gaps that exist between income-levels and races.

**Summer Learning Loss**

It is well documented by school calendars across the United States that most American schools spend between eight and 12 weeks closed during a summer recess. A survey of individual state policies shows that state’s mandate the length of the school year to be between 160 and 182 days, depending on the state (Education Commission on the States, 2008). The year typically begins close to September 1 and ends by June 30. This leaves students with approximately two months of time out of school. Research indicates that the summer vacation is a major contributor to the achievement gap between low income students and their more affluent
peers (Alexander et.al., 2007a; Cooper et.al., 1996). Summer learning loss is defined as the knowledge that is lost during the long summer vacation when students are not engaged with academic stimulation (Cooper et.al., 1996; Graham, McNamara, & van Lankveld, 2010; Kerry & Davies, 1998). Alexander, Entwisle, and Olson (2001) have attributed summer learning loss to the gap in resources and programming that exist between low-income and middle- and upper-income students in the summer months. They argue that low-income students tend to perform at similar levels to middle- and upper-income students during the school year, and that low-income students may gain knowledge at slightly faster rates during the school year. To explain this, Alexander et.al. developed the faucet theory.

The faucet theory states that:

When school was in session, the resource faucet was turned on for all children, and all gained equally; when school was not in session, the school resource faucet was turned off. In summers, poor families could not make up for the resources the school had been providing and their children’s achievement reached a plateau or even fall back. (Entwisle, Alexander, & Olson, 2001 para.7)

In other words, because low-income families do not have access to the same resources during the summer months, these students fall behind their more affluent peers.

**History of summer learning loss.** Summer learning loss has been documented in the United States since early in the 20th century (White, 1906). These early studies measured differences in test scores at the beginning of the summer and at the end, and discovered that students did not retain information during the summer. Studies conducted throughout the 20th century confirmed this (Heyns, 1978; Kolberg, 1934; Morgan, 1929; Morrison, 1924; Parsley & Powell, 1962). While all of these studies found evidence of summer learning loss, they did not
determine differences between socio-economic or racial groups. Additionally, most of these studies found that losses occurred in subjects such as mathematics and spelling that relied on much practice and drill that occurred during the school year (Cooper et al., 1996). Later studies also discovered evidence of summer learning loss in reading ability and reading comprehension (Heyns, 1978; Heyns, 1987; Mikulecky, 1990).

Not all studies conducted over the last century have found evidence of summer learning loss. Mousley (1973) compared test scores at the beginning and end of the summer for students in California and found no evidence of any losses. Other studies have also found limited evidence of summer learning loss (Wintre, 1986). However, these studies suffered several design flaws that call into question the generalizability of the results. For instance, the studies did not take into account mitigating factors that may have contributed to the results, such as student attendance in summer programming that may have mitigated the loss (Mousley). The studies also suffered from small sample sizes and did not specify demographic data that may shed light on the types of resources the students may have had during the summer months.

A meta-analysis of 39 studies related to summer learning found that summer learning loss occurs for all students in mathematics, regardless of income level, if the students were not engaged in some form of learning during the summer (Cooper et al., 1996). More interesting however, is the learning loss that occurs in reading. The meta-analysis found that while upper-income and middle-income students tend to make small gains in reading during the summer, low-income students fall dramatically behind their peers (Cooper et al., 1996). This study confirmed the existence of summer learning loss and the dramatic implications that the loss has for the education of low-income students.
**Summer learning loss in other countries.** Summer learning loss is not a phenomenon unique to the United States. Studies conducted globally show evidence of summer learning loss in other parts of North America and in Europe (Graham, McNamara, & van Lankveld, 2010; Kerry & Davies, 1998; Lindahl, 2001; Wintre, 1986). Several studies have documented summer learning loss in Canada, specifically for special populations such as students with disabilities (Graham et al., 2010). Other Canadian studies have discovered evidence of summer learning loss in mathematics, for reasons similar to why the loss occurs in the United States (Wintre, 1986). Studies of school children in England found that the structure of the school calendar in that country also contributed to student learning losses during the summer months (Kerry & Davies, 1998). Finally, a study of the Swedish school system found that middle school students experienced summer learning loss in mathematics during the summer (Lindahl, 2001). However, there was no evidence to suggest that summer learning loss occurred at different rates for Swedish students of different socio-economic levels.

**Summer learning loss and the achievement gap.** While summer learning loss has been identified in countries across the world, its connection to the achievement gap has been identified in the United States. Cooper, Nye, Charlton, Lindsay, and Greathouse’s (1996) meta-analysis suggested that, especially in reading, low-income students fall behind during the summer months while their upper-income peers make slight gains. One study quantified that up to 80% of the achievement gap in 9th grade reading between low-income and middle- and upper-income peers can be attributed to summer learning loss that was compounded each summer (Hayes & Grether, 1983). Others claim that up to 85 percent of the achievement gap in reading for 9th grade students is attributable to summer learning loss (Allington & McGill-Franzen, 2009).
The seminal work on summer learning loss and its connection to the achievement gap is a two-decade longitudinal study on students in the Baltimore school system (Alexander et.al., 2001; Alexander et.al. 2007a; Alexander, Entwisle, & Olson, 2007b; Entwisle et.al., 2001). The Beginning School Study followed nearly 800 elementary students in the Baltimore school system from 1st through 9th grade and then followed up with students at the age of 18 and 22. It concluded that two-thirds of the achievement gap between low-income ninth-grade students and upper-income ninth-grade students can be attributed to summer learning loss (Alexander et.al., 2007a). One summer was not enough to cause large achievement gaps, but every summer that low-income children were not engaged, the gap grew. As described earlier, the faucet for low-income students is turned off during the summer while the same cannot be said for middle- and upper-income students. These losses have immediate effects on student achievement in the classroom and put students far behind their peers when they return to school each September.

Alexander, Entwisle, and Olson (2007b) also documented the long-term effects of summer learning loss and its connection to the achievement gap. The researchers found that summer learning loss meant that low-income students were less likely to attend college preparatory magnet schools, were less likely to graduate from high school and were less likely to attend or graduate from college. In addition, there was a significant gap between the number of low-income students who did not complete high school, and the number of upper-income students who completed college. This suggests that the resource gap has long-lasting consequences that can reinforce the cycle of poverty for those with low socio-economic status.

**Summer Programming as a Solution to Summer Learning Loss**

**History of summer programming in the United States.** In the 19th century school calendars varied depending on where one resided. In areas of the United States that relied heavily
on agriculture for the economy, school was often closed during the summer months to allow students to help families during the harvest. In urban areas of the country however, schools usually operated on an 11 or 12 month calendar (Faulstich-Orellana & Thorne, 1998).

Specifically, cities like Philadelphia had school years that lasted between 251 and 260 days (Silva, 2007). The late 19th and early 20th century saw a shift toward new industrial economies across the United States, which led to the need for a standardized calendar for schooling. Thus, the modern calendar, which includes a long summer recess, was created (Cooper, 2001). There were programs and camps to fill that gap, and school districts also sought to use the summer months to remediate and accelerate learning.

In Ohio for instance, a study conducted in the early 1930s found that most school districts offered programming during the summer that allowed the lowest performing students to complete work to pass on to the next grade (Waldron, 1931). Education leaders began to see the value in summer learning in the 1950s, when school districts saw a benefit to academic programming in addition to recreational programming (Austin, Rogers, & Walbesser, 1972). It was at this time that compensatory summer education programs became more widespread. While summer programs are still not available for all children, research has documented the characteristics that make summer programming effective at reducing summer learning loss, and evaluations of programming demonstrate the potential solutions at reducing loss. The following sections outline the research on potential solutions, including year-round education, summer school, and community-based programming.

**Year-round education.** One of the more controversial solutions suggested to address summer learning loss is the use of year-round schooling to reduce gaps during the summer months. Year-round schooling was a fixture in urban areas of the country during the 19th century,
but disappeared with the standardization of the school calendar across the country in the early 20th century. In 1948 however, the United States Commissioner of Education argued that it might be time to reconsider year-round schooling (Studebaker, 1948). By 1995, more than 2,200 schools in the United States utilized a year-round calendar (Ballinger, 1995). There is conflicting research however, as to the effectiveness of year-round education and its ability to reduce summer learning loss. In many cases, year-round education is not designed specifically to accomplish that goal. For instance, year-round schooling has been designed to address overcrowding in schools and the need to maximize school construction budgets without adding instructional days to a student’s year (White, 1973). This type of year-round education is defined as multi-track, and provides students with staggered scheduling throughout the year, with students receiving different vacation periods (Johnson & Spradlin, 2007; Peltier, 1991). Parents are often critical of this method because it makes it harder to arrange childcare for their children during vacations, and because it limits the ability for high school youth to secure employment during the summer months (Faulstich-Orellana & Thorne, 1998).

More recent studies have examined the differences between multi-track year-round schooling, like the type described above, and single-track year-round schooling that reduces the length of school breaks, but may not increase the amount of days in a school year (Faulstich-Orellana & Thorne, 1998). In single-track year-round schooling, all students take vacations during the same time, but those vacations are often staggered throughout the calendar year. There are various types of single-track examples including the 45-15 cycle (45 days of school followed by 15 days of vacation) and the 90-30 cycle (90 days of school followed by 30 days of vacation) (Davies & Kerry, 1999; Johnson & Spradlin, 2007). The third type of year-round education is extended school year, which adds days to the school calendar at the end of what would be the
traditional school year (Johnson & Spradlin, 2007; von Hippel, 2007). This model is popular among charter schools such as the Knowledge is Power Program (KIPP) and is increasing in popularity across the country (von Hippel).

The data is mixed as to whether year-round education has academic benefits over a traditional school year. Davies and Kerry (1999) studied the effects of year-round education in both the United States and England and concluded that it appeared to have, “measurable, possibly significant effects on the quality of student learning” (p. 362). Other studies found little to no evidence of a difference in achievement between students who attended year-round schools and those that attended schools with traditional school calendars (Faulstich-Orellana & Thorne, 1998; McMillen, 2001; von Hippel, 2007; Wu & Stone, 2010). For instance, students at year-round schools in California performed no better than students at traditional schools on the state’s Academic Performance Index (2010). Von Hippel (2007) found that year-round schools do not reduce summer learning loss, but rather spread that loss throughout other breaks in the school year. Other research also found that year-round schools may negatively impact student achievement for special populations, including students with limited English proficiency and Hispanic and Black students (Graves, 2011).

**Mandatory and remedial summer school programs.** Some school districts across the country have attempted to add days to the school year by creating mandatory summer school programs. These programs are usually reserved for students who require remediation or who have been held back in the previous grade because of failing grades (Cooper, 2001). By 2000, 27% of school districts across the country required that students who had failed the previous academic year attend summer school in order to be promoted to the next grade level. Like year-round education, there is conflicting evidence as to whether this type of intervention is
successful. While summer school is not designed to reduce or eliminate summer learning loss, it is relevant programming in that it has an academic focus during the summer months, and should keep students engaged in learning.

One example of a summer school program is Chicago’s Summer Bridge program operated by the Chicago Public Schools for 3rd, 6th, and 8th grade students. The program is designed to remediate skills for students who could not pass state tests by the end of the previous school year. An evaluation of the Chicago program found that students who participated did make measurable short-term gains in academic achievement as measured by pre- and post-tests (Roderick, Engel, & Nagaoka, 2003). Other evaluations of mandatory summer school programs have demonstrated less success in the program’s ability to mitigate loss and have shown that only ten percent of students participating in a mandatory summer school program made gains (Haenn, 2001). However, Matsudaira (2004) did find small positive effects (.12 standard deviations) for students participating in mandatory summer school. Even if these programs were successful at reducing summer learning loss, tighter school budgets are causing superintendents and local school boards to rethink investments in summer school and summer learning programs (Kim & White, 2011). Summer school is often cost-prohibitive because of the expenses for facilities and personnel costs, and many districts have chosen to dramatically scale back their summer school offerings and instead have reinvested that money into the school year (DeNardo, 2012; Stallworth, 2012).

**Voluntary summer programming.** Some schools and other community-based organizations run voluntary summer programs designed to reduce summer learning loss. Many of these programs focus on the core skills of reading, mathematics, and science in order to mitigate losses for children. For instance, some voluntary reading programs provide students
with books and some minimal reading instruction prior to the end of the school year to encourage reading during the summer. Research found however, that these types of programs had a very small effect size (.08) (Kim, 2006). This is much smaller than many typical summer programs for youth (Cooper et.al., 1996). There is conflicting evidence regarding whether providing students with books during the summer months can reduce summer learning loss (Allington, McGill-Franzen, Camilli, Williams, Graff, Zeig, et.al., 2010; Kim & White, 2011). Some studies conclude that doing so does reduce summer learning loss when done over several summers (Allington et.al., 2010). However, others find no evidence that only providing books reduces summer learning loss (Kim & White, 2011). Kim and White (2008) conclude that summer reading programs can be effective, but only when implemented utilizing characteristics that would make them effective such as matching books to readers and allowing students to choose books rather than having books assigned.

Other types of reading programs have been more successful. The KindergARTen program described earlier had success in teaching reading to students in the early grades when combined with an engaging arts-based curriculum (Borman, Goetz, & Dowling, 2009). In addition, programs that provided reading remediation with summer employment for high school students showed promise in mitigating summer learning losses for older students (Mikulecky, 1990). Research has also proven that the Building Educated Leaders for Life (BELL) program, which operates in several major cities and is a national model for other programs, not only stops summer learning loss, but also helps students to make approximately one-month of gains during the summer (Chaplin & Capizzano, 2006).

Summer programs in science and mathematics have also found effective ways to provide remediation for students. A study of a National Science Foundation-funded remedial program in
New York City found that students significantly improved on standardized tests in biology after participating in the program (Keiler, 2011). The BELL program also has a mathematics curriculum that has resulted in positive academic outcomes for children in the program (Chaplin & Capizzano, 2006). The research is unclear as to whether traditional recreational summer camps are able to mitigate summer learning loss in the students that attend. However, other data suggests that most camps would not be able to stem academic losses during the summer (Timmerman & Bialeschki, 2010).

**Characteristics of Effective Summer Programs**

The research indicates that high-quality summer programs can reduce summer learning loss and create positive outcomes for youth (McLaughlin & Pitcock, 2009). There is a large body of research that classifies the components of high-quality summer learning programs. These include curricular components, program structure, student population, and other smaller categories.

**Effective summer learning curriculum.** There are several characteristics that research outlines as important to effective summer programming. First, the curriculum, and the program as a whole, should look and feel different than the school year to improve engagement for students (Alexander et.al., 2001; Cooper, 2001). Doing so could involve the integration of enrichment programming and recreation with academics, which is also seen as important (Rischer, 2009; Smink, 2007; Terzian & Moore, 2009; Wimer & Gunther, 2006). It is also important for the curriculum to have a focus beyond remediation for students, including advanced curriculum and enrichment to keep students engaged in the learning process (Alexander et.al., 2001; Sundius, 2007; Terzian & Moore, 2009). Neuroscience confirms the importance of this type of enrichment on making the curriculum content easier to understand and
learn (Smink, 2007). The curriculum should also be student-centered and align with content standards that schools have in place for the school year (Deschenes & Malone, 2011). Finally, summer programming should create a connection and engage with the community (Deschenes & Malone).

**Effective program structure.** High-quality summer programs have several structural elements that set them apart from other programs. Effective programs typically begin planning for the summer program early (Rischer, 2009; Wimer & Gunther, 2006). This allows parents to plan vacations around the programming, and also allows the teachers and other staff members to come together as a cohesive team through a planning process (Rischer, 2009). Class size is also a critical structural element for summer programs. The most effective programs have class sizes under 15 students (Rischer, 2009; Terzian & Moore, 2009). Programs should also be held for at least five weeks (Terzian & Moore). In order to be effective, programs should include at least 80 hours of instruction over the summer months (McLaughlin & Pitcock, 2009). Programs should also consist of full-day (6 – 8 hours), and should be voluntary (Terzian & Moore). When hiring staff, programs should make attempts to hire schoolteachers and other adults that know the youth that the program will serve (McLaughlin & Pitcock, 2009; Terzian & Moore, 2009; Wimer & Gunther, 2006). Research indicates that programs are much more likely to be effective at improving student performance during the summer if the students and teachers have a previously established relationship (Roderick, Engel, & Nagaoka, 2003).

**Other key programmatic elements.** There are several other elements that lead to effective programming. Create programs that encourage mixed student skill levels help to improve student outcomes (Alexander et. al., 2001, Terzian & Moore, 2009). Additionally, it is critical that programs promote attendance and ensure that students are present in order to
improve student outcomes (Borman, Benson, & Overman, 2005; Borman, Goetz, & Dowling, 2009). High-quality programs typically engage parents in the program as well, which also helps to ensure higher attendance among students (Alexander et.al., 2001). Rigorous evaluation of a program and continual improvement are also important characteristics of effective programs (Deschenes & Malone, 2011). One of the most important aspects of high-quality programming is sustainable funding to support the program design (Bell & Carrillo, 2007; Cooper, 2001; McLaughlin & Pitcock, 2009). However, funding is often the greatest challenge for programs and inhibits the ability of a program to achieve all of the elements described above as effective characteristics (Sundius, 2007). Cooper (2001) suggests that there are additional reasons, beyond academics, that private or public entities may fund summer learning programs. These include efforts to reduce juvenile delinquency and efforts to keep youth busy during the summer months.

**Experiential and Service Learning**

One type of summer programming not yet discussed is experiential learning, such as service learning. The importance of experiential learning has long been part of educational philosophy, (Dewey, 1900, 2010). Experiential learning can be defined as programs that, “place participants in responsible roles and engage them in cooperative, goal-directed activities with other youth, with adults, or both” (Hamilton, 1980, p.180). Kolb’s (1984) description of experiential learning is one of the seminal works on the topic, and takes previous work by Dewey, Lewin, and Piaget to develop a more comprehensive theory on experiential learning (Porter, King, Goodkin, & Chan, 2012). It is often activity-based, hands-on, and differs from traditional classroom instruction. Additionally, experiential learning typically utilizes all cognitive functions, and connects to the classroom in a way that provides motivation for learning, application of learning, and provides relevance to learning that occurs inside the
classroom. Some have suggested that experiential, informal learning experiences can be just as
critical as formal classroom experiences (Ramey-Gassert, 1997). From a curricular standpoint,
experiential learning is used in elementary and secondary education as a tool for teaching
language and science more than other subjects (Kolb, Boyatzis, & Mainemelis, 1999). There are
several types of learning that fall into the category of experiential learning. These include
project-based learning (Moylan, 2008; Thomsen, 2012), problem-based learning (Pearlman,
2006; Savery, 2006), and service learning (Eyler, 2002; Hatcher & Bringle, 1997; Saltmarsh,
1996). Studies of experiential learning have increased over the last 20 years, specifically in sub-
categories of experiential learning such as service learning.

This study focused on whether hands-on, experiential service learning programs are
effective at reducing or eliminating summer learning loss. The cases examined in the study
utilized service learning as a critical component of the experiential learning in the program.
Therefore, it is important to understand service learning and what makes it different from
experiential learning. As service learning has gained popularity at the elementary, secondary, and
college level, a growing body of research has documented its effectiveness and outcomes. There
is some debate about the definition of service learning. The broadest definitions include all
service opportunities where learning takes place (Billig, 2000). Others criticize this definition as
unfocused, stating that community service is not necessarily service learning (Hurd, 2008). Hurd
(2008) defines service learning as, “meaningful student learning through applied, active, project-
based learning that draws on multiple knowledge sources and provides students with ample
opportunities for ethical and critical reflection and practice” (p. 1). Others emphasize the
importance of a formal educational curriculum as a part of service learning. Flanagan (2004)
argues that service learning should be defined more broadly to focus on developing opportunities
for civic and political engagement. Others argue that service learning must be holistic in that students must connect with a student’s values and value system (Dunkel, Shams, & George, 2011). The definition of service learning is critical to ensuring that the learning experiences are high-quality (Sigmon, 1994). For instance, community service is an activity, but without active learning and critical reflection, it does not necessarily facilitate any gain of knowledge.

Mooney and Edwards (2001) seek to define service opportunities for students across a spectrum of community-based learning. The spectrum includes out-of-class activities such as field trips, volunteering, adding service to lessons, volunteering as part of a class requirement, service learning, and service learning advocacy. Out-of-class activities represent the minimum level of community-based learning, while service learning advocacy allows students to become leaders of social action. In this spectrum, the definition of service learning adheres to some of the definitions above, and includes elements of Hurd’s (2008) definition of service learning. For the purposes of this study, Hurd’s (2008) definition of service learning, defined above will be utilized.

Billing (2000) argues that there are essential elements that must be in place for high quality service learning. First, there must be clear educational goals that are aligned to specific knowledge and academic disciplines that will be learned through the experience. In addition, the service itself must have a clear purpose and goals. Formative and summative evaluations and other assessment are used in quality service learning to measure academic growth and learning. Finally, reflection is a key element to the service learning (Hatcher & Bringle, 1997; Mooney & Edwards, 2001; Saltmarsh, 1996; Wood-Daudelin, 1997). Camino and Zeldin (2002) argue that youth ownership and adult mentoring are essential elements in a service learning curriculum or activity as well. The inclusion of this element is also supported by Morgan and Streb (2001).
Many of the studies of service learning have focused on the college-level, but the outcomes of those studies also can be applied to the elementary and secondary level. For instance, Gallini and Moely (2003) found that in service learning, students could develop a better understanding of course material through the service learning. This same conclusion has been found in studies of elementary and secondary service learning (Conway, Amel, & Gerwien, 2009).

**Benefits of experiential service learning.** There are several benefits to experiential, service learning outlined in the research. One of the major benefits of experiential learning and service learning is the development of 21st century skills (Camino & Zeldin, 2002; Conway, Amel, & Gerwien, 2009; Hmelo-Silver, 2004; Hurd, 2008; Moylan, 2008; Paulson, 2011; Pearlman, 2006; Spires, Rowe, Mott, & Lester, 2011). 21st century skills have been defined several ways, but they have core components. They include problem solving, critical thinking, observation and advocacy (Porter, King, Goodkin, & Chan, 2012). 21st century skills also can be referred to as the seven-Cs, including critical thinking and problem solving, creativity and innovation, collaboration, teamwork, and leadership, cross-cultural understanding, communications and information fluency, computing and information and communication technology fluency, and career and learning self-reliance (Moylan, 2008). These skills are all built on the development of core academic knowledge (Johnson, 2009). They are meant to be developed as part of academic learning, not as a separate curriculum that is taught in addition to academic learning (Thomson, 2012). Traditional measurement systems such as standardized testing do not address the development or growth of 21st century skills, making them harder to measure (Darling-Hammond & Adamson, 2010; Reeves, 2010). Most methods of measurement for these skills involve observation, surveys, and rubric-based performance assessments (Darling-Hammond & Adamson). Using some of these methods, several studies have confirmed
that experiential learning, particularly service learning are effective at building 21st century skills. Spires, Rowe, Mott, and Lester (2011) found that these skills were built through experiential game play and problem-based learning. These skills, such as critical thinking and problem solving were also built through experiential business simulations for students (Paulson, 2011). Service learning has also been effective at building 21st century skills (Camino & Zeldin, 2002).

Experiential service learning also allows participants to connect knowledge to real-world experiences, further improving comprehension (Ives & Obenchain, 2006; Hurd, 2008). This application of knowledge has been shown to increase a participant’s higher order thinking skills (Ives & Obenchain, 2006; Werth, 2011). For instance, a study of an experiential learning program at an Idaho Policy Academy determined that the activity helped officers develop higher order thinking skills including decision-making and problem solving (Werth). Experiential service learning has also been shown to create life-changing, transformational learning experiences that can alter career choices and potentially alter one’s world views (Kiely, 2005; Astin, Vogelgesang, Ikeda, & Yee, 2000). These experiences also benefit students with disabilities, as they provide environments where students can engage in problem solving and develop skills in compromise (Crites & Dunn, 1998).

Service learning in particular has additional benefits, including more active engagement in community among students that participate (Eyler, 2002). It also builds civic responsibility in students (Mooney & Edwards, 2001). Scales, Roehlkepartain, Neal, Keilsmeier, and Benson (2006) studied the perceptions of principals and students on student achievement based on service learning curricula. Their research found that principals and students believed that service learning had a positive impact on attendance, engagement, and academic achievement. This was
especially true for principals in schools with a high population of low-income students. The authors suggest that service learning is connected to smaller achievement gaps between low-income and upper-income students.

Experiential and service learning programs have also been shown to improve social and emotional outcomes for participants (Camino & Zeldin, 2002; Durlak, Weissberg, & Pachan, 2010; Flanagan, 2004; Thomsen, 2012). Social and emotional learning is similar to 21st century skill development, and focuses on concepts such as student confidence, persistence, organization, ability to get along with others, and emotional resilience (Bernard, 2006). Ragozzino, Resnik, Utne-O’Brien, and Weissberg (2003) define social and emotional learning as, “the capacity to recognize and manage emotions, solve problems effectively, and establish and maintain positive relationships with others” (p.169). Like 21st century skills, social and emotional learning concepts can be embedded into academic subjects and other activities such as experiential learning (Cohen, 2006). Key social and emotional competencies include self-awareness, social awareness, self-management, relationship skills, and responsible decision-making (Ragozzino, Resnik, Utne-O’Brien, & Weissberg, 2003).

Experiential afterschool programs have shown a strong ability to improve social and emotional learning outcomes for children and this improved not only social and emotional indicators, but also school grades and other measures of academic achievement (Durlak, Weissberg, & Pachan, 2010). Additionally, high social and emotional outcomes correlate with lower incidents of behavioral issues for students (Durlak, Weissberg, & Pachan). Research has demonstrated the effectiveness of service learning programs at improving social and emotional outcomes as well (Camino & Zeldin, 2002; Flanagan, 2004). These studies found that service
learning increased tolerance, transformed students’ priorities, reduced stereotyping, and increased acceptance of cultural diversity (Flanagan).

**Challenges of experiential service learning.** There are reasons schools may choose not to engage in experiential service learning. While Ives and Obenchain (2006) found that experiential learning improved higher order thinking skills, they also found that it did not improve lower-order thinking skills such as recall and comprehension. Additionally, standardized test scores, most commonly used to measure academic achievement in elementary and secondary schools does not increase through service learning (Hurd, 2008). Kirschner, Sweller, and Clark (2004) suggest that experiential learning does not work because the learning is unguided. They suggest that formal, guided, teacher-driven learning is much more effective than an experiential opportunity. Their study focused on medical schools which teach using experiential methods, and found that these methods were not as effective as traditional medical schools. However, the authors fail to acknowledge that not all experiential learning is unguided. Earlier definitions of experiential service learning suggest that these experiences must have some guidance to be high-quality. Since their argument and data suggest that unguided learning is not effective, it is possible that guided experiential service learning can produce the benefits described earlier. Additionally, experiential learning tends to be more expensive than traditional learning and requires a greater amount of staff time to prepare (Werth, 2011). Finally, it is difficult to assess many of the outcomes using traditional assessment methods (Darling-Hammond & Adamson, 2010; Reeves, 2010). Instead, performance-based assessment is required, which is more time and labor intensive, and which is more difficult to standardize.

**Contributors to effective experiential, service learning.** The research does suggest several moderating factors that determine the level of effectiveness of experiential service
Several studies found a correlation between the duration of the service learning and its effect on academic achievement and other outcomes (Scales, 1999; Conway, Amel, & Gerwien, 2009). In general, longer service learning experiences corresponded with improved outcomes. For programs to improve outcomes for participants, more than 30 hours of participation are required (Scales, 1999). In addition to duration, the intensity of the experience is also important (Scales, 1999; Conway, Amel, & Gerwien, 2009). Intensity goes beyond exposure to the activity and focuses on how intense the exposure is. For instance, Kiely (2005) studied students that conducted service projects in impoverished South American communities. His longitudinal study found that the intensity of that program changed the worldview of students and had a profound impact on their lives several years into the future. This would probably not have been the case had the experiential service learning not been as intense. The final moderating factor, and one that most researchers agree is critical to experiential service learning is reflection (Scales et al., 2006). Reflection on the service learning experience has been referred to as, “The hyphen in service learning; it is the link that ties student experience in the community to academic learning” (Eyler & Giles, 1999, p. 171). Several studies have found that the greater the amount of reflection the better the academic and personal outcomes for participants (Scales et al; Conway, Amel, & Gerwien, 2009). Additionally, it is critical for teachers to acknowledge the service learning that is taking place, as students do not always realize that this type of learning occurs through the service (Hatcher & Bringle, 1997). These moderating factors play a critical role in improving the likelihood that experiential service learning improves outcomes for participants.

Advocacy Argument

**Summer learning loss and the achievement gap.** The summer months represent both an opportunity and a challenge to educators, students and parents. In the past, parents have often
been able to fill the long summer vacation with activities or other opportunities, but shifting family structures make it less likely that parents are able to stay at home with their children during the summer (Boss & Railsback, 2002). Meanwhile students require academic enrichment to ensure that they do not experience summer learning loss (Cooper et al., 1996). For education policymakers, summer learning loss represents a unique challenge because the traditional school year cannot address the loss that occurs, yet the performance during the school year is directly affected by summer learning loss (Alexander et al., 2007a). The evidence of summer learning loss across income levels has been clearly documented over the last century, but summer learning loss is an especially important issue for educators of low-income students, as well as for students and families. Achievement gap researchers have pointed to a number of factors for why there is a gap in academic performance between low-income and middle- and upper income students and between racial minorities and Whites. While some of these factors can be controlled by the school, others are affected by socio-economic factors outside of the school (Barton, 2004; Epps, 1995; Evans, 2005; Singham, 2003). Summer learning loss is one of these factors (Barton, 2004; Epps, 1995).

Entwisle, Alexander, and Olson (2001) argue that summer learning loss is caused by a gap in resources and programming during the summer months between low-income students and upper-income students. While upper income students tend to have additional opportunities for learning and enrichment during the summer months, those resources are not present for low-income students, and the result of this is stark. Studies estimate that a large portion of the achievement gap may be caused by unequal access to resources during the summer vacation period (Alexander et al., 2001; Hayes & Grether, 1983). Evans (2005) argues that the achievement gap is not caused exclusively by schools and schools alone cannot close the
achievement gap. This is especially true of summer learning loss. He argues that solutions for these causes must be created. A natural solution to address summer learning loss is to develop programming for low-income children that will reduce losses during the summer months.

**Mixed results for solutions to summer learning loss.** While providing additional resources and programming might seem like the best option, the reality is more complex. There are several solutions that have been attempted to address summer learning loss, and while they are all potentially valid, they have all had mixed results. Year-round education would seem to address summer learning loss. By eliminating the long summer vacation schools could reduce summer learning loss. However, the types of year-round education do not necessarily reduce the amount of time that students spend outside of school (Kerry & Davies, 1998). Instead, methods of multi-track and single-track year-round education move the dates that vacation takes place, which simply shifts summer learning loss throughout the year rather than in one season (von Hippel, 2007). However, there is also no evidence that extended school years, which do add instructional days to the school year, produce better results for youth and reduce summer learning loss (Johnson & Spradlin, 2007; von Hippel).

Traditional summer school programs, which are often remedial and limited to specific students are also not a strong option to reduce summer learning loss. Studies of this type of programming has demonstrated that they have little to no effect on student learning and reducing summer learning loss (Matsudaira, 2004; McMillen, 2001). Additionally, these programs include a curriculum that violates best practices for summer learning because they often do not include enrichment and other types of learning beyond remediation (Alexander et.al., 2001; Smink, 2007; Terzian & Moore, 2009). These remedial programs are also less prevalent, as budget cuts in school districts have forced schools to scale back their offerings during the summer months.
Research on summer reading programs have also yielded mixed results, with some programs demonstrating gains if the program is designed effectively, but most programs showing little or no effect on reducing summer learning loss (Mikulecky, 1990; Kim, 2006; Kim & White, 2008).

**Experiential, service learning as a solution to summer learning loss.** Experiential, service learning programs may be an additional option that should be explored as a way to reduce summer learning loss and help to close the achievement gap. Additionally, many of the characteristics of effective experiential service learning are also characteristics of effective summer learning programming. Experiential service learning allows students to apply knowledge to real-world experience and encourages critical thinking and problem solving (Hmelo-Silver, 2004; Hurd, 2008; Conway et.al., 2009). Additionally, experiential learning is often connected to enrichment programming and provides enrichment through the hands-on activities (Ramey-Gassert, 1997). These characteristics are critical for effective summer learning programming as well (Rischer, 2009; Smink, 2007; Terzian & Moore, 2009; Wimer & Gunther, 2006). Effective summer learning programming is characterized by enrichment programming and opportunities to apply knowledge. It also requires strong student attendance and must be at least 80 hours. To be effective, experiential service learning must also be of a certain length and duration, which suggests that strong service learning would match well to the length requirements of effective summer learning programming (Conway et.al., 2009; Scales, 1999). Deschenes and Malone (2011) argue that high-quality summer programs must connect to the community. Service learning has a clear goal of connecting students with the community and helping them understand their role within the community. Finally, studies have found that experiential service learning has positive effects on student attendance, engagement, and academics (Scales et.al.,
2006). Since attendance is critical to the success of summer programming, utilizing experiential service learning would seem to increase the ability of summer learning programs to maintain attendance and improve programming.

The research suggests that experiential service learning can be an effective curriculum element for summer learning programming, and may be successful at reducing summer learning loss. Additionally, when applied to summer learning, experiential service learning has the potential to make learning more relevant and meaningful to students during the school year (Studebaker, 1948). In addition, summer learning provides an opportunity for active learning (Wintre, 1986). While evidence from prior research certainly suggests that experiential service learning can be an effective tool to reduce summer learning loss, no studies have conducted research to determine if that is the case. In order to determine the true value of experiential service learning as it relates to summer learning loss, research must be conducted that looks specifically at whether this type of programming mitigates learning losses for youth and potentially accelerates learning for low-income students.

Summary

The review of the literature details the value of determining whether experiential service learning is effective at reducing summer learning loss among low-income youth. Experiential learning and service learning have the potential to provide a high-quality academic and personal experience for youth (Scales et.al., 2006). Additionally, the programming connects students to the community and helps them understand their role in improving the community, which is a key element of high-quality summer programming (Deschenes & Malone, 2011). As the literature review outlines, the characteristics of experiential service learning match particularly well to
summer learning and could provide students with the engaging, enriching curriculum that is critical for high-quality summer learning programs.

Reducing summer learning loss is critical to efforts to close the achievement gap in the United States between low-income and upper-income children as well as between White students and other minority groups. While there are many causes for the achievement gap, a review of the literature clearly articulates the role that summer vacation has in contributing to the gap (Alexander et.al., 2001, Cooper et.al., 1996). McKinsey & Company (2009) outline the detrimental economic consequences of the achievement gap, but there are also the moral consequences of the gap. Providing summer programming to low-income youth may provide a strategy for addressing a key component of the achievement gap. Additionally, it is clear that other strategies for addressing summer learning loss, such as year-round learning, remedial summer school, and summer reading programs provide, at best, mixed results for children (Kim & White, 2008; Matsudaira, 2004; von Hippel, 2007). From a research perspective, it is important to understand the types of programming that may reduce summer learning loss, and it would seem from the research that experiential service learning may accomplish this task. Therefore, it is necessary to study what effects, if any, experiential service learning has on reducing summer learning loss for low-income youth.

The study of experiential service learning programs and its ability to reduce summer learning loss has significance at all levels. First, understanding the effects of this type of programming on reducing summer learning loss can improve programming and outcomes for youth that participate in the programming. It also has implications for teachers who may participate in the summer program, see potential benefits, and therefore alter their practice during the school year to incorporate some of the successful strategies. At the district level, knowing the
type of summer programming to invest in can help districts make decisions on shifting financial resources to address the issue, and could reduce the long-term costs of remediation. At the policy level, understanding whether this experiential service learning is effective at reducing summer learning loss can better position financial and other resources on replicating and scaling that type of programming. Additionally, it can provide policymakers with one tool to address achievement gaps in this country. Experiential service learning during the summer will not reduce achievement gaps alone. However, understanding the impacts of programming could help to address a portion of the achievement gap, and coupled with other interventions, could help to close achievement gaps in the United States. The research is clear and compelling that the effects of experiential service learning on reducing summer learning loss warrants further study. Such a study can provide needed analysis that can provide solutions for a critical education issue and can have implications for policymakers, teachers, parents, and perhaps most important, students. Chapter three will outline the methodology that will be used to conduct such a study.
Chapter III: Methodology

Most studies on summer programming and summer learning loss are quantitative (Allington et al., 2010; Borman, Benson, & Overman, 2005; Borman & Dowling, 2006; Graham, McNamara, & van Lankveld, 2010; Graves, 2011; Kim, 2006; Kim & White, 2008; Matsudaira, 2004; McMillen, 2001; Stone, Engel, Nagaoka, & Roderick, 2005; Wu & Stone, 2010). However, those studies do not seek to understand the how and why programs are successful, which is one of the main purposes of qualitative research (Marshall & Rossman, 1999). The purpose of this study on service learning summer programs is to be explanatory and to better understand how a summer program can be successful at reducing summer learning loss. The key purpose of this qualitative research is to be exploratory (Creswell, 2008).

Specifically, this study employed a case study research design. Case studies are employed to understand a real-world problem or potential solution (Yin, 2009). This study researched two programs implementing a service-learning summer program. This allowed both multi-site analysis to compare themes in the model, but will also allowed within-site analysis to understand the complexities of each individual site (Huberman & Miles, 2001). Participants in this research came from the two sites studied. Specifically, participants included parents, students, teachers, and administrators associated with program sites in Cranston, and Central Falls, Rhode Island.

Consistent with most case studies, several forms of data collection took place in this study. First, artifacts from the program were collected. These included program curriculum, assignments, lesson plans, and student work. Second, researcher observations took place at each site. Third, focus group interviews were conducted with each of the participant groups. Finally, individual, semi-structured interviews were conducted with school administrators associated with the programs, including superintendents and other district-level administrators. Once the data was collected, it was coded for specific themes and terms that assisted the researcher in drawing
conclusions about the program (Saldana, 2013). This analysis and theme development occurred across sites and within sites. This chapter explains the research design in greater detail, demonstrates how the research design embeds the theoretical and conceptual frameworks described in the first chapter, and how it appropriately answers the research questions.

**Research Design**

The first chapter of this study described faucet theory, the theoretical framework guiding this research. Faucet theory has been used for a large number of studies on summer programming designed to stem summer learning loss, and most of that research is quantitative (Allington et al., 2010; Borman, Benson, & Overman, 2005; Borman & Dowling, 2006; Graham, McNamara, & van Lankveld, 2010; Graves, 2011; Kim, 2006; Kim & White, 2008; Matsudaira, 2004; McMillen, 2001; Stone, Engel, Nagaoka, & Roderick, 2005; Wu & Stone, 2010). These studies were focused on measuring whether or not a particular summer program was successful at reducing or eliminating summer learning loss. However, few research studies on summer learning loss explore how or why a specific intervention is successful. Of the studies that focus explicitly on programs designed to stem summer learning loss mentioned in chapter two, only one was qualitative (Keiler, 2011).

Despite this, qualitative research on summer learning loss has merit. Qualitative research focuses on exploring the complexities and the process that exists in the phenomenon being studied (Marshall & Rossman, 1999). It also allows researchers to gain a holistic view of what is being studied and to understand how those participating in or with the phenomenon perceive it (Miles & Huberman, 1994). Creswell (2008) argues that it is critical to match the research design to the problem being studied and to the questions being asked through the research. Creswell reinforced Marshall and Rossman’s assertion that qualitative research is focused on exploring a
particular issue and gaining a deeper understanding of the issue. This research focused on answering one key research question. First, how does an experiential, service learning summer program keep academic knowledge flowing for urban middle school students during the summer months? Specifically, what are the perceived academic, social, and emotional effects of an experiential, service learning summer program on reducing summer learning loss in urban middle school students?

The research question is targeted to more deeply understand the summer program and its effects. Additionally, it is designed to go beyond testing and explaining, which are both elements of quantitative research (Creswell, 2008). This research is designed to better understand how participants view the program and whether they believe the program to be successful. A qualitative design is better suited to address that.

Qualitative research is also consistent with the functionalist paradigm that serves as part of the foundation for this research. In their seminal work on organizational analysis and social science research, Burrell and Morgan (1979) outline four paradigms under which all research and researchers fall. Functionalist research underscores the importance of studying social science issues from the point of view of those engaged in the phenomenon or action (Burrell & Morgan). Further, post-positivist functionalist research utilizes a problem-oriented approach and seeks to better understand solutions to those problems. Qualitative research focuses on the point of view of participants in a way that quantitative research does not. By studying the points of view of participants, this research better understands the problem of summer learning loss, and whether or not experiential, service learning is a potential solution.

This study was focused on more than a basic understanding of whether a particular program and intervention is effective. It sought to understand whether participants in a program
believe service learning is a potential solution to summer learning loss and what elements of the program that they perceive to be effective. More important, the research focused on the program in its natural setting and how the program was interpreted in the natural setting, another critical component of qualitative research (Denzin & Lincoln, 2011). For all of the reasons outlined above, qualitative research presented the best approach for answering the research questions.

**Case Study Design**

Case studies represent one of the main methods utilized to conduct qualitative research (Creswell, 2012). Case study designs are used to explore real-world problems that go beyond quantitative explanations and that exist in a contemporary setting (Yin, 2009). There are research theorists that label case studies as a methodology (Merriam, 1998). Others believe that they provide the foundation for comprehensive research that studies phenomenon bounded by time, place or other boundaries (Denzin & Lincoln, 2005; Creswell, 2012; Stake, 1995; Yin, 2009). This research focused on experiential, service learning as a potential solution to summer learning loss. Specifically, it studied two middle school summer programs that focused on experiential, service learning as the core theme of their curriculum and are part of the Hasbro Summer Learning Initiative (HSLI) in Rhode Island. A case study design is an ideal for this study for several reasons.

First, as Yin (2009) describes, case studies are appropriate when the research questions are descriptive and explanatory. This research focused on explaining, from the perspective of those experiencing the program, how service learning was or was not effective at reducing summer learning loss and what, if any academic, social, or emotional benefits there were to service learning summer programs. Second, case studies provide an opportunity for an in-depth understanding of the case itself (Yin). This is critical to answering the research question for this
study. Third, case study research is useful when multiple sources of data are collected and when that data can be triangulated (Creswell, 2012). In this study the researcher collected artifacts, observed the programs, and conducted focus group interviews and semi-structured individual interviews. This data was triangulated during the data analysis process to determine themes and draw conclusions. Finally, like other case study research, this study will explore the implementation of a solution to a real-world problem (Flyvbjerg, 2006). In this case, that problem is summer learning loss, and the potential solution is the experiential, service learning summer program.

**Multiple case study research.** The collection of data at two middle school sites in the HSLI makes this study a collective or multiple case study (Creswell, 2012; Stake, 2006). This will be useful for answering the research question in this study since a multiple case design allows the researcher to find patterns that exist across the cases (Eisenhardt, 1991; Yin, 2009). Additionally, a multiple case study design allows the researcher to explore process, and how the context does or does not play a role in the phenomenon being studied (Yin, 2009). This is important for this research because it provided an understanding of what parts of the service learning summer program model are critical for success. Those found at both sites can be identified as critical, and other elements of the program design can be identified as either optional or non-essential.

The multiple case study approach also allows both cross-case analysis and within-case analysis (Yin, 2009). Cross-case analysis allows researchers to compare processes to determine key elements that may help reduce summer learning loss (Huberman & Miles, 2001). It also provides an opportunity to explore the differences between the programs and what elements may be more successful for a program and why. A multiple case study design also allows the
researcher to better understand each individual site through a within-site analysis, which provides opportunities to analyze the intricacies of an individual site that may affect comparisons between the sites. All of these examples demonstrate why a case study design is the ideal method to answer the research question in this study. Utilizing the case study method helps the researcher identify the critical components of an experiential, service learning summer program that make it potentially effective at reducing summer learning loss.

**Case Selection**

In order to successfully answer the research question, it was necessary to identify experiential, service learning summer programs to serve as the cases for the study. Since it was program effects that the researcher sought to better understand, the unit of analysis for this study were at the program level. The HSLI in Rhode Island provided an opportunity to conduct multiple case study research to answer the research question.

The HSLI is a public-partnership in Rhode Island that offers experiential, service learning summer programming to students throughout the state of Rhode Island. Funded by Hasbro Inc., United Way of Rhode Island, and the Rhode Island Department of Education, the HSLI provides funding to individual summer programs to implement a curriculum focused on experiential service learning. The curriculum is created and implemented as a partnership between schoolteachers and community organizations, and service learning is a critical aspect to the programming. The curriculum embeds components of the Common Core State Standards into the hands-on, experiential activities in the program. Students work throughout the summer on a service learning project that culminates at the end of the summer program. While there are core components of the model that must be implemented, programs have the freedom to adapt the curriculum to meet the needs of their students. In 2012, 11 programs across the state of Rhode
Island participated in the program, serving 1,102 students. While each individual site had different starting and ending dates, all programs were required to be six weeks in length, and to serve students at least six hours per day, five days per week, and totaling 180 hours of instruction.

Programs in the HSLI share a common theme, but vary in the age and grade levels that they serve. In summer 2013 the HSLI included 16 programs and served approximately 1,500 students statewide. Table 1 lists the sixteen programs of the HSLI and key components of each program. Of the 16 programs, five served middle school students. However, of those five, only two have been in existence for longer than two years, giving them an opportunity to refine their implementation. Purposeful sampling was utilized to select the sites, and an effort was made to select sites that would represent a typical case (Miles & Huberman, 1994). The HSLI programs in Central Falls, Rhode Island and Cranston, Rhode Island represented both a typical case and also represented specific demography and geography that connected to the research question. In order to study middle school students and to study urban programs, it was necessary to focus on these two specific programs for the case study.

Table 1

Hasbro Summer Learning Initiative Programs

<table>
<thead>
<tr>
<th>Name of Program</th>
<th>Location</th>
<th>Grade Levels Served</th>
<th>Duration</th>
<th>Years in Existence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Falls School Department</td>
<td>Central Falls</td>
<td>6 – 8</td>
<td>July 8 – August 16</td>
<td>5</td>
</tr>
<tr>
<td>Cranston School Department</td>
<td>Cranston</td>
<td>6 – 8</td>
<td>July 8 – August 16</td>
<td>3</td>
</tr>
<tr>
<td>Boys and Girls Club</td>
<td>Cumberland</td>
<td>5 – 8</td>
<td>July 8 – August 16</td>
<td>1</td>
</tr>
<tr>
<td>YMCA</td>
<td>East Providence</td>
<td>1 – 5</td>
<td>July 8 – August 16</td>
<td>1</td>
</tr>
<tr>
<td>Martin Luther</td>
<td>Newport</td>
<td>K – 6</td>
<td>July 8 – August 16</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Central Falls</td>
<td>Cranston</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student Population</strong></td>
<td>577</td>
<td>398</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Students in Poverty</strong></td>
<td>544 (94%)</td>
<td>282 (70%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>English Language Learners</strong></td>
<td>149 (25%)</td>
<td>54 (13%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Special Education Students</strong></td>
<td>140 (24%)</td>
<td>68 (17%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hispanic or African-American</strong></td>
<td>508 (88%)</td>
<td>187 (46%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary Program Data: Operational Information**

<table>
<thead>
<tr>
<th></th>
<th>Central Falls</th>
<th>Cranston</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Targeted Number of Students</strong></td>
<td>120</td>
<td>50</td>
</tr>
<tr>
<td><strong>Number of leadership staff (principals and program directors)</strong></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Number of total staff</strong></td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>FY2013 program budget</td>
<td>$85,373</td>
<td>$38,794</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Time since adoption of summer program</td>
<td>6 years</td>
<td>4 years</td>
</tr>
<tr>
<td>Hours of professional development for staff</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Hours of operation</td>
<td>8:00 AM – 3:30 PM</td>
<td>9:00 AM – 4:30 PM</td>
</tr>
</tbody>
</table>

**Units of analysis.** While the programs themselves served as the case, the units of analysis were those individuals that interacted and experienced the programs. These included the teachers, students, parents, and district administrators. Unfortunately, the researcher did not have control over the selection of those individuals associated with the program, and therefore, the sample was not random. However, both the Cranston program and the Central Falls program represented typical cases in the HSLI. Each of the programs recruited students from the middle schools that they serve. Those students and families were recruited in a variety of ways, including advertisements, letters home to parents, and targeted outreach from the school and the program for those students in greatest academic need. Space in the programs was provided on a first-come, first-served basis, and in both programs parents were asked to pay a nominal weekly fee for participation in the program. However, in both programs the fees were on a sliding scale based on parental income and no child was denied access to the programming because of income. To populate the groups studied for this research, a criterion-based random sample of the general participant pool was selected. The criterion utilized was whether a participant was a teacher, student, parent, or administrator.

Creswell (2012) recommends that case study research focus on no more than four cases at one time. Wolcott (2008) states that selecting more than one site in a case study can dilute the research. By selecting two sites, and limiting the number of participants at each site, the study provided data to make comparisons and draw conclusions, and slightly increased
generalizability. However, limitations exist with this study design. First, while Creswell argues that generalizability is not the purpose of qualitative research, it will be difficult to make any generalizations about the findings. The choice to focus on middle school makes it difficult to generalize to the other programs in the HSLI, since most are elementary-level programs. The non-random sample of participants is also a limitation, since participants self-select to take advantage of the program. Finally, the small sample size is also a limitation. Despite the limitations, the purpose of case study research specifically, and qualitative research more broadly, is to offer explanations. Flyvbjerg (2006) argues that intense observation has led to many discoveries in the hard sciences and that it is also possible to do so in social science research. This research will provide explanations to the research question posed, and the intense observation and data collection in the case study may also influence future research on the topic.

**Recruitment and Access**

The previous section outlined the two programs that will be utilized as part of this case study research. To gain access to the two programs, an initial e-mail was sent to the superintendents of the Central Falls and Cranston school districts and to the program coordinators briefly explaining the research goals and the research design. In the case of Central Falls, the researcher was asked to fill out a standard form that the school district uses for research conducted in the district. The form was filled out and submitted for approval. The researcher offered both Central Falls and Cranston the opportunity to view the research findings once the research was complete. He also offered to present the findings to program coordinators, and to the school committees in each city. Other than that offer, no additional incentives or undue inducements were provided to encourage participation in the study.
Since access had been arranged with districts prior to student recruitment for the programs, a letter from the researcher describing the research project was included in the registration materials for the program. This letter was provided in both English and Spanish, and asked for participation. Each of the programs invited parents and students to an orientation event prior to the start of the program. At this event, the researcher provided an overview of the research project and answered questions that parents and students had. Informed consent forms were then provided in both English and Spanish. Consistent with ethical standards, parents were asked to provide informed consent for their children. Informed consent forms were also provided for teachers and administrators randomly selected to participate in the case studies. The researcher met with teachers at professional development sessions prior to the start of the program. No additional inducements or incentives were provided to individuals participating in the research. During the course of the data collection process, participants could waive their informed consent without penalty. This did not occur, so it was not necessary to exclude their data from analysis.

A serious effort was made to maintain the anonymity and confidentiality of research participants. Lessons and conclusions from the case were preserved, so other information was altered to maintain anonymity and confidentiality. For instance, as Creswell (2012) suggests, the names of participants were changed, and the researcher avoided using specific demographic characteristics when those characteristics allowed a reader of the study to identify a specific participant. Additionally, the researcher employed methods outlined by Miles and Huberman (1994) during the data analysis process, such as member checks, to ensure that anonymity and confidentiality were maintained. Participants were reminded throughout the data collection process that their responses were confidential, and that they could inform the researcher if
anything that they said should not be included in the final analysis. This only occurred once, and that information was left out of the analysis.

**Benefits and risks.** There were several benefits that programs gained from participating in the research process. First, the conclusions drawn from the data collection and analysis can help programs to refine and improve program delivery in future years. This will also benefit individuals associated with the program, including students that participate and the teachers and administrators who operate the program. The study also posed a risk no greater than participants would experience in daily life, therefore causing minimal risk for participants. This minimal risk allowed the researcher to apply for an expedited institutional review board (IRB) approval. Finally, the study did not require the researcher to use deception or to provide participants with misleading information, again posing minimal risk to participants.

**Data Collection**

One of the core elements of successful case study designs is the collection of multiple types of data (Creswell, 2012; Yin, 2009). This study employed multiple forms of data collection to triangulate data and draw conclusions from the analysis of that data. The purpose of this research was to explore the cases and understand how experiential service learning impacts summer learning loss. To address the research questions, the research included interviews, observations, and document review and analysis. The data was collected during the summer of 2013. Specifically, the data was collected between June and August, 2013. This timeline provided enough opportunity to observe the planning process at each of the sites, to experience the program implementation, and to speak with major stakeholders involved in the program implementation or who experience the program implementation. The programs occurred over a
six-week period during the summer as outlined in Table 1. The following section details each of the data collection methods utilized to answer the research questions.

**Observations.** According to Creswell (2012) observation is a key tool for data collection in qualitative research. For this study, the researcher was a nonparticipant observer, serving as an outsider in the group and taking field notes while not interacting in the program (Creswell). Observations took place four times at each of the two case study sites throughout the summer. Table 3 outlines the observation schedule for each site. The first observation will took place during the planning process and studied the curriculum development phase of the program. The second and third observations included classroom activities or curricular activities that occurred in the community or in the classroom. The fourth observation occurred at the end of the program and took place during the final week of the program. Data was collected using an observation protocol. It included details such as the time of the observation, date, location, and the observations themselves. The field notes taken through the observations were analyzed during the data collection process and were used to refine codes and develop analytical memos that were useful in analysis (Miles & Huberman, 1994). Each observation lasted approximately one hour, creating 8 total hours of observation between the two programs. The observations occurred in a variety of settings, and provided clear links between the planning process, the implementation of the curriculum and the planning, and how service learning was implemented in practice.

Table 3

**Observation Schedule**

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Observation Type</th>
<th>Hours Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Falls</td>
<td>Pre-Implementation</td>
<td>Planning Process</td>
<td>1</td>
</tr>
<tr>
<td>Cranston</td>
<td>Pre-Implementation</td>
<td>Planning Process</td>
<td>1</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Week 2</td>
<td>Implementation</td>
<td>1</td>
</tr>
</tbody>
</table>
Interviews. Interviewing can help researchers to reconstruct events, and can explain complicated processes (Rubin & Rubin, 2011). In this study, interviews with specific stakeholder groups were critical to understanding the programs and their potential effects on summer learning loss and student achievement. Focus group interviews served as the main method of interviewing for this study, and took place with different constituency groups including students, parents, and teachers. Individual interviews were conducted with school district administrators since there were not multiple people to interview from the constituency group.

Focus groups are considered useful when the interaction between the interviewees will yield better information than individual interviews (Creswell, 2012). Usually the participants have a common experience, and can have a conversation about that experience (Rubin & Rubin, 2011). That was the case for this research study, and for the focus groups in this study participants were randomly selected from participants that provided informed consent. Each focus group was interviewed twice throughout the summer program, once at the beginning of the program and once during the final week of the program. Homogeneous grouping provided the best data for analysis, as different questions were asked of each stakeholder group, since each had a different experience with the program.

Table 4 displays the various interviews that took place during the data collection process. In addition to the focus groups, semi-structured interviews took place with school district administrators during the last week of the program. All interviews, both focus group and semi-
structured individual interviews were approximately one-hour in length, and data was recorded by an audio recorder. Additionally, the researcher took notes on the interview protocol sheet, which were included in the field notes for analysis. Following interviews, the audio recording were transcribed for coding purposes.

Table 4

*Interview Characteristics*

<table>
<thead>
<tr>
<th>Site</th>
<th>Stakeholder Group</th>
<th>Interview Type</th>
<th>Number of Participants</th>
<th>Time</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cranston</td>
<td>Students</td>
<td>Focus Group</td>
<td>10</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Teachers</td>
<td>Focus Group</td>
<td>4</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Parents</td>
<td>Focus Group</td>
<td>2</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Students</td>
<td>Focus Group</td>
<td>10</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Teachers</td>
<td>Focus Group</td>
<td>6</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Parents</td>
<td>Focus Group</td>
<td>5</td>
<td>Week One</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Students</td>
<td>Focus Group</td>
<td>3</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Teachers</td>
<td>Focus Group</td>
<td>4</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Parents</td>
<td>Focus Group</td>
<td>2</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Cranston</td>
<td>Administrators</td>
<td>Semi-Structured Individual</td>
<td>1</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Students</td>
<td>Focus Group</td>
<td>7</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Teachers</td>
<td>Focus Group</td>
<td>6</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Parents</td>
<td>Focus Group</td>
<td>3</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Central Falls</td>
<td>Administrators</td>
<td>Semi-Structured Individual</td>
<td>1</td>
<td>Week Six</td>
<td>1 Hour</td>
</tr>
</tbody>
</table>

**Total Interview Hours** 14 Hours

Interviews conducted during the first week of the program were designed to better understand the anticipated effects of the program on participants and to understand the reasons that each group decided to participate in the program. By contrast, the interviews conducted in the final week of the program focused on the perceived effects of the program and any anticipated future effects that program participation may have had. The semi-structured individual interviews with administrators focused on the perceived benefits of the program from
the perspective of the administrator as well as the reason that the programs were established. Data for these interviews was collected using the same procedures as the focus groups.

**Document collection.** Educational programs tend to create large amounts of documents for collection and analysis. However, there were specific documents in the summer programs helped to answer the research question. These documents included the initial proposal to the program’s funding organizations, the program curriculum, program budget, lesson plans, class assignments, student work, and the final report provided to the funding organizations. These documents provided context on the program and helped to determine the intent of the program. The documents also provided additional perspective to confirm findings from the observations and interviews. Like the observations and interviews, the documents were analyzed using coding procedures that aid in the development of themes in the research.

Collecting data using observations, interviews, and document collection provided the researcher with a wide variety of data sources. It allowed the researcher to triangulate the data, increasing the trustworthiness of any one data set. These various data collection methods also provided enough data to draw both within-case and cross-case conclusions from the analysis. Finally, collecting all three types of data provided a complete picture of each case studied in this research and provided the information necessary to answer the research question.

**Data Storage**

The storage of data is a process best thought about prior to the collection of data (Miles & Huberman, 1994). As described in the previous section, this research involved the collection of many types of data, all of which needed to be securely stored. This included field notes, audio recordings of interviews, protocols, transcripts, memos, coded data, drafts of the dissertation, and the conclusions drawn from the data analysis. Most of this research, like other research studies,
required both physical and online storage (Miles & Huberman). As described in earlier sections, the confidentiality of participants was a priority, and the researcher made every effort to maintain that confidentiality. Additional information on how this occurred is included in this section.

Most of the data associated with this research was collected on the password-protected personal computer of the researcher. The only person with access to the computer and its contents was the researcher. Miles and Huberman (1994) and Creswell (2012) emphasize the importance of backing up any computer files. All of the data stored on the researcher’s personal computer was backed up daily using the automatic cloud backup from Dropbox. The files placed in Dropbox were password protected. Hard copy data, including interview protocols, field notes, and other data collection tools were also used at various points during the data collection process. These documents were placed in a locked file cabinet in the researcher’s home office. Audio recordings and transcripts of the interviews were also maintained in this locked cabinet.

During the data collection process, the researcher made every effort to maintain the confidentiality of the participants including the use of aliases and the removal of any non-essential defining physical characteristics from the field notes. Recorded audio was only listened to by the researcher, and once transcribed, remained in the locked cabinet. This is where they will remain until the time of destruction. The transcription that took place matched the aliases utilized in field notes and other documents. While member checking will be used to verify the accuracy of the data, this will only occur on the final dissertation, and therefore the only person who viewed the raw data was the researcher.

As suggested by Creswell (2012), a master list of the types of information was utilized by the researcher and maintained on the personal computer of the researcher and in the Dropbox. A hard copy was also included in the locked cabinet. All of the raw data collected for this research
will be kept for one year after the successful defense of the research. Keeping the data for this time period allows for any additional research products to be produced from the data, including journal articles. Keeping the data also provides the researcher with a reference to return to when providing the research findings to the study participants and stakeholders. These data storage procedures provide the researcher with the capability to backup data, store data in a way that is organized for proper analysis, and maintains the confidentiality of participants and the data itself.

**Data Analysis**

While the steps that each researcher takes to analyze data are similar, each study is unique, and therefore, each data analysis is unique (Miles & Huberman, 1994). In case study research, Stake (1995) argues that the data analysis process begins when the researcher writes down his or her first impressions. He also argues that case study research involves two components: direct interpretation and categorical aggregation. Direct interpretation involves looking at individual pieces of research while categorical aggregation is the analysis of all the research together. Stake also believes that case study research is about finding the patterns that exist within the case and across cases. Using Stake’s framework as a method, the researcher also relied on Miles and Huberman and Saldana (2013) to guide the data analysis.

Creswell (2012) argues that data analysis, data collection, and report writing all occur simultaneously during the research process. Therefore the analysis of this study began directly after the data collection sessions of the interviews, observations, and document analysis. All videos from interviews were uploaded to the computer program HyperRESEARCH and were transcribed by the researcher. Observation protocols, including any notes in the margins, were transcribed and uploaded to the program as well. Finally, all documents collected for analysis were scanned, clustered into categories based on the type of document, and uploaded to the
computer program. This organization of the initial stage of data management makes the process of coding and analysis easier (Creswell).

The amount of data collected for this research study required the use of a computer program. Creswell (2012) outlines several advantages to utilizing computer programs for data analysis, including the fact that it creates an organized filing system that places all of the data in one place. Computer programs also make locating material and data easier through the search function. The programs enable the researcher to create concept maps and explore relationships between themes, and finally, they allow the researcher to easily create and retrieve memos. Specifically, this researcher will utilize the bundled HyperRESEARCH software package designed and distributed by Researchware. The product includes HyperTRANSCRIBE, and provided several advantages to the researcher. First, this software works with video, audio, and text, allowing the researcher to upload the audio of the interview sessions. Second, the program is known for its ease of use. Finally, the program allowed the researcher to code and retrieve codes, build theories, and conduct the analysis.

To analyze the data, the researcher made use of several tools created by Miles and Huberman (1994). These include contact summary forms, document summary forms, transcripts of interviews, memos, case summary forms, vignettes, and matrix displays. The analysis began with the reading of the data several times to look for any emerging themes. These initial steps and initial readings took place within a few days of an observation or interview to ensure that the interpretation of the researcher was easily recalled and documented. These initial thoughts were useful in the first cycle of coding (Saldana, 2013).

Table 5

*Data Analysis Tools*
<table>
<thead>
<tr>
<th>Tool</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Summary Forms</td>
<td>Document and summarize field notes, observations, reflections, and questions that the researcher has for each contact during data collection.</td>
</tr>
<tr>
<td>Document Summary Forms</td>
<td>Provides significance and a brief summary of each document collected for analysis</td>
</tr>
<tr>
<td>Transcripts of Interviews</td>
<td>Provides textual representation of interviews that can help to craft and refine codes and create themes.</td>
</tr>
<tr>
<td>Memos</td>
<td>Complement, synthesize, and make sense of data sources. Serve as a way to draw conclusions from within cases and across cases.</td>
</tr>
<tr>
<td>Case Summary Forms</td>
<td>Provide high-level summaries of each program that identify themes and implications for the remainder of the study.</td>
</tr>
<tr>
<td>Vignettes</td>
<td>Focused description of events in a program that is meant to represent a typical experience in the case.</td>
</tr>
<tr>
<td>Matrix Displays</td>
<td>Provide organized visual summaries of relationships between constructs, including within-case and cross-case differences.</td>
</tr>
</tbody>
</table>

**Coding and categorization.** In this study, it was necessary to understand each of the programs in the case at various levels and to understand the effects of the program and perceptions of the program among those experiencing the experiential service-learning summer program. Saldana (2013) outlines a coding process to help make sense of the data and identify themes that help to answer the research questions. This model includes a first and second cycle of coding. In the first cycle of coding, the process involves simple and direct coding of data. Several types of initial coding were utilized for this study. First, the researcher utilized attribute coding, referred to by Miles and Huberman (1994) as descriptive coding. This type of coding focused on the descriptive information about the case, including the setting, demographics, and data format. It is considered especially useful for multiple case studies. Structural coding was also used in this study. It is a question-based set of coding that is useful for coding semi-structured interviews (Saldana). Structural coding both codes and initially categorizes the data. The final type of coding that was used for the initial coding stage is evaluation coding. These
codes assign judgments about the merit of a program or policy. The can also describe, compare programming, and predict (Saldana). Evaluation coding is also useful for multiple sites, and while it cannot be objective, it can be systematic, maintaining the credibility of the data.

Table 6

First Cycle Coding Utilized in Research Study

<table>
<thead>
<tr>
<th>Coding Category</th>
<th>Utility</th>
<th>Purpose in Study</th>
<th>Example codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute Coding</td>
<td>Provides descriptive information about case to identify key characteristics</td>
<td>Document analysis and observations</td>
<td>African American, 7th grade, classroom, park</td>
</tr>
<tr>
<td>Structural Coding</td>
<td>Useful in coding semi-structured interviews and other data based on questioning</td>
<td>Focus group interviews and semi-structured interviews</td>
<td>Successful pedagogical strategies, service learning projects, student improvement</td>
</tr>
<tr>
<td>Evaluation Coding</td>
<td>Assigns judgments about the program or policy</td>
<td>Observations and interviews</td>
<td>Boring, exciting, informative, powerful</td>
</tr>
</tbody>
</table>

Together, these initial codes became an eclectic coding method, defined by Saldana (2013) as a mix of initial coding methods. Eclectic coding forms the basis for code mapping, which places initial codes into categories. To transition from the first cycle of coding to the second, the researcher employed code landscaping to identify the most frequently used words. Code landscaping confirmed the results of the first cycle of coding, and in concert with the code mapping, provided a transition to the second cycle of coding.

The second cycle of coding used axial coding to reduce the number of codes into major conceptual categories. Saldana (2013) argues that axial coding is especially appropriate for studies with multiple types of data. This study included interview transcripts, field notes, observation protocols, and document analysis among other methods, making axial coding a useful method for analyzing data. Axial coding also helped the researcher to create the themes
necessary to develop theory and conclusions that answer the research question, which is the final step of the data analysis process.

**Trustworthiness**

Ensuring that a study is trustworthy and valid is critical to maintaining support for the conclusions drawn in the study. The researcher for this study used several strategies to increase trustworthiness and ensure valid findings. First, the researcher used prolonged engagement to build a rapport with the participants in the study (Creswell, 2012). The researcher already had previous relationships with the superintendents in the two school districts, which helped to secure these sites for conducting research. Once this research was approved, the researcher met with program directors, presented to teachers, and built relationships with other program participants throughout the summer. This allowed the researcher to get a better sense of the culture of each program and to check for any misinformation that may have been included in the data.

Triangulation is the most important method in this study to increase trustworthiness. Triangulation of data involves collecting multiple types of data and to confirm findings across those types of data (Creswell, 2012). In this study, the researcher utilized observation, interviews, and document analysis to triangulate the data across all three methods. The data collected using one strategy confirmed findings from another method. If information is collected in all three categories, the researcher felt safe drawing conclusions about that specific information. To further confirm the findings, the researcher employed member checking, whereby participants in the study were asked to review the conclusions and check for inaccuracies or confirm the findings. Once the researcher developed conclusions from the data, he reconvened the focus groups to conduct the member checking.
Two additional strategies were employed to improve the trustworthiness of the study. First, the researcher clarified his bias. In the positionality statement in chapter one, the researcher described biases clearly and also described methods to reduce the effects of that bias on the research. Finally, the researcher employed peer review once conclusions were drawn. This critical thought partner attempted to find issues with the research and conclusions in an effort to strengthen the evidence-base for the conclusions.

Despite efforts to improve trustworthiness, there are threats to validity in every study. The threat of researcher bias has already been addressed, and many of the methods to improve trustworthiness, including the peer review and member checks help to reduce any potential impact of researcher bias. Additionally, since the programs occur over a three-month period, the threats of maturation and mortality are not as high.

Summary

The methodology outlined in this chapter is designed to answer the research questions posed by the researcher in this study. A case study is the tradition best suited to accomplish this task, and through the collection of interviews, observations, and document analysis, it will be possible to better understand and explain the perceived effects of experiential service-learning programming on reducing summer learning loss in low-income urban youth. The coding strategies employed in the study will assist the researcher in drawing conclusions and developing theory that will answer the research questions. This methodology provides the framework for conducting the research at the program sites during summer 2013.
Chapter IV: Results

The purpose of this study is to explore whether experiential, service learning programs are effective at reducing summer learning loss in middle-school youth. Understanding this is important, since research detailed in earlier chapters (Alexander, Entwisle, & Olson, 2007a; Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996) demonstrates the negative effects that such losses can have on students, especially low-income children. To address the purpose, the study has been designed to answer the question of how experiential, service learning summer programs keep academic knowledge flowing for urban middle school students during the summer months. This chapter presents the results of case study research conducted on two summer programs between June and August 2013. These summer programs were identified and discussed in chapter three, as were the methods by which the programs would be studied.

Chapter four is presented in two main sections. The first section presents detailed case descriptions of the two summer learning sites where research was conducted. Each of these cases will include a description of the school environment for students, research conducted on the summer program itself, as well as short profiles of study participants. In this section, the two sites will be explored independently, and information and research findings about each site as an individual program will be included. The second section of this chapter will focus on a cross-case analysis to answer the research question. This section will outline the themes that emerged from the research on the two sites that help to better understand how experiential, service learning summer programs keep academic knowledge flowing during the summer months. In total six themes emerged and each will be presented using the research gathered through document analysis, focus group interviews, and observations of each program site.
Case Description: Central Falls, Rhode Island

The city of Central Falls, Rhode Island is the smallest in the state at only 1.3 square miles. However, its population of just over 19,000 makes it the most densely populated in the state and one of the most densely populated cities in the United States. It is also the poorest city in Rhode Island, as 29% of its residents live below the federal poverty line, and the median household income in the city is just over $22,000. In 2011 the city filed for bankruptcy, and within the last year has emerged from that process, but budgetary challenges remained. Central Falls also has a large immigrant community and nearly half of the city’s residents identify as Hispanic or Latino.

The challenges facing the city of Central Falls are reflected in its school district as well. The district includes 6 schools, serving approximately 2,500 students. The Rhode Island Department of Education controls the district and appoints a Board of Trustees to oversee policy and decision-making. However, the state Department of Education has final decision-making authority over any policy changes, and approves the budget for the school district. Eighty-six percent of the school district’s students qualify for free or reduced lunch under federal guidelines, which is 40% higher than the statewide average. Additionally, 25% of students receive additional services English Language Learners or bilingual students, and 22% of students in the district are classified as special education. Thirty percent of students in the school district are chronically absent, which is defined as missing 18 days of school or more. Finally, Central Falls spends just over $20,000 per pupil on its education program, which is $5,000 more than the average Rhode Island school district. One positive statistic for the school district is its low-rate of suspensions at all grade levels. Teachers and school administrators attribute this to the district’s focus on restorative practices rather than punishment for non-violent infractions. Several schools
in the district, including the high school have been identified as persistently low performing under the state’s accountability system, and have engaged in turnaround strategies to improve student performance. In 2010, when the high school was labeled as persistently low performing, the superintendent fired all of the teachers in the high school when the union refused to extend the school day as part of a turnaround strategy. The teachers were eventually hired back and the union agreed to the extended-day model, but that incident has continued to foster a strained relationship between teachers and administration at all levels.

**Earl F. Calcutt Middle School.** The Central Falls School District operates only one middle school, which served as the site for this case study research. Calcutt Middle School serves 666 students in fifth through eighth grades, and its demographics mirror those of the larger community and the larger school district. Ninety-four percent of students at Calcutt Middle School qualify for free and reduced lunch. Twenty-six percent of students receive English as a second language and bilingual services and 24% of students receive special education services. Both populations are higher than the state averages for middle schools. Calcutt Middle School also has a mobility rate of 29%, meaning that nearly 30% of students move from the school at some point during the school year. This problem is compounded by Rhode Island’s size, as families often move to another school district where the curriculum may vary from that of Central Falls. In 2013, Calcutt Middle School was classified as a priority school by the state department of education, meaning that its performance is in the bottom 5% of all public schools in the state. Table seven outlines standardized test scores for Calcutt Middle School from the 2012–2013 school year. The scores are far below the state averages for middle schools in all subject areas, including math, literacy, and science. Additionally, the school has
had three principals in the last four years, with the most recent principal resigning during the data collection process.

Table 7

*Student Proficiency Rates on New England Common Assessment Program Standardized Test*

2012 – 2013

<table>
<thead>
<tr>
<th></th>
<th>Mathematics</th>
<th>Reading</th>
<th>Writing</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Grade</td>
<td>29%</td>
<td>39%</td>
<td>26%</td>
<td>Not Tested</td>
</tr>
<tr>
<td>6th Grade</td>
<td>32%</td>
<td>44%</td>
<td>19%</td>
<td>Not Tested</td>
</tr>
<tr>
<td>7th Grade</td>
<td>19%</td>
<td>32%</td>
<td>Not Available</td>
<td>Not Tested</td>
</tr>
<tr>
<td>8th Grade</td>
<td>20%</td>
<td>41%</td>
<td>28%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Teachers also describe a school where curriculum and interventions are designed to raise test scores and improve student achievement. The school uses Foss Science kits to teach science, and Achieve 3000 is utilized for students as a reading intervention program. Study Island, Fast Math, and other online remediation tools from Scholastic Inc. are also utilized during the school year. The school also utilized a block schedule during the year to maximize the time that students spend receiving instruction in tested subjects.

**Stakeholder perceptions of Calcutt Middle School.** Data from interviews with parents, teachers, and students present Calcutt Middle School as engaging and supportive of the youth in the school. All five parents interviewed believed that the school was a positive place for their children, and they agreed that they have had positive interactions with school personnel. The parents also indicated that their children liked coming to the school. Interviews with students reinforced this perception. When asked by the researcher if they liked school, all of the students
in the focus groups enthusiastically said yes. Elaborating on why they like school, students identified the safety they felt in the school, the fact that school kept them out of trouble, and the fact that teachers cared about them and helped them to learn as reasons. Teachers described the school as a place with challenges, like the community, but a place where the students work hard and where the teachers work collaboratively to improve student performance. One teacher, Denise, described the school as moving forward academically, and elaborated on the challenges the school and the community face by describing her role as, “Here I’m a teacher, I’m a nurse, I’m a mom, I’m a social worker, I’m a referee, a cook. I’m not just a teacher anymore” (Central Falls teacher pre-interview, p. 5). Several times, teachers indicated that the students, despite the challenges of their surroundings, were the best part about the school.

**Calcutt Middle School Summer Program Participant Profiles**

In addition to the documents collected and analyzed and the observations of the program, the researcher conducted focus groups with parents, students, and teachers to better understand the summer program and its potential effects on student achievement. Prior to presenting the remainder of the case description for Central Falls, it is important to understand the backgrounds of those participating in the study. As described in chapter three, participants were selected at random from those willing to participate in the study. In total, ten students, six teachers, five parents, and one administrator from Central Falls participated. The following section provides brief descriptions of each participant, based on discussions during the focus groups. It starts with descriptions of the students, followed by the parents, and concluding with the teachers and administrator.

**Lizette.** Lizette is a fifth grade student of Hispanic origin entering her first year at Calcutt Middle School. She enjoys school and considers it fun. She is able to recall specific lessons that
had the most impact for her, including a hands-on science experiment involving crayfish. Across all subjects and competencies, Lizette was rated by her teachers as meeting or exceeding grade level expectations. According to her report card, she is particularly strong in reading. In total, Lizette missed six days during the school year. Lizette’s teachers label her as a hard worker and someone who can learn skills and apply them effectively.

**Jessica.** Jessica is entering the seventh grade at Calcutt Middle School. She is Hispanic and considers school to be a safe place for her, and it is one of the reasons that she likes school. She also finds school to be fun, and enjoys teachers who are able to help her learn and have fun at the same time. In the previous school year, Jessica met expectations in all subjects, though rarely exceeded expectations. She was rarely absent from school, missing only five days, and she signed up for the summer program because her friends were going to be participating.

**Colin.** Colin is entering the eighth grade, and during the school year is in a self-contained English as a second language classroom. It is clear that Colin’s preference is Spanish, rather than English, and during interviews, he was much more forthcoming when able to answer in Spanish rather than in English. His grades meet or fall slightly below grade-level expectations, and Colin’s teachers commented on his report card that he does not work to potential and that in some cases he is disruptive. However, other teachers remarked that he is creative and imaginative, and a good student. Colin’s mother enrolled him in the summer program, and he explicitly stated that it was not his choice to join.

**Vanessa.** Vanessa is entering the sixth grade, and while not in a self-contained environment, is still learning English. This is reflected in her report card, where teachers commented that she made strong gains throughout the year in English and became more confident. In all subjects, teachers rated Vanessa as coming close to meeting grade-level
expectations, but not quite reaching them. She had perfect attendance during the school year, and enjoys school, as the reason she stated for joining the summer program was that she missed being in the school.

**Kyle.** Kyle is a fifth grade student of Hispanic origin at Calcutt Middle School. He is a strong student, and is rated by his teachers as meeting or exceeding expectations in every subject, with his strongest subject being science. Kyle was absent only one day during the previous school year, and enjoys learning. He joined the program because he thought he would be bored during the day if he was not in a program, and he also believed that the program would be fun. Kyle was born in the United States, and has strong language skills, and described himself at the beginning of the summer as being shy and nervous about starting in a new school.

**Curtis.** Curtis is a Hispanic student, entering the sixth grade, and is a strong student, consistently meeting grade-level expectations across all subjects. Teachers describe Curtis as responsible, respectful, and hard-working. They also seem confident in his future success. Curtis admits that he could be stronger in English and that some difficulties he has with school come from the fact that Spanish is his first language. He joined the summer program because he felt as if the summer would be boring if he did not have something to do.

**Danielle.** Danielle is a seventh grade student at the middle school, and is quiet and reserved. While not in self-contained English as a second language classes, Danielle asked to have questions translated during interviews, but answered with her limited knowledge of English. She met grade-level expectations in all subjects during the previous school year and was very close with some of the other students in the summer program. Danielle came to the school during the second quarter of the previous school year from Cape Verde, but missed only two school days the remainder of the year.
Nancy. Nancy is a Hispanic student at Calcutt Middle School entering the sixth grade. In the 5th grade she met all grade-level expectations and was regarded by teachers as someone who follows directions, has a positive attitude toward school, and puts strong effort into her work. Nancy only missed one day during the school year, and she describes school as fun. She also appreciates that teachers are willing to help her to improve her performance. Nancy joined the program to be closer to her friends, who were also part of the summer program.

Alex. Alex is entering the sixth grade at the middle school. He is Hispanic, and while he was described as showing progress in the previous grade, he was not considered by teachers as meeting expectations in any subject and was measured as being on a second grade reading level and second grade level for math. Alex is classified as a special education student and receives interventions during the school year in an inclusion setting. He was excited about joining the summer program because there was little he would be doing at home, and because he was missing school.

Dennis. Dennis is an African-American student who is also entering the sixth grade. While he generally meets grade-level expectations, there are several areas where he falls below those expectations. Teachers also believe that Dennis has a good attitude is generally a good student, but they also believe that he could be doing better if he tried harder and took school more seriously. Dennis enjoys school and is not shy about sharing his perspective or point of view. He joined the summer program because his mother needed a place for him to be while she was at work and while his older sister was attending classes to become a certified nurse’s assistant.

Rachel. Rachel is the mother of Alex. She is a small Hispanic woman, who immigrated to the United States before Alex was born. Rachel is not currently working, and instead
volunteers at the school when she can. Spanish is her preferred language, and she responded to questions in Spanish. Rachel believes the school is good for her son, and is happy with how they treat Alex. She enrolled Alex in the program to make sure that he would be active during the summer, rather than simply sitting and watching television at home.

**Rebecca.** Rebecca has several children in the summer program, including Danielle. Rebecca and her children recently moved to the United States from Cape Verde, and she speaks English and Spanish fluently. Rebecca is extremely impressed with the middle school and believes her children are treated extremely well. Additionally, she is grateful for the summer program, as it allows her to get errands completed before she goes to work in the evenings. Her husband also works an overnight shift, so the program and the school provide the family with a safe place for their children that she describes as their second home.

**Marisa.** Marisa is the mother of Lizette, and is a Hispanic woman in her 20s. Marisa describes her daughter as loving school, and says that her daughter is counting the days until school resumes. She is happy with the school, but admits that during the summer it may be a little warm for their children. Marisa is a working mother, so the program allows her to work and gives her peace of mind that her daughter is both safe and happy. Additionally, she believes the program is good for Lizette because it allows her to learn throughout the summer as well, which is something that she wants to be doing.

**Amie.** Amie is the mother of Kyle, and while Kyle was born in the United States, Amie immigrated shortly before Kyle was born. She does not speak English and responded to questions in Spanish. Amie believes that Calcutt Middle School is a great school for her son, and enrolled her son in the program because she believed he would be learning new concepts. Kyle’s
enrollment in the program also allows Amie work in the afternoon, and allows her husband to sleep in the morning when he returns from work.

**Monica.** Monica is the mother of Jessica. While she is proficient in English, her preferred language is Spanish, and she alternated between the two languages during interviews, depending on the difficulty of the question. Monica is also satisfied with the school, and believes that the school continues to improve Jessica’s English speaking skills, since that is something that Monica admits she is not getting in the home. Monica is also aware of the fact that math and science are not subjects that she is personally strong at, and is appreciative of the program because it allows Jessica to develop those skills during the summer, which is something that as a parent, she would not be able to do.

**Kendra.** Prior to the summer, Kendra completed her first year of teaching. For the entire year, Kendra was a long-term substitute in Central Falls, serving half of the year at Calcutt Middle School. She co-taught the fifth grade class during the summer with Sally, and felt supported as a first-year teacher by others in the program and at the school. She has a passion for the students of Central Falls, which is why she hopes to obtain a full-time teaching position in the city for the upcoming school year.

**Sally.** Sally is a certified teacher and the education director of a small non-profit in Providence focused on science, technology, engineering, arts, and mathematics (STEAM). She has a dual degree in theater and education, and has been working for the non-profit for the past five years. Sally co-taught the fifth grade class during the summer, and has taught similar classes in other cities and towns both afterschool and during the summer.

**Adrienne.** Adrienne is one of the teachers affiliated with the program. She was hired for the program the weekend before the program started and was not involved in the development of
the curriculum or lessons. Adrienne, who is co-teaching the sixth grade class, is paired with Denise, another teacher in the program. The summer program was the first experience that Adrienne had teaching students in a school environment. However, she has worked with students through the community organization that she works for, which bring teaches farming and agriculture to urban students.

**Denise.** Denise is the only teacher in the summer program that is a full-time teacher at Calcutt Middle School. She has been teaching for 14 years, almost all of them at Calcutt. She is a special education teacher during the school year, and teaches a self-contained class. Despite her frustrations with administration and the constant testing and oversight on teachers, she enjoys Calcutt as a place to work, and really loves working with the students. Denise worked with Adrienne and co-taught sixth grade during the summer.

**Yasmin.** Yasmin is a veteran teacher who has been teaching in both private and public schools for twenty years. She spent the last five years working in urban public schools in Massachusetts, and this is her first experience working at Calcutt Middle School. Yasmin co-taught the seventh grade cohort with Jennifer, who was the community partner focused on social entrepreneurship. She is Hispanic, and along with Jennifer, represent the only teachers in the program that speak both English and Spanish.

**Jennifer.** Jennifer works for a local non-profit organization that focuses on social entrepreneurship and financial literacy for children. She has been working with students in this capacity for six years, and the summer was her first summer working in Central Falls. Jennifer was paired with Yasmin during the summer, teaching seventh grade. Like Yasmin, Jennifer spoke both English and Spanish.
**Stephanie.** Stephanie is a veteran teacher with 28 years of experience. Twenty-five of those years were spent in private schools, and she has been serving as a long-term substitute at Calcutt Middle School for one year. Stephanie is paired with Kurt, and co-taught the eighth grade classroom during the summer program. Much of the curriculum for Stephanie was new, as the majority of her teaching experience was at the elementary-school level.

**Kurt.** Kurt is an engineer by trade, and is the deputy director of the non-profit that also employs Sally. Kurt co-founded the non-profit with his wife, and has been working for several years teaching students in multiple communities how to connect engineering to building. While the non-profit focuses on STEAM education broadly, Kurt works closely with students to build solar-powered go-karts. In this program Kurt co-taught the eighth grade classroom with Stephanie.

**Fiona.** Fiona is a district-level administrator in Central Falls and has been with the district for several years. She is a career educator, who believes strongly in the summer programming as a way to provide continuity of learning for students and additional care for children and families. In her role at the district level, Fiona has been instrumental in supporting summer programming at Calcutt Middle School with additional funding.

**S.E.E. Central Falls Shine Summer Program**

The summer program at Calcutt Middle School focused on safety, environment, and entrepreneurship and was open to students from fifth through eighth grade. In total, the program recruited 120 students, about one-quarter mandated to attend because of poor performance during the previous school year. An attempt to incorporate student interest into the theme and curriculum of the program was made by program coordinators, which addressed one of the self-identified challenges from the previous summer. Originally, the program planned to have two
certified teachers in each grade level, and two cohorts of fifteen students for each grade level.

Table 8 outlines the original structure and goals of the program as proposed to the various funding organizations of the program. While each classroom had two adults in the classroom, in all but one case, only one of the instructors was a certified teacher. Only in the fifth grade cohort was the community partner (Sally) also a certified teacher. In addition to the two adults, each classroom had two high school students assigned to the group as assistants to the instructors.

Funding for the program came from three primary sources, including school district funding, funding from a federal 21st Century Community Learning Center grant, and funding from the Hasbro Summer Learning Initiative, a summer initiative funded by United Way of Rhode Island.

In total, the program budget was $85,373.

Table 8

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Number of Students</th>
<th>Grade-Level Theme</th>
<th>Teachers and Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>30 students in 2 cohorts of 15</td>
<td>Safety in School and Community – Overall goal is to help the Mayor of Central Falls design a youth cabinet</td>
<td>Two certified teachers and one community partner – Tall University</td>
</tr>
<tr>
<td>6</td>
<td>30 students in 2 cohorts of 15</td>
<td>Environment – Urban Farming Overall goal of building a greenhouse garden, researching hunger in the community, and presenting findings to Mayor’s office</td>
<td>Two certified teachers and two community partner – Central Falls Library and Farm Fresh Rhode Island</td>
</tr>
<tr>
<td>7</td>
<td>30 students in 2 cohorts of 15</td>
<td>Environment – Sustainable Energy Overall goal of building solar-powered go-karts and racing them, researching and presenting air quality and asthma rates to Mayor’s office</td>
<td>Two certified teachers and one community partner – Center for Dynamic Learning</td>
</tr>
<tr>
<td>8</td>
<td>30 students in 2 cohorts of 15</td>
<td>Entrepreneurship Overall goal of developing an oral history project on small business owners in Central Falls; also creating and selling earth-friendly products</td>
<td>Two certified teachers and two community partners – Exchange City and Navigant Credit Union</td>
</tr>
</tbody>
</table>
While Calcutt Middle School had been running a similar summer program model since 2008, the summer of 2013 was the first under a new program director and management team. This led to changes throughout the program, which were perceived by different groups of people as having varying degrees of success. Parents believed that the program directors were extremely helpful, communicated regularly, and made them feel welcome as part of the program. However, teachers thought that the inexperience of the new program directors led to difficulties in procuring materials and supplies, lack of follow up on issues with student behavior, and led to additional work by teachers being done outside of the program. Much of this was focused on procedures and communication. For instance, Sally observed:

A lot of things weren’t planned and then all of the sudden they needed to happen.
Whereas if we had been notified ahead of time, we would have been able to prepare for work examples that showed growth and prepare for field trips. On the first day we had to fill out field trip forms and there was no guidance as to how much you could spend on a field trip, what’s the mile radius you can go, what are our suggestions, where do we already have contacts. That didn’t happen. That would have been helpful (Central Falls teacher post-interview, p.4).

These challenges did not prevent the program from achieving success according to teachers, parents, and students. All three groups spoke to the growth of students during the summer program. Teachers spoke to academic growth, and an ability to persist on assignments where prior to the summer students would simply stop trying. Parents spoke about children’s growth and willingness to be more active and their increased confidence with English. Students also spoke to increased confidence and growth in language skills and specific growth in areas such as science.
Structural elements. The Central Falls summer program began on July 8, 2013 and continued until August 16, 2013. The program began each day at 8:00 AM and ended at 3:00 PM, creating 210 programming hours throughout the program. Each day had a similar schedule for students, which is outlined in Table 9. Teachers described the structure of the program as an asset for students, as it allowed them to establish routines and provided students a sense of regularity that many students lose during the summer months. Academic hands-on learning took place in the mornings, providing approximately 90 hours of instructional time throughout the program. Originally students were scheduled to have two classes during this time each day, one in English Language Arts and the other focused on math and science. However, the curriculum was designed to have one continuous class each day that integrated all subjects into the hands-on learning.

Table 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:30</td>
<td>Breakfast</td>
<td>All students provided with nutritious breakfast through the federal summer food program</td>
</tr>
<tr>
<td>8:30 – 9:30</td>
<td>Morning Meeting</td>
<td>Grade-level and whole program meetings designed to build community, celebrate success, and provide students with some free time</td>
</tr>
<tr>
<td>9:30 – 12:30</td>
<td>Academic Programming</td>
<td>Students participate in hands-on, experiential lessons based on curriculum and themes</td>
</tr>
<tr>
<td>12:30 – 1:00</td>
<td>Lunch</td>
<td>All students provided with nutritious lunch through the federal summer food program</td>
</tr>
<tr>
<td>1:00 – 3:00</td>
<td>Sports, Fitness, and Recreation</td>
<td>Students have options to play various sports and games while also charting their progress and graphing that information</td>
</tr>
<tr>
<td>3:00</td>
<td>Dismissal</td>
<td></td>
</tr>
</tbody>
</table>

Teachers in the program believed that the three hours of instructional time as one block had positive elements, but also posed serious challenges. While it allowed them to present a topic
with great detail, it also made it more difficult by the end of the program when the curriculum had been exhausted. Sally offered other options that may have been more effective:

I think the way that this program was structured yes, because we had the same students every morning from 9 – 12, so that felt long. I have worked in other summer programs where the students rotated through providers, and I would say in that way six weeks was effective. The way this was structured, four would have been absolutely fine. I feel like we have been stretching things out and giving them (the students) breaks and more free time to relax than we would have otherwise (Central Falls teacher post-interview, p. 5).

Observations of the program confirm the addition of longer breaks and time to relax. In the eighth grade classroom, students spent approximately fifteen minutes between two activities talking with each other, watching videos of football on the computers in the back of the classroom, or putting their heads down on their desks. Kurt explained to the researcher at the time that he and Stephanie had decided to provide the students with additional unstructured time because they did well in the previous part of the lesson and needed time to decompress. Once the break was over, students did come back to order, but it is unclear how much instructional time in each grade level was spent on breaks and unstructured time.

Much of the program took place at Calcutt Middle School, while some activities took place at the Central Falls Library and field trips occurred throughout Rhode Island. The middle school building had no air conditioning, which was an issue for students, teachers, and parents. Parents commented on the lack of air conditioning as the one thing that they would change about the program. Various student journals and worksheets described the heat as an issue, as students reflected on specific days by describing the heat and how difficult it made it to concentrate. At one observation, the lights in the room were off, windows open, but shades were drawn to keep
the sun out of the room. This left the room dimly lit, and did little to cool the room down.

Teachers did allow students to get water from the water cooler in the room, and students did not outwardly complain about the heat. However, at least ten students in the room were visibly sweating, and the teacher Kurt’s shirt had sections saturated with sweat. Program directors and the school principal responded to this by purchasing portable air conditioners the next day. While the entire building did not have air conditioning, individual classrooms for the programming were equipped with the air conditioning units. This made the rooms much more comfortable, and made a visible difference in future observations of the program.

**Programmatic elements.** There were several programmatic elements that made this program unique from other summer programs. First, each cohort of students was co-taught by a teacher and a community partner. In the ideal implementation, the co-teaching should have been so effective that it would be difficult to determine who the certified teacher in the classroom was and who the community partner was. However, in practice, the difference was clear. In observations of the sixth grade class, Denise, the certified teacher led nearly all lessons, while Adrienne provided support on specific items at the greenhouse and served as an extra instructor when the students were working in groups. Denise also projected this, as she described in interviews that she would not allow the students in the class to call her, “Ms. Denise” while they were allowed to call Adrienne, “Ms. Adrienne.” Instead, they had to call Denise by her last name or refer to her by her last initial, by saying, “Ms. L.” She justified this by saying, “I’m Ms. L. because I am still a teacher in the building, so when you (the students) see me eight weeks from now, I can’t be Ms. Denise. This would cause all sorts of chaos” (Central Falls teacher pre-interview, p.9).
The certified teacher was not always the dominant teacher however. In the eighth grade classroom, Kurt, the community partner was the dominant instructor. In all observations, he was leading the lesson with students, walking them through instructions, reviewing material with them, asking them questions to check for understanding, and conducting experiments with them. Sally, the certified teacher in the classroom played a support role, taking attendance, sitting near disruptive students in an attempt to end the disruption, and assisting with certain experiments. During one of the observations, Stephanie left the classroom once the students had started their experiment, and did not return while the researcher was observing the classroom (at least twenty additional minutes).

One of the other programmatic elements was the service learning component. Program directors saw this as an essential element of the programming, and it was featured prominently in the grant application that the program submitted to United Way of Rhode Island. Each grade level was focused on a specific service learning project that was designed to be an integral element of the curriculum and would allow students to better understand the value of service. As Table 8 demonstrated, projects included the development of a Mayor’s Youth Cabinet, presenting findings on hunger research to policymakers, creating and selling earth friendly products, the proceeds of which would support environmental activities, and research on air quality and asthma that would also be presented to policymakers. In addition to these projects, students conducted demonstrations at their final event to the community on topics such as healthy cooking and ways to reduce energy consumption.

While these projects were completed, the connection to service learning was not clear in the lessons of the teachers, and obstacles made it difficult to connect the projects to the curriculum to help increase knowledge of service learning for students. Sally, the fifth grade
community partner identified this as the hardest part of the program to accomplish. She described the students as uninterested in the service learning because the connection to the curriculum was difficult to make. Denise identified other issues with the sixth grade service learning outside of programmatic control. The farmer’s market that was to be a critical component postponed its opening, meaning that Denise and Adrienne could not make the connection for the sixth grade students. Student interviews confirmed that service learning was not a core element of the program. When asked by the research to define service learning, students could not. Kyle attempted to do so, by saying, “I learned how to know what a sign means” (Central Falls student post-interview, p. 5). Dennis attempted to define service learning by saying, “I learned how to garden and help people garden and keep the plants alive (Central Falls student post-interview, p.4). These answers make it clear that service learning was not explicitly taught. Finally, there was no mention of service learning in any of the observations conducted on the program.

A final programmatic element was the co-creation of the curriculum and theme. According to the program proposal, the themes were developed with student input, and from that teachers and community partners would co-design the curriculum and the lessons. While the themes were developed with student input, teachers and community organizations in the program did not have input into the development of the themes. In some cases, community organizations were selected based on their ability to connect with the themes. However, in the case of the fifth and sixth grade classes, the original community partners (Tall University and Farm Fresh Rhode Island) chose not to participate in the program. Therefore, new community partners were selected and were not involved in selecting the theme. While the new community partners were similar to those that chose not to participate, there was not time for them to adapt the theme to
better align with their work. For instance, the theme of safety in school and community had been chosen for the fifth grade, but the community partner (Sally) had a background in theater and ran a theater program. This made it necessary to redesign lessons and curriculum.

Hiring teachers also made this process of co-creating the curriculum a challenge. Some teachers were not hired until weeks before the program, meaning that program administrators worked with community partners to design lessons and curriculum. This meant that lessons were rewritten during the summer. Again, this was not implemented in the way that program directors had anticipated when they wrote their proposal for the program. While the curriculum was not created in an ideal structure, a robust curriculum was developed for each grade level. Those curricula are discussed in the next session.

**Program curriculum.** The curriculum of the Calcutt Middle School summer program was designed to be hands-on and experiential while embedding academics into lessons for students. As described in an earlier section, service learning was designed to be a critical element to the curriculum as well. The curriculum was designed in planning meetings prior to the summer by program directors, those teachers that had been hired, and by the community partners who had agreed to participate in the program. Each grade level had a curriculum that was based on the four themes designed for the program. Table 10 outlines basic curricular elements and examples of lessons. Each lesson was designed to be hands-on and experiential. For instance, the sixth grade cohort began every morning at the Greenhouse, tending to the seeds that they planted at the beginning of the program. Throughout the program they tended to their plants as they grew and tracked their growth. All lessons connected to Common Core State Standards in English Language Arts and mathematics. For instance, the sixth grade curriculum implemented by
Denise and Adrienne focused on mathematics concepts like measurement and graphing, while also addressing reading and writing skills in English Language Arts.

Table 10

*Examples of Calcutt Middle School Summer Program Curriculum*

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Instructors</th>
<th>Theme</th>
<th>Example Lessons</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| 5           | Kendra and Sally  | Safety in School and Community     | ● Observing school to determine safety violations  
               |                   |                                    | ● Developing a school safety report card | ● Journals  
               |                   |                                    |                                | ● Peer Evaluation  
               |                   |                                    |                                | ● Oral Presentations |
| 6           | Adrienne and Denise | Gardening and Hunger               | ● Plant seeds and chart growth throughout summer  
               |                   |                                    | ● Building a raised garden       | ● Journals  
               |                   |                                    |                                | ● Oral Presentations  
               |                   |                                    |                                | ● Written Reports  
               |                   |                                    |                                | ● Reflection |
| 7           | Yasmin and Jennifer | Social Entrepreneurship            | ● Development of oral histories  
               |                   |                                    | ● Plan an event/block party      | ● Journals  
               |                   |                                    |                                | ● Oral Presentations  
               |                   |                                    |                                | ● Plans  
               |                   |                                    |                                | ● Budgets  
               |                   |                                    |                                | ● Self Assessment |
| 8           | Stephanie and Kurt | Environmental Stewardship          | ● Build a basic circuit  
               |                   |                                    | ● Hydrogen Peroxide experiment  | ● Reflection  
               |                   |                                    | ● Deconstruct a solar-powered go-kart | ● Quizzes  
               |                   |                                    |                                | ● Oral Presentations |
The hands-on activities were a central component of the program, and it was implemented to varying degrees of success. In one observation, students in the eighth grade classroom deconstructed two solar powered go-karts to understand the individual parts and how they worked. However, not all students could work on the go-karts at the same time, and this left about half of the students disengaged from the activity. For instance, Colin did not get an opportunity to work on deconstructing the go-kart, and instead stayed in the back of the room playing a game on his phone until he was noticed by Kurt. Other students were taking pictures of themselves with their phones. This was especially true for the females in the class, none of whom were working on the go-karts. Eventually, Kurt and Stephanie engaged the whole class in an activity, but it was not as hands-on as the go-kart deconstruction.

Documents from the programming also demonstrate that hands-on activities were not the only component of the program. For instance, in the eighth grade classroom, vocabulary was a daily activity, with worksheets and quizzes on the vocabulary occurring throughout the program. In the fifth grade class, students completed worksheets on developing graphs that did not connect to the curriculum of safety. One such worksheet was titled “Baseball Bar Graph” and was developed from a website called Super Teacher Worksheets. Students also read unrelated informational texts and answered a multiple choice reading comprehension worksheet developed by Scholastic Action. Students did not indicate a dislike for these activities in interviews however.

Field trips were an integral part of the curriculum, and allowed students to gain new experiences, while also connecting the curriculum to a broader concept. Each Friday was dedicated to student field trips, and each grade level designed field trips that connected to their curriculum. Table 11 illustrates some of the field trips that students took in each grade level.
Students responded positively to the field trips. All of the students interviewed mentioned the field trips as one of their favorite program components, and several mentioned that their favorite lessons were those conducted on the field trips.

Table 11

*Field Trips of Calcutt Middle School Summer Program*

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Theme</th>
<th>Field Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Safety in School and Community</td>
<td>• Roger Williams Park Zoo</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rhode Island Beach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coggshell Farm</td>
</tr>
<tr>
<td>6</td>
<td>Gardening and Hunger</td>
<td>• Coggshell Farm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Roger Williams Park Botanical Gardens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fennario Farm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wright’s Dairy Farm</td>
</tr>
<tr>
<td>7</td>
<td>Social Entrepreneurship</td>
<td>• Trip to local businesses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Walking tour of Central Falls</td>
</tr>
<tr>
<td>8</td>
<td>Environmental Stewardship</td>
<td>• Engineering Laboratory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Manufacturing Laboratory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rhode Island Beach</td>
</tr>
</tbody>
</table>

The teachers also spoke to some of the benefits of the field trips. For instance, Kendra cited the fun that students had:

I know this is every kids’ answer, but the field trips (were the most positive element) and this is literally my shining moment for this. One of our kids, we were sitting on the beach, and one of our kids who doesn’t really speak English that great. He was sitting there and says, ‘Miss I am so happy.’ So the field trips because you got to see them out of the classroom (Central Falls teacher post-interview, p. 5).

Denise reinforced this as well. She said:
We were able to give them experiences that they don’t typically have. You know, my kids got to milk a goat. Find me someone else in Central Falls or even Rhode Island that has ever milked a goat before. It is an experience that a lot of them don’t get (Central Falls teacher post-interview, p. 5 – 6).

Parents also cited that the field trips played a major role in their children’s enjoyment of the program, and they were pleased that their children had those experiences through the program.

The hands-on learning component was deeply embedded into the curriculum, although other methods for teaching and learning were also included to varying degrees. While hands-on learning occurred throughout the program, field trips represented a large component of the hands-on learning in the program. According to the data, the program itself had a variety of outcomes for the students that participated. Those results are detailed below.

**Programmatic outcomes.** The research question this study seeks to answer focuses on whether a hands-on service learning program can keep the knowledge faucet flowing for children during the summer months. An analysis of observations, student work, and interviews with parents, teachers, and students suggest that the program had several benefits for the students that participated. This included improvement in skills such as critical thinking, problem solving, and collaboration, an increase in social and emotional learning such as increased self-confidence, and some academic gains as well. The research suggests however, that this was not explicitly known by the students that participated in the program.

Several types of evidence suggest a growth in student’s critical thinking, problem solving, and collaboration skills, also known as 21st century skills, during the summer program. Observations demonstrated several instances of students using these skills. For instance, in an observation of a science experiment in the eighth grade classroom, several students figured out
why their experiment did not work as well as some of the other groups. The experiment combined several chemicals and products, including yeast and dish detergent to create a volcano-like eruption from a water bottle. Students were able to figure out at least two different reasons why their particular group did not have a large eruption while others did. One group cited the temperature of the water and the yeast’s reaction as one reason. They then tried the experiment with warmer water and were more successful. Another group figured out that they needed more dish detergent to create a bigger reaction and were more successful on later attempts. Not all students demonstrated these skills during the observation, but the two groups worked through the problem and developed a solution to solve it together, suggesting the use of critical thinking, problem solving, and collaboration.

Teachers also identified a continuation and a growth in 21st century skills as a program outcome for most students. Denise stated that she believed students would be better prepared in the following school year because they continued to utilize and grow those skills during the summer months. Kendra also suggested that students learned to collaborate in more effective ways because the lessons were designed to encourage working together and collaboration.

In addition to the growth in 21st century skills, students also grew socially and emotionally. This was also considered a major outcome by all stakeholder groups interviewed in this research. Stephanie suggested a growth in student persistence was a component of this. Specifically she said:

I think its also, we had a lot of students that because of their performance during the school year, when we have them the pre-assessment half of the answers were like I don’t know, I don’t know, I don’t know. And today when we have the post-assessment they
actually had the confidence to at least answer the questions (Central Falls teacher post-
interview, p. 8).

Yasmin also reinforced this point. She suggested that by the end of the program children were
more willing to take risks and were more open to new experiences that forced them out of their
comfort zone. One of the students, Jessica identified giving a presentation as her favorite part of
the summer because it was not something that she would have done earlier in the summer and
that she felt comfortable doing so after the summer. Parents also identified other social and
emotional growth aspects for their children including the growth in the number of friends that
their children had during the summer program. Fiona, the district-level administrator also
identified the main benefits as social and emotional. She described the affect of social and
emotional learning on the school year:

Students carry their newfound confidence with them into the classroom. They know they
can speak to their teachers about anything. They understand their responsibility to
themselves within the learning equation. Students gained new friendships with other
students from different classes and they watched their parents explode with pride over
their projects. These students thirst for more positive experiences (Central Falls
administrator post-interview, p. 1).

Finally, academic gains were suggested by the data collected. Examples of student work
over the course of the summer suggested a greater ability for students to comprehend the
information. In addition, an evaluation conducted by an independent evaluation firm for the
organizations funding the project found significant academic gains from pre-test to post-test
during the summer. These gains showed that students in Central Falls gained an average of 50
points from the pre-test to the post-test, which were similar, but not identical tests. Additional
evidence from the program observations suggested that more students were willing to answer questions posed during the class in the observations closer to the end of the program than they were in observations conducted at the beginning of the program. Parents suggested that their children made academic gains as well. Rachel suggested that her child read better at the end of the program while Rebecca suggested a growth in English Language skills for her children during the summer.

While academic gains seem possible, based on the data above, these gains were not explicitly noticed by students. Rather, they recalled learning specific concepts related to individual lessons. For instance, rather than stating he learned math or science skills, Dennis mentioned that he learned how to garden, farm, and plant. Jessica suggested that her class learned social entrepreneurship rather than the skills embedded in that work. Colin described learning how to make goo and slime in science, rather than specific science concepts that helped create the goo and slime. This suggests that learning took place at deeper levels than students understood.

Summary of Central Falls Summer Program

Central Falls is a deeply impoverished urban community in Rhode Island. The school district’s only middle school, Calcutt Middle School is a school in transition and transformation. While state standardized test scores are low, leading to its designation as a priority school, parents, students, and teachers have a clear affection for the school and cite reasons why the school has greater success beyond the test score data. Additionally, Calcutt Middle School’s summer program provides students with hands-on, experiential opportunities to continue learning during the summer. The program while exhibiting some of the challenges inherent in an urban school, also managed to create several outcomes for children that suggest that the faucet of
knowledge continued flowing for children in the program during the summer months. The next section of this chapter details the second case site, the Bain Middle School summer program in Cranston, Rhode Island.

Case Description: Cranston, Rhode Island

The city of Cranston, Rhode Island is the third largest city in the state with a population of nearly 81,000. Unlike Central Falls, Cranston, is considered a suburban community of Providence because of its size of 30 square miles. The median household income in Cranston was $55,241 according to the 2010 census, and just 9.7% of the population lives below the poverty line. However, that poverty is concentrated in areas that border the city of Providence. Nearly 90% of the population in Cranston is White, while African Americans represent close to seven percent of the population and approximately five percent of the population is Hispanic. However, those populations are again concentrated in areas that border the city of Providence.

The concentration of poverty is reflected in Cranston’s public school district as well. The school district operates 23 schools, serving just over 10,000 students. Forty-two percent of the students in the school district qualify for free or reduced lunch, four percent lower than the state average. Seven percent of district students receive English as a second language or bilingual services, and thirteen percent of the students receive additional services through special education classification, slightly lower than the state average. The chronic absentee rate in Cranston Public Schools is fourteen percent, three percent lower than the state average. Cranston spends close to $14,000 per pupil per year, which is lower than the statewide average. However, students across all grade levels in the district perform close to or slightly above the state averages in all standardized testing categories.
**Hugh B. Bain Middle School.** The Cranston School District operates three middle schools, one of which was included as a case for this research. Bain Middle School serves 429 students in grades seven and eight. Seventy-one percent of Bain students qualify for free and reduced lunch, significantly higher than the district average of 42% and the statewide average of 46%. Fourteen percent of students receive bilingual or English as a second language services, higher than the seven percent of the whole district, and higher than the statewide average of six percent. Seventeen percent of students qualify for special education services, which is only slightly higher than the averages for the Cranston School District (13%) and the statewide average (15%) Bain Middle School’s rate of chronic absenteeism is 14%, slightly lower than the state average. Student scores on standardized tests at Bain Middle School are close to or slightly below the state average in most categories, as detailed in Table 12. These scores have led Bain to be classified as a warning school by the state department of education, which requires the school to implement an improvement strategy, but with little to no state intervention. Bain’s principal is in her second year as the leader of the school, but the teaching staff has remained relatively stable and all teachers at the school are rated as highly-qualified by the state department of education.

Table 12

*Student Proficiency Rates on New England Common Assessment Program Standardized Test 2012 – 2013*

<table>
<thead>
<tr>
<th></th>
<th>Mathematics</th>
<th>Reading</th>
<th>Writing</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7th Grade</strong></td>
<td>57%</td>
<td>71%</td>
<td>Not Available</td>
<td>Not Tested</td>
</tr>
<tr>
<td><strong>8th Grade</strong></td>
<td>54%</td>
<td>72%</td>
<td>61%</td>
<td>21%</td>
</tr>
</tbody>
</table>
Stakeholder perceptions of Bain Middle School. Data from interviews with parents, teachers, and students present Bain Middle School as a diverse school that educates children well despite growing challenges. For instance, Gary, who has taught at the school for fifteen years describes the challenges of getting parental involvement. He describes a school where teachers care deeply, but where parental involvement has decreased significantly, including at the Parent/Teacher Board meetings, where teachers always outnumber parents. Elaine, another teacher in the program, describes the negative economic factors in the community outside of school as a challenge to parental involvement and greater achievement at the school. Despite these comments from teachers, the two parents interviewed as part of the study believed the school was meeting their needs and the needs of their children. Both described the school as a good school, and one parent, Leslie, mentioned that she wished other schools were like it. Victor, the other parent interviewed, mentioned that while his son did not like the amount of work he had at the school, his son still found school to be an enjoyable experience.

The comments about the workload were reinforced by the students, who described Bain Middle School using adjectives such as boring, confusing, pretty bad, and annoying. Several identified the best part of school as the ability to see and make new friends. While many of the words used to describe the school by the students were negative, they also thought that it depended on specific experiences, usually determined by the teacher. Several students described how teachers would get angry quickly and yell at students for misbehavior. Other students described the school as enjoyable because they had teachers that made learning interesting. For instance, Lawrence, an 8th grader at Bain Middle School, mentioned that math was a great class because the teacher was fun and made learning entertaining and exciting. The mixed portrait of the success of Bain Middle School is not reflected in the perception of the summer program,
which was overwhelmingly viewed as positive by all stakeholders. The remaining elements of
this section describe key elements of the program and begin with descriptions of the stakeholders
that participated in this research.

**Bain Middle School Summer Program Participant Profiles**

As described in chapter three, much of the research came from focus group interviews
with parents, teachers, and students. In total, ten students, four teachers, two parents, and one
administrator from Cranston participated. The following section provides brief descriptions of
each participant, based on discussions during the focus groups. It begins with descriptions of the
students, followed by the parents, and concluding with the teachers and administrator.

**Frances.** Frances was promoted from Bain Middle School in June 2013, and entered the
9th grade at Cranston High School East in September 2013. She is 14 years old and African
American. Frances participated in the summer program for several years, but it was her mother
that made her enroll in the summer program. Frances stopped attending the program before it
concluded.

**Lawrence.** Lawrence is a 13-year-old Hispanic student entering the 8th grade at Bain
Middle School. Lawrence enjoys school, though he favors math and science courses over arts
and humanities. Lawrence’s parents made him sign up for the program, though he did not mind,
as he had attended in previous years and enjoyed it. Lawrence is also considered by teachers in
the program as a strong student and leader.

**Richard.** Richard is also a 13-year-old Hispanic student entering the 8th grade. Lawrence
enjoys art classes and English/language arts classes at the school, and is considered by teachers
to be a high-achieving student. Richard is introverted, but extremely thoughtful and forthcoming
in small groups. Richard’s parents also signed him up for the program, but like others, his
experience made him excited to attend again this past summer. Richard was one of the three students that participated in the final focus group interview.

Robertta. Roberta is a new student at Bain Middle School, entering the 7th grade in September 2013. Roberta is Hispanic, and is eleven. She was driven to join the program so that she would not have to stay at home with her younger brother during the day. Roberta is also quiet and reserved in conversations, and did not share much information during the focus group conversation.

Lauren. Lauren is a twelve-year-old student entering the 7th grade at Bain Middle School. Her sister Monica, an 8th grade student is also in the program. Lauren is White, and her mother was one of the parents that participated in the parent focus groups for this study. Lauren signed up for the summer program so that she would not have to care for her younger brother each day. She also signed up for the program to make sure she stayed active during the summer.

Monica. Monica is entering the 8th grade and is the sister of Lauren. Monica is fourteen years old, and joined the summer program as a way to get out of the house and to avoid the pressures being placed on her by family members. Monica is close with her sister, though she is participating in different programs during the summer.

Ethan. Ethan is fourteen years old and entered the 9th grade in the fall of 2013. He is White, and has been diagnosed on the autism spectrum. He was loud, boisterous, and jovial during the focus group interview and was very opinionated about his time at Bain Middle School. His description of his coursework revealed that, in his opinion, teachers did not accommodate his diagnosis. Ethan was removed from the program during the fifth week for fighting with another student who was also removed.
Kip. Kip is thirteen years old and entered the 8th grade at Bain Middle School in the fall of 2013. The summer of 2013 was his second summer in the program, and he had great memories from his first year, which caused him to enroll in the program again. Kip is Hispanic, and has several friends in the program that also participated in the summer of 2012. Teachers describe Kip as intelligent, and view him as a student that must be challenged to ensure that he does not become a disruption to the class. Kip is one of three students that participated in the final focus group interview. He had perfect attendance in the program.

Matthew. Matthew is a fourteen-year-old Hispanic student at Bain Middle School. Matthew has also participated in the Bain Middle School Summer program in previous years, and teachers consider his growth during the previous summer to be extraordinary. They described Matthew as a poorly behaved student prior to the summer of 2012, and believe the summer program had a profound impact on his behavior and his performance during the 2012–2013 school year. Matthew joined the program because of his experience the previous year and to avoid being home all day. Matthew’s father participated as part of the parent focus group, and Matthew was one of the three students that participated in the final student focus group.

Christopher. Christopher is an 8th grade student at Bain Middle School. He is Hispanic, and also participated in the program in the summer of 2012. He is good friends with Matthew, and it is that friendship that was part of the reason he decided to enroll in the program again during the summer of 2013.

Victor. Victor is the father of Matthew and participated in the parent focus group. Both he and his wife work during the day, and he believes that the summer program allows him and his wife to work without having to worry about what Matthew would be doing during the day. Victor is protective of Matthew, and worries about how he is treated by teachers at the school.
However, he has also seen big changes in Matthew each of the summers that he participated in the program.

**Leslie.** Leslie is the mother of Lauren and Monica, and she stays at home with their younger brother, and works part time. Leslie enrolled her daughters in the program so that they would not be bored during the summer and so that they could remain active. While Leslie believes that Bain Middle School is a good school, she is also frustrated by some of the procedures that the school and the summer program have put in place, even if she understands their purpose.

**Mary.** Mary is a certified teacher in the Cranston School District. While she has participated in the summer program for several years, she does not teach at Bain Middle School during the school year. Mary is a part-time culinary teacher in the district, working mostly at the high school. In the Bain Middle School Summer Program, she teaches the culinary aspect of the program.

**Gary.** Gary has been a teacher in the Cranston School District for 22 years, and has spent the last fifteen years at Bain Middle School. During the school year he is a computer science teacher, but he began his career as the woodshop teacher, and that is the course that he teaches as part of the summer program. Gary also works in the afterschool program at Bain Middle School and was a student at the school. Gary believes in hands-on, experiential learning and its ability to improve student performance. This belief comes from his previous experience in the summer program, where he saw students like Matthew improve in both behavior and performance.

**Nate.** Nate is a certified teacher that works for the nonprofit Education in Action. During the school year, Nate facilitates afterschool programming in Cranston, and he is hoping his work in the afterschool program will help him to gain a full-time teaching position in the school
district. Nate is young, and is well-liked by the students who believed that he related to them. During the summer, Nate often played football and other sports with the students during their lunch. Nate taught social entrepreneurship during the summer program.

**Edie.** Edie was the art instructor for the Bain Middle School Summer Program. During the school year, Edie is a part-time art instructor for the Cranston School District. As a part-time art instructor, Edie works primarily with elementary school students, but has also worked in the afterschool program at Bain Middle School. Edie has also worked at the Bain Middle School Summer Program for the past two summers.

**Camp XL: Bain Middle School Summer Program**

The summer program at Bain Middle School focused on healthy living and making smart choices. In total, the program recruited 60 students. Low-performing students were not mandated to attend, but low-performing students were actively recruited by the program staff. This a reduction in the number of students from the previous year, but the program staff decided that it was important to reduce the number and focus on making sure that those students attended the program regularly, which was an issue in the summer of 2012. The theme of healthy living and making smart decisions was also employed during the summer of 2012 to great success. The program was so successful in 2012 that the theme continued into the school year programming afterschool and continued to be refined and developed. The program was designed to have four certified teachers, and students rotated through four programs: woodworking, art, cooking, and entrepreneurship. Students attended one program per day, with Fridays reserved for field trips. For instance, one cohort of 15 students might have woodworking on Monday, art on Tuesday, cooking on Wednesday, and entrepreneurship on Thursday. In addition to the certified teacher each group of students also had a counselor from the local YMCA who rotated with the students.
Table 13 outlines the structure and goals of the program as proposed to the various funding organizations of the program.

Table 13

*Structure of Bain Middle School Summer Program*

<table>
<thead>
<tr>
<th>Grade Levels</th>
<th>Number of Students</th>
<th>Class Focus</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 and 8</td>
<td>15 students</td>
<td>Woodworking – Students learned math skills by making gardening baskets, and</td>
<td>Gary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>other projects</td>
<td></td>
</tr>
<tr>
<td>7 and 8</td>
<td>15 students</td>
<td>Art – Students learned math concepts by making various art projects throughout</td>
<td>Edie</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the summer</td>
<td></td>
</tr>
<tr>
<td>7 and 8</td>
<td>15 students</td>
<td>Social Entrepreneurship – Students learned math and English/language arts</td>
<td>Nate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>through the development of their own businesses and the development of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>business plans</td>
<td></td>
</tr>
<tr>
<td>7 and 8</td>
<td>15 students</td>
<td>Cooking – Students made different healthy food items each week, and</td>
<td>Mary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>learned math and measurement through recipes</td>
<td></td>
</tr>
</tbody>
</table>

Funding for the program came from two primary sources, including school district funding, and like Central Falls, funding from the Hasbro Summer Learning Initiative. The program was originally designed to also include funding from a federal 21st Century Community Learning Center grant. However, in April 2013, Bain’s grant was not renewed, reducing the scope of the program. This was something that was noticed by students in the program that had attended the camp for two summers. In the post-program interview, Kip described the differences, which he and Matthew attributed to a reduction in funding. Kip said:

"Like there was way more activities last year than this year. Like more stuff to do in Bain, you know. Because this year we only did one project. Last year we did two, and we also cooked more food last year (Cranston student post-interview, p. 2)."
The Bain Middle School summer program has been in existence since 2011, but several structural changes were made this year in an effort to address previous challenges. For instance, the program was reduced from eight weeks to six weeks as a way to improve attendance. Program administrators found that in previous summers, parents would take students out of the program for a week or more to go on family vacations, leading to a disruption in the learning process. Program administrators believed that the six-week program would allow them to concentrate on attendance over a shorter period of time, and that they could ensure continuity in the students that were attending so that continuous learning would take place. Table 14 demonstrates average attendance figures by week. As the table shows, attendance fell throughout the program, with a large drop in the last week.

Table 14

<table>
<thead>
<tr>
<th>Week</th>
<th>Number of Students Attending</th>
<th>Number of Students Expected</th>
<th>Weekly Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>51</td>
<td>57</td>
<td>89%</td>
</tr>
<tr>
<td>2</td>
<td>47</td>
<td>58</td>
<td>81%</td>
</tr>
<tr>
<td>3</td>
<td>46</td>
<td>54</td>
<td>85%</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>51</td>
<td>88%</td>
</tr>
<tr>
<td>5</td>
<td>38</td>
<td>50</td>
<td>76%</td>
</tr>
<tr>
<td>6</td>
<td>26</td>
<td>49</td>
<td>53%</td>
</tr>
</tbody>
</table>

While evidence suggests that the program was successful in various ways, results were not nearly as strong as the Calcutt Middle School Summer Program. The attendance shown in Table 14 may be a reason for the lack of strong success. By the sixth week of the program Leslie had removed her daughters from the program to go on a family vacation, despite efforts by program coordinators to ensure parents kept their students in the program for six weeks. It is also
possible that the structure and program described below accounted for the lack of strong outcomes.

**Structural elements.** The Bain Middle School Summer program occurred each weekday from Monday July 8, 2013 to Friday August 16, 2013. Programming was canceled one day during the summer because of extreme heat, but otherwise operated from 9:00 AM to 4:00 PM each day. Table 15 outlines the daily schedule for the program. Students were in one of four cohorts, and took part in a one of the four main activities each day. Therefore, while students at Calcutt Middle School in Central Falls had over 90 hours of instructional time during the program focused on one topic, students in the Bain Middle School program had 21 hours of instructional time in each of the four courses for a total of 84 instructional hours total.

Table 15

*Bain Middle School Summer Program Daily Schedule*

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 9:15</td>
<td>Student Arrival</td>
<td>Parents drop students off inside YMCA Teen Center</td>
</tr>
<tr>
<td>9:15 – 9:45</td>
<td>Program-wide Activity</td>
<td>Students participate in team-building activities, games, ice breakers, or have free gym time for athletics</td>
</tr>
<tr>
<td>9:45 – 10:00</td>
<td>Transition</td>
<td>Students move from Teen Center to Bain Middle School next to the Teen Center</td>
</tr>
<tr>
<td>10:00 – 12:00</td>
<td>Learning cohorts</td>
<td>Students are divided into four cohorts and rotate through each activity weekly so that every student participates in each of the four curricula (woodworking, art, culinary, social entrepreneurship) each week</td>
</tr>
<tr>
<td>12:00 – 1:00</td>
<td>Lunch and free time</td>
<td>Students eat lunch and have time for recreation outside</td>
</tr>
<tr>
<td>1:00 – 2:00</td>
<td>Learning cohorts continued</td>
<td></td>
</tr>
<tr>
<td>2:00 – 2:15</td>
<td>Transition to YMCA Teen Center</td>
<td>Students return to the Teen Center for afternoon activities</td>
</tr>
<tr>
<td>2:15 – 4:00</td>
<td>Afternoon recreation activities</td>
<td>Students participate in recreational activities including swimming, fitness, and team sports</td>
</tr>
<tr>
<td>4:00</td>
<td>Dismissal</td>
<td>Parents pick up students from YMCA Teen Center</td>
</tr>
</tbody>
</table>
Each learning cohort session began in a computer lab, where students spent approximately 15 – 20 minutes completing learning journals before transitioning to another room for the main activity of the day. An observation of this session found students engaged in the process of filling out the journal, reflecting on the activity of the previous week and looking ahead to the activity for the current class. Students remained on task and all students finished the assignment by the time Gary transitioned the class to the woodworking room.

Students responded favorably to the format that allowed them to experience each class once per week. Kip described how he enjoyed various lessons from entrepreneurship, cooking, and woodworking, and that he enjoyed the ability to construct a different project in each class that all connected to the final day of activities in the program. Additionally, Richard and Matthew both expressed satisfaction with attending multiple courses rather than just one course throughout the summer. The teachers also liked the format of the program, but they also thought that the format made it difficult for students to complete their final projects. While all of the students completed their final projects for each class, the teachers admitted that they provided additional help during the last week, and also relied on students who had finished help those students that did not finish to complete their projects. During an observation of the woodworking class during the last week of the program Gary lamented that it never seemed like there was enough time to complete the projects. He re-emphasized this during the final teacher focus group, stating:

We only have them for six classes if you think about it. Five if you really think about it. So you talk about trying to show growth in five classes where if this were something during the year, you get them for ten weeks. So if this was during the year and we had the same groups hypothetically, those groups would stare at me, make the basket, I would
plan to have them screw it up, and then you can really see the growth in the second one where they make major improvements. But they don’t really have the time. There isn’t the time in the summer (Cranston teacher post-interview, p. 5).

The other teachers agreed with Gary’s assessment, though they all thought that while more time would have been nice, they had the proper amount of time for students to complete the curriculum.

Similar to Calcutt Middle School in Central Falls, Bain Middle School did not have air conditioning. While the program was canceled for one day during the summer, all classes took place in the basement, where it was significantly cooler. In all observations of the program students did not seem to be negatively affected by the heat, and were able to complete their assignments. While none of the students verbally complained about the heat during the observations, several students described the heat as a noticeable barrier to their learning in their reflective journals. For instance, one student wrote in their journal, “The day started in horrible heat. Yesterday was horrid” (Cranston student work example, p. 40). Another student said, “This heat, it is slowly killing me” (Cranston student work example, p. 41). Teachers and parents made no mention of the heat as a negative factor in the programming during interviews, and no other student documents mention the heat as an issue. Therefore it is possible that while a few students were affected, it did not negatively distract from the program itself.

**Programmatic elements.** The Bain Middle School Summer Program shared many of the same unique components with the Calcutt Middle School Summer Program in Central Falls. This occurred because both programs received funding from the Hasbro Summer Learning Initiative, which required certain programmatic elements. While the Bain Middle School program developers honored the requirement that a teacher and community partner both be present in the
classroom, they did not honor the requirement that the two be equals, and set up the program to have one dominant instructor and one non-dominant instructor. Each classroom had a certified teacher and a counselor from the YMCA, but co-teaching did not occur. In every case, the certified teacher led the classroom instruction and the counselor served as a classroom aide. During the first observation of the program, the counselor was utilized to administer safety tests in the woodworking classroom for students that still needed to pass the safety exam before working with tools. In a subsequent observation, the counselor was utilized to escort students to other parts of the building during a project. When not assigned to other tasks, the counselors walked around the room and helped students with their projects, but in all of the program observations, counselors never played the role of lead instructor.

While the counselors did not play the anticipated role of co-teacher, their value was emphasized by program participants. Students identified activities and interactions with the counselors among their favorites during post-program focus groups. Additionally, the certified teachers described their importance to the success of the program. During an observation of the woodworking classroom, Gary approached the observer to mention how much easier it is for him to teach with the counselor from the YMCA as part of the classroom. Specifically, Gary pointed to the fact that the counselor could provide additional individualized support to students who required more assistance, and it still allowed Gary to work with the entire classroom. Observations of the classroom supported this statement by Gary, as the counselor was seen walking around the classroom and providing assistance to students who needed it.

Service learning was also designed to be a key component of the Bain Middle School Summer Program. Like the program in Central Falls however, service learning was not highly emphasized. Program coordinators and the teachers designed a curriculum that created one large
service learning project and several smaller projects. According to curriculum documents, the large service learning project, which the program was centered around, was a farmers market for the community that was held on the final day of programming. Student projects were all designed to prepare for that final farmers market. Students grew vegetables in the school’s greenhouse to sell at the farmers market, woodworking students build extra flower baskets to be sold at the market, the recipes that cooking students created throughout the program were designed to build a menu for the final day, and the social entrepreneurship students built a business and advertising plan for the farmers market. Smaller projects also took place. For instance, students restored one of the schools courtyards which had become overrun with weeds, and made it usable.

While these activities were certainly community service, the value of the learning experience within the community service was unclear. Lesson plans throughout the program did not describe a connection between the service learning to the daily lessons. Additionally, observations of the program found no articulation by the teachers that the work being done by students was service learning. On a cool morning in week five of the program students in the woodworking class were outside in the courtyard clearing weeds and other brush and placing decorative rocks around trees. However, four of the eight students in the courtyard were sitting on a bench not participating until Gary addressed them and asked them to get back to work. Students articulated that they did not enjoy the manual labor, but Gary continued to urge them to finish the work. At no point during the observation of the service learning component did Gary mention that this was service learning to the students. He also never articulated how it connected to other lessons they were learning in woodworking or the other classes.
While teachers had no trouble describing the service learning components of the program and their role in developing them during post-program focus groups, students could not articulate a definition for service learning. When asked by the research for the definition of service learning, Matthew responded, “What is that?” (Cranston student post-interview, p.4). When the researcher described service learning as community service the students had a better understanding of the tasks, and identified the farmers market and the courtyard cleanup as community service projects. When asked whether it was important, the students articulated that the service learning/community service was important because it was central to the program. Matthew said:

It (the program) wouldn’t be the same without that. Like a lot of our stuff is based on what we do for the farmers market. Like the art stuff we all made for the farmers market. The woodworking, the food, and entrepreneurship we need to realize how we can promote the farmers market and ways to live healthy (Cranston student post-interview, p. 5).

This answer suggests that while students understood the connection between the program and the work that they were doing, it was harder to articulate service learning and principals through the program curriculum. Like the Calcutt Middle School program, the Bain Middle School program did not fully emphasize the service learning component as originally planned.

A final programmatic element was the manner in which the curriculum was designed. The theme for the program was designed in a collaboration between the certified teachers and the community partners/counselors. The group met four times, determined a theme for the program and key outcomes to achieve. The task of creating the lessons however, was delegated to the
certified teacher only, so the community partners had little say into the development of lessons. Mary was pleased with the autonomy this model provided. She said:

   I know in my area I was able to basically develop the whole thing. The entire thin based on the theme of healthy living. I just took that and incorporated what I do, culinary, and how to make it fun for the kids (Cranston teacher pre-interview, p. 3).

Nate described the process best:

   We were able to independently come up with our own curriculums that were tied to a common theme and when we identified what the final project or the culminating event was going to look like we were able to say, okay, we know what each of us is going to be responsible for so we can have a common bind for our curriculums but have them still be independent of each other (Cranston teacher pre-interview, p. 3).

Gary described this as an ideal process, and one that would be difficult to replicate during the school year. While this process provided autonomy, like Central Falls, it was not fully implemented to the extent that the program designers anticipated. In the application presented to funding organizations, the program designers described a closer collaboration on lessons and curriculum between certified teachers and counselors, and not just a joint-decision on the theme of the program. However, the relative autonomy afforded to the certified teachers allowed for the development of a robust curriculum in each of the four programming areas.

   **Program curriculum.** The Bain Middle School summer program was designed to be hands-on and experiential, with a service learning project guiding the weekly lessons. While the teachers and counselors worked together to determine the program theme of healthy living, each certified teacher designed lessons for the curriculum that led to the successful completions of their service learning component. As described in an earlier section, the final day of the program
was a farmers market for city residents, designed and implemented by students in the program, to raise awareness about healthy foods and healthy living. Table 16 outlines the curriculum developed by each certified teacher as well as sample lessons in the curriculum. While academics were embedded into the lessons themselves, some of the lessons did not focus on academics or on a hands-on activity. For instance, the “big idea” for each of the six woodworking lessons focused on woodworking tasks, such as shop safety and safely cutting material to length, width, and thickness. Essential questions of woodworking lessons included, “How to properly dress in the wood shop” (Cranston curriculum lesson plans, p.1) and “Can you name the two categories of saws?” (Cranston curriculum lesson plans, p.6).

Table 16

*Examples of Bain Middle School Summer Program Curriculum*

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Theme</th>
<th>Example Lessons</th>
<th>Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gary</td>
<td>Woodworking</td>
<td>• Woodshop safety</td>
<td>• Electronic journals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Shaping, sanding, and finishing a project</td>
<td>• Project</td>
</tr>
<tr>
<td>Mary</td>
<td>Cooking</td>
<td>• Measurements in cooking</td>
<td>• Food final product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Making a breakfast burrito</td>
<td>• Electronic journals</td>
</tr>
<tr>
<td>Nate</td>
<td>Social Entrepreneurship</td>
<td>• What does it mean to be green?</td>
<td>• Electronic journals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Financial literacy and budgeting</td>
<td>• Worksheets</td>
</tr>
<tr>
<td>Edie</td>
<td>Art</td>
<td>• Developing silhouette</td>
<td>• Artwork</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Art using words and images</td>
<td>• Electronic journals</td>
</tr>
</tbody>
</table>

In woodworking, cooking, and art, the majority of the content standards covered by the curriculum were not reading, writing, or math. Rather, they were visual arts and engineering and technology. In each of those three curricula, the lessons did not specifically address reading or writing skills in the lessons. Reading and writing were instead addressed through electronic
journaling. Each of these three curricula also lacked a connection to the service learning component of the program (that section of the lesson plans were left blank). The exception to all of this was the social entrepreneurship curriculum created by Nate. This curriculum provided students with an opportunity for research, writing, and math skills development. Students learned how to build their own budgets, and assembled the budget and advertising materials for the farmers market at the end of the program. Vocabulary development was a key piece of this curriculum, and Nate used a word wall in his classroom to help emphasize this point. Nate expressed in interviews his concern that his curriculum was too academically focused, while the others were considered more fun by the students, but interviews with other teachers and the students themselves refute that. Students interviewed in the post-program focus group all described their enjoyment of the entrepreneurship curriculum and identified new words and concepts that they learned from that class.

While the academic components were embedded into hands-on activities to varying degrees of success, the program itself was hands-on and experiential. During two observations of students in the woodworking class, students were measuring their pieces of wood, cutting the wood themselves, and assembling their baskets, all of which required some degree of mathematical skill. In cooking, Mary explained during the post-program focus group that students learned conversion of measurements through the cooking process. While the hands-on activity in social entrepreneurship was somewhat different, students were researching, and learning was self-driven, which made it more hands on. For example, students conducted independent research on a company of their choosing to help the student to understand branding. While this is not the same experience as cutting a piece of wood, it is an experience of independent research and self-directed learning. In contrast to Central Falls, there were enough
materials for nearly all students to create and develop their own projects. In woodworking two students shared one saw, which is a much better ratio than the 10 students that were assigned to one solar powered go-kart in Central Falls.

Observations of the programs indicate that the curriculum and the lessons kept students engaged and on-task. In each observation only one or two students were observed off-task, and in all cases the certified teacher or the counselor intervened quickly. Examples of student work also demonstrate that students participated in the lessons and projects and completed assignments. Generally, students, parents, and teachers enjoyed the curriculum as it was implemented. For students personal preferences determined which courses they enjoyed more, but in all cases they did enjoy each course. For instance, when asked about his favorite course in the summer program Richard responded, “Art, cooking, and entrepreneurship. I ’m more or less an artistic sort of person and in cooking you get to eat your own art” (Cranston student post-interview, p. 3). While the curriculum may not have been as academically focused as originally intended, the hands-on, experiential lessons were engaging, and as a result, the program achieved several positive programmatic outcomes.

**Programmatic outcomes.** An analysis of focus group transcripts, observations, and documents from the program suggest that the Bain Middle School summer program kept the faucet of knowledge flowing for students in the program. However, the extent to which students made academic gains during the summer is less clear. Conversations with teachers, parents, and students suggest that student’s growth occurred in a variety of ways. First, there was limited growth in academic knowledge. Second, according to teachers there was significant growth in 21st century skills development such as problem solving, critical thinking, teamwork, and
collaboration. Finally, there was also evidence of some social and emotional growth during the summer.

According to the certified teachers of the program, there was skepticism about the amount of academic gains students made during the summer. For instance, Gary articulated that the fact that the students really only attended six classes of each curriculum made it difficult to create academic changes, even if the program itself was six weeks in length. However, all of the teachers agreed that students made significant progress in the development of 21st century skills. Mary described the growth in the attention to detail that students gained through the program. She said:

Something as simple as reading a recipe. They learned how to pay attention, which is the more important thing in cooking. Pay attention to the detail, not just look at a list of ingredients and dump them in a bowl. They learned how to follow steps and differentiate between tablespoon and teaspoon (Cranston teacher post-interview, p. 4).

Edie agreed with this specific 21st century skill development in students, and provided examples from the art class where this also took place. Victor, the parent of Matthew reinforced this growth in his child, and identified it as one of the main changes he saw in his child during the summer.

Problem solving was also something that was identified as a 21st century skills that students developed. Gary described the various times that students needed to engage in problem solving and critical thinking while making their baskets and using the saws. This included how to angle the cuts so they were correct and how to reuse pieces of wood that was cut incorrectly. During observations of the program, problem solving skill development was also evident, as students needed to determine the best way to place wood on the workbench so that they could
measure and cut the proper piece of wood (Cranston week two observation, p. 4). Finally, teachers agreed that teamwork and collaboration was an area where students showed growth during the summer. They provided several examples of students that normally would not work well together and did not work well together at the beginning of the program, which then worked well and completed strong projects by the end of the program. Specifically, Nate identified two students that would never have worked together during the school year because of their personality differences, who created a flyer together and produced strong work together.

In addition to 21st century skill development, students also made social and emotional gains during the summer. Teachers and parents identified several examples of this type of growth in students as a result of the program. Both Victor and Leslie identified the growth in social skills and interacting with others as a positive development in their children that specifically was a result of participation in the program. Leslie articulated it as, “I think they learned social skills. You know, social skills are big. And instead of being home on the couch, they were interacting with other kids, so I thought that was really good (Cranston parent post-interview, p. 3). Victor said that Matthew got along with other students better at the end of the summer than he did during the previous school year.

Social and emotional development was identified by teachers in several instances as a major success of the program. Nate described Larry, a new student to the school and the program as an example of the growth that occurred in students during the summer.

Larry was the quietest kid I ever met in my life. He was the quintessential awkward seventh grader. He is really short and quiet. But it happened to be the first few weeks that Larry started showing up, so we kind of noticed him singling himself out to a certain degree. But you start to notice, and he still does a little, but you notice that the kids that
are some of the more popular kids seem to have his back now, so when Larry enters the seventh grade on his first day at Bain as a seventh grader not only will he have a familiarity with the building because he’s been in here, but he is going to have students saying, ‘Hey Larry. There’s my Larry guy.’ So I think for him, someone who would have come in really closeted and really quiet and probably a bit overwhelmed, he is now going to have a totally different introduction to seventh grade, and I think that’s key (Cranston teacher post-interview, p. 6).

Gary also described how the summer program has helped to create lasting changes in students:

I’m just going to throw three names out there. You’ve got Matthew, Hank, and Richard. Now all of those three last year were not the students you wanted to have in front of you in class in September. And Hank, we’ve had no problems with him the second time around and we have very little problems during the school year with Hank. Monumental changes. And Richard, monumental changes in class. He actually helps the kids now (Cranston teacher post-interview, p.6).

These examples demonstrate the types of social and emotional growth perceived by the teachers and parents during the summer program. This type of growth was difficult to observe during the lessons, and it was also difficult to measure using some of the written artifacts collected as part of the research. However, since parents and teachers seem to agree on this as a major area of growth from students, there is some evidence to support their beliefs.

There is also evidence that students in the program did make academic gains despite a curriculum that did not have a strong focus on academics. Written artifacts such as worksheets and assignments show students having correctly completed work during the program. Additionally, students across the program did make gains between the pre-test and post-test
administered as part of the evaluation conducted by the funding organizations. In literacy, students gained an average of 12% from pre-test to post-test. In mathematics, the total gain was 19%. These gains, while still an improvement academically, are not as strong as the 50% gains seen in mathematics and literacy at Calcutt Middle School in Central Falls. In addition to the pre- and post-tests, observations of the program included several instances where students were engaging in higher order mathematical computations. For instance, students were measuring and cutting wood in woodshop and had to work with fractions that did not have common denominators. Students in the entrepreneurship class had to convert decimals to percentages and had to determine percentages of a budget based on the amount of money spent on a particular budget item. Despite these gains, teachers were skeptical that students would make large academic gains during the program. Gary, Mary, and Edie all described the difficulty in making gains during the summer, when each really only saw students six times throughout the program.

While teachers were skeptical of the academic learning that took place, they did identify times where students applied knowledge that they learned in the classroom. For instance, Gary described how by the end of the program Richard was walking around the woodshop, counting the number of completed baskets, and calculating how much money the students would raise by selling the baskets for five dollars or ten dollars. Gary also mentioned that Richard was correctly able to make the calculations. Students also articulated what they learned in the program during the final student focus group. Kip and Richard both identified the geometry that they learned in woodworking. Kip also described the types of science experiments that they conducted in cooking class involving yeast, hot water, and sugar. Finally, students demonstrated the increased vocabulary that they developed through the social entrepreneurship class. Specifically, Matthew cited this class as being the most academic of the classes in the program and the class from
which he learned the most. This data, combined with the analysis of written artifacts, suggests that students did advance academically during the summer, and that academic knowledge continued to flow for students enrolled and attending the program.

**Summary of Bain Middle School Summer Program**

The data demonstrates that Bain Middle School’s summer program had academic, social, and emotional benefits for students that attended the six-week program. That time also provides students with an opportunity to further develop their 21st Century skills, such as critical thinking, problem solving, and collaboration. While the program focus was not necessarily academic, and while the curriculum and lessons of the program did little to explicitly embed academics, those academic concepts seemed to be present anyway. The programming, which was hands-on and experiential seemed to be fun and exciting for students and was also seen favorably by teachers and parents. While the academic gains were not as great as some of those witnessed in the Calcutt Middle School summer program in Central Falls, it seems that gains were made and the faucet of knowledge continued for participating students. The next section of this chapter moves beyond case descriptions to an analysis of themes that occurred across the programs that can provide further information to answer the main research question of this study.

**Multiple Case Analysis: Emerging Themes**

An analysis of the two cases together – Calcutt Middle School in Central Falls, Rhode Island and Bain Middle School in Cranston, Rhode Island – provides greater insight into whether hands-on, experiential service learning summer programs keep academic knowledge flowing during the summer months. Specifically four themes emerged that help to answer that research question and also answer how and why that type of programming is successful. First, hands-on and experiential programs can lead to academic gains in students, but are also difficult to fully
implement. Second, service learning is not required as part of the program design to achieve success. Third, these types of programs have benefits that go beyond academic improvement. Finally, embedding academic content into these programs is successful to varying degrees. The following section outlines each of these themes and the evidence that supports their connection to the research question.

**Theme One: Hands-On, Experiential Learning is a Successful Strategy, but it is Difficult to Implement**

The research question of this study asks whether hands-on, experiential learning is an effective way to keep academic knowledge flowing during the summer months. A review of the evidence from the Calcutt Middle School and Bain Middle School summer programs suggests that this type of programming is effective at not only keeping academic knowledge status quo during the summer months, but also at making academic gains for students to various degrees. Evidence described in the case descriptions demonstrates the academic gains made by students in an analysis of pre-test and post-test scores. The evidence also demonstrated that students could identify new or reinforced academic concepts covered in the summer program, and an analysis of worksheets and other artifacts also demonstrates that academic learning took place. There is evidence to suggest the reasons that a hands-on, experiential program was successful in accomplishing these gains. An analysis of the focus group transcripts, written artifacts, and observations of the programs at each site yielded 105 codes specifically related or describing hands-on, experiential learning. Figure 1 describes the breakdown of those codes by type. The majority of those codes were examples of hands-on, experiential learning that took place in each of the programs. However, about one-third of the codes described the effects of the hands-on, experiential learning and how and why it was a successful model for learning.
Field trips in both programs represented a major portion of experiential learning. Students participated in a variety of field trips related to their specific curriculum theme and to the broader theme of the programs. For instance, students attended farmer’s markets, visited working farms, took a tour of local businesses, and toured manufacturing spaces. These experiences, according to teachers and the students, allowed students to apply the knowledge that they had gained, and also allowed them to generate new knowledge for themselves. Denise, a teacher in the Calcutt Middle School program described it as:

One of the best parts was actually being able to incorporate Friday field trips into what we were teaching to enhance it. I just feel like that’s a huge thing that you can’t do during the school year. I can talk until I’m blue in the face about something, but when those kids can experience it, and get their own knowledge of it, it is really meaningful (Central Falls teacher post-interview, p. 2).
Other hands-on experiences outside of the field trips were also evident throughout the program. Each observation of both programs included a hands-on, experiential activity as the lesson. For instance, students were deconstructing a solar powered go-kart in Central Falls during one observation and were conducting an experiment mixing chemicals together during another. In Cranston, observations included students measuring and cutting their wood, and showed students using mechanical saws to finish their projects, or measuring ingredients properly to create their final food products. Lesson plans for the Calcutt Middle School program described several of the lessons taught through the hands-on activities. For instance, the carbon cycle was taught through the construction of a solar-powered motor for the go-kart. In several other lesson plans, students learned the life cycle of a plant by planting seeds and tending to them throughout the six-week program. They also learned measurement and how to graph and chart percentages by measuring the growth of their plants throughout the summer.

Hands-on, experiential simulations were also a tool used by the programs, specifically the social entrepreneurship classes. In both Central Falls and Cranston those classes included simulations such as designing and starting a business where students had to develop a budget, menu, and other items for their business. It also included other simulations such as household budgeting, which included an analysis of the items that students like to have and have to have. Students then discovered how much money they would need to have their desired budget. In Central Falls, the simulations also included the real-world event planning of the final event for the program. Students developed the budget, activities, advertising, and all items associated with the final concluding event for the program. These examples demonstrate the various ways that programming was primarily hands-on and experiential for students.
In focus group interviews and individual interviews, teachers, students, and district-level administrators articulated the reasons that they believed hands-on, experiential programming was successful in continuing academic knowledge gains throughout the summer. Much of these conversations included the application of previously existing knowledge that provided a context for the knowledge and a reason for learning. It also included the fact that these hands-on, experiential activities reinforced concepts for students. Edie, one of the teachers in the Cranston program, explained that the programs, “Sneak in the learning so that they (the students) don’t even realize that they are learning” (Cranston teacher pre-interview, p. 3). The programs do not feel like school, which makes the lessons more appealing to students. The summer provided teachers with an opportunity to see the benefits of hands on learning according to Denise, a teacher in the Central Falls program. Teachers in both schools stated that they prefer teaching using hands-on, experiential learning. They also lamented that they do not often get to teach this way during the school year, even if it is more meaningful and impactful.

Students also found hands-on, experiential learning to be a positive way to learn. Matthew, one of the students in Cranston, described the program as a better learning experience during the school year. He articulated that it felt easier than the school year, and that many students would feel the same way if they could experience it during the school year. Students in the Cranston program also stated that the hands-on, experiential learning kept them interested in the topics and subject matter, and made it easier to focus on the work. They were also able to identify that the math was hidden in the hands-on, experiential activities, such as the geometry that was taught through the woodworking activities.

All program participants agreed that one of the major reasons that the hands-on, experiential learning was successful, was that it was fun. The word fun appeared in focus group
interviews 41 times, and teachers, administrators, parents, and students all used the word to describe the program. Students especially felt as if they could learn while having fun and that the activities themselves were fun. In student written reflections in both programs, phrases such as, “Today was a great way to learn and have fun” (Cranston written artifact, p. 43) and “We can be responsible and independent while having fun” (Cranston written artifact, p. 43) were found. Parents stated that students were excited about the programs and could not wait to return to the programs the following day. Additionally, teachers and administrators described an environment that first and foremost was fun and engaging.

While there is much evidence to support the idea that the hands-on, experiential learning led to academic success, it is also important to note that implementing the hands-on experiential programming was somewhat difficult. An analysis of the observations and written artifacts illustrated that while hands-on, experiential programming was the ideal goal, and that many times it was successful, there were other times where it was either unsuccessful or not implemented. In one observation of the Calcutt Middle School program, a hands-on activity where students deconstructed a solar-powered go-kart was only successful for some students. There were only two go-karts to deconstruct for a class of 22 students, and students were not rotating through and getting an opportunity to participate. The same students worked on each vehicle throughout the class. At the beginning of the activity all students were gathered around one vehicle or the other. However, as the activity continued, students began to shift away from the activity and talk to each other. Students were also using cell phones to show each other pictures and to take new pictures of each other. By the end of the activity, only half of the class of eighth graders was fully engaged in the hands-on activity. Teachers quickly dealt with the use of cell phones, and students were redirected to the front of the class where the go-karts were
being deconstructed. However, they quickly were transitioned to writing reflections in their journals when it was clear that it would be too difficult to keep them all engaged on just the two go-karts.

An observation of the Cranston program also revealed that teacher-led lectures were still a component of the programming. In two of the observations at Bain Middle School, teacher lecturing accounted for ten to twenty minutes of programming. Written lesson plans of the teachers at Bain Middle School also reveal that there was some desire to maintain a teacher-centered classroom. Words such as “demonstration by instructor” and “teacher explanation” were present on lesson plans. “Instructor will command the class” and “Instructor will demonstrate how students will…” were also phrases used in lesson plans. Worksheets and tests were also utilized in both programs, although their use did not encompass the majority of the program. Worksheets from websites such as superteacher.com were employed in the Cranston program and several Scholastic Inc. reading comprehension stories and worksheets were used for the sixth grade class in Central Falls. In the eighth grade class at Central Falls, several vocabulary tests also appeared on the lesson plans. Computer programs such as Study Island and Achieve 3000, both reading comprehension programs were used in the seventh grade classroom at Central Falls as well.

These examples of lecturing, use of worksheets, and other, more traditional teach strategies demonstrate the difficulty of developing an academic program that is hands-on and experiential 100% of the time. However, the vast majority of program activities were hands-on and experiential, and the focus groups with all stakeholder groups suggest that it was those components, and not the examples of worksheets and non-experiential activities, that led to program success.
Theme Two: Service learning is Not a Required Component of a Program Design to Ensure Program Success

While the evidence suggests that hands-on, experiential programming is critical to the success of the Bain and Calcutt programs, it also suggests that the service learning component was not necessary to program success. In the Central Falls and the Cranston programs, the service learning component was not integral to the program curriculum, nor was it designed to be. Both program administrators described the service learning for their program in great detail in the proposals that they submitted to the funding agencies. However, the reality of implementation did not match the description of the service learning in those documents. In the case of Cranston, service learning was meant to be woven throughout the program, with an event on the final day serving as the major service learning activity of the program. Each of the classes was engaged in the development of that final event, but it was not woven through the entire program. In Central Falls, the service learning involved researching major community issues and presenting findings to the mayor’s office, which did occur. Analysis of written artifacts from both programs indicates that while these tasks were accomplished in both programs, they did not meet the definition of service learning.

An analysis of lesson plans for the Cranston program demonstrated the lack of connection to the service learning component. Each lesson plan sheet had a section for a service learning connection for the activity. On all of those lesson plans, the service learning connection section was left blank. In Central Falls, teachers did believe that the service learning should be a key element of the curriculum. In the pre-interview, Denise articulated the importance by saying:

I like the service learning part because I do think that if we teach them young to give back to the community they will continue to give back to the community whether it’s
through Girl Scouts, volunteering here, soup kitchens, wherever they want to do something (Central Falls teacher pre-interview, p. 9).

However, in the post-program focus groups with teachers in Central Falls they highlighted the difficulties with implementing the service learning. This included the fact that students did not demonstrate an interest in the service learning, that it was hard to link the service learning to the program theme and content and that it was a stretch to layer math and literacy into the service learning component.

It was clear in both programs that the concept of service learning was not learned by the students. In the student post-program focus groups in both Central Falls and Cranston, students were asked to define service learning. In both cases they could not, and in some cases were still unable to identify where service learning took place after the definition was provided to them. Table 17 outlines some of the definitions that students provided for service learning. Only one of the definitions comes close to the answer, but still misses key elements.

Table 17

*Examples of Responses to Question Asking Students to Define Service Learning*

<table>
<thead>
<tr>
<th>Location</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cranston</td>
<td>What is that?</td>
</tr>
<tr>
<td></td>
<td>What do you mean?</td>
</tr>
<tr>
<td></td>
<td>I remember you asked us that last time, but I forgot what it was?</td>
</tr>
<tr>
<td></td>
<td>Cleaning up around the school.</td>
</tr>
<tr>
<td>Central Falls</td>
<td>The what?</td>
</tr>
<tr>
<td></td>
<td>We learned how to garden and keep plants alive.</td>
</tr>
<tr>
<td></td>
<td>It is how I learned what a sign means.</td>
</tr>
</tbody>
</table>

Observations, focus group interviews, and lesson plans do describe various community service activities that miss key components of service learning. During one observation of the Cranston program students were in the courtyard of the school pulling weeds, clearing brush, and
sweeping sidewalks. This cleanup activity in the courtyard was considered part of the service learning component by the teacher, as the courtyard would then be used by the school for lessons. However, during the service activity, there was no discussion of this connection to the school year with students, and after the activity there was no reflection on the activity or process. In the Central Falls program students spent part of one day cleaning up trash in the neighborhood, which constituted a service project, but there was no reflection or discussion of how or why the service matters that would make it a service learning activity.

It is possible that service learning was not fully implemented into the program because the teachers were not fully aware of how to implement it effectively. In Central Falls and Cranston, teachers mentioned that the service learning component and how to incorporate it was never discussed as part of any professional development. Additionally, it did not seem that the importance of the service learning component was emphasized to teachers or community partners, as they had difficulty articulating why it was a critical element of the program and just knew that it was a critical element. What this evidence all suggests is that the service learning component of programming was implemented ineffectively or not implemented at all in the programs. However, students were still able to find success in the program despite the lack of implementation of the service learning component. This suggests that while the service learning component may have enhanced the program, it was not a necessary component for success and for keeping the academic knowledge faucet flowing for students during the summer.

**Theme Three: The Benefits of Hands-On, Experiential Programs Encompass More than Academic Gains**

While academic knowledge was the focus of the research question for this study, it is important to note that the hands-on, experiential learning had benefits that went beyond the
academic improvement of students. Indeed, stakeholders found some of the other benefits to be stronger than the academic growth experienced by students. Specifically, social and emotional benefits, improvement in 21st Century skills such as problem solving, critical thinking, and collaboration, and keeping students safe and engaged during the summer were among the additional benefits described by stakeholders.

Parents and teachers in both parents agreed that the programs had benefits for parents and students, in that it kept students active and engaged throughout the summer. Teachers believed that the summer program provided structure for students during the summer, and that structure and routine is one of the main items that must be retaught each year when school begins. It also keeps students connected to the school and engaged in learning so they do not have to relearn the process of learning when they return to school in the fall. As Mary, a teacher in the Cranston program articulated, “They (students) may downshift in the summer, but they do not go into park” (Cranston teacher pre-interview, p. 7).

In addition to providing structure for students, the programs also provided students with a safe place to be that was outside of the house. Teachers, parents, and students all indicated that if they were not participating in the program, many students would stay at home watching television or playing video games for large portions of the day. Parents felt better knowing that their children were supervised and were not alone during the day. As Victor, a parent in the Cranston program articulated, “We don’t want him running the streets” (Cranston parent post-interview, p.2). Similarly, parents in Central Falls said that the programs ensure that their children are not able to do bad things, and it allows them as parents to be at peace knowing that their children are safe and supervised. The programs also make sure that students eat healthy food, rather than snacking on junk food throughout the day. The programming also kept them
active and engaged in sports, according to interviews with parents, teachers and students. Observations of the program and program artifacts also confirmed that the programs offered healthier food alternatives and also kept students engaged in sports and other recreational activities.

The program also has benefits for parents. Specifically, it allows parents more flexibility in their schedules. Many of the parents interviewed as part of the focus groups were employed at companies where their hours were during the day when their children would normally be home during the summer. For other parents interviewed, they worked at other times, but needed that time during the day to take care of household items or to sleep. Amie, a Central Falls parent described her family’s situation, and why the program had added benefits beyond the improvements in their children.

*It (the program) is very important. My husband works in the nights and sleeps in the day. I work in the afternoon, so it is very important. We don’t have time to get them to different places because I am working* (Central Falls parent pre-interview, p. 4).

Rebecca, another parent in the Central Falls program also emphasized the importance for her family.

*For me it is a big, big, big, big help because if I have to go do my stuff because when they are home I have to be home, so I can take them to school (the program) and I can get to work, I can get to whatever I have to do, and you know I’ll be home the time that they are home. I’ll be home, so for me it is a big, big, big help* (Central Falls parent pre-interview, p.4).

Beyond allowing them time to work or get errands run before they go to work, parents also said the program is important because in many cases, they do not have the skills necessary to help
their children with their homework or coursework. This is especially true for parents whose first language is not English.

As described in the case descriptions, the program also had social, emotional, and behavioral benefits for children. Beyond continuing routines and procedures established during the school year, the programs also helped to remind children of proper behavioral norms. This was explicitly identified by parents in both programs as an outcome that they witnessed in their children throughout the programs. According to several teachers and several students, the program also exposes children to additional caring adults in their life, and creates the atmosphere of a second home for the students. Fiona, the district-level administrator from Central Falls describes it as consistent continuity of care for all children in the program. Fiona also believes that the positive relationships that students have with teachers during the summer increases their self confidence, which they then take back into the classroom in the fall:

Students carry their new-found confidence with them into the classroom. They know they can speak to their teachers about anything. They understand their responsibility to themselves within the learning equation. Students gain new friendships with other students from different classes and they watch their parents explode with pride over their projects. These students thirst for more positive experiences and their caregivers are becoming more poised to demand these experiences as they grow in understanding and advocate for better instruction through authentic community experiences (Central Falls administrator post-interview, p.1).

Earlier sections of this chapter described other social and emotional benefits of this type of programming for students, including more positive attitudes toward school and learning.
increased self-confidence, fewer instances of behavioral issues, and a better understanding of their own needs.

In addition to the benefits described to this point, it is also clear from an analysis of the programs that the development of 21st century skills such as problem solving, critical thinking, collaboration, and teamwork are major areas of growth that this learning model achieved for students. Observations of the program demonstrated that students understood how to synthesize directions and act independently or with one or two team members. Peer mentoring was also observed and was an intentional component of the program, especially in Cranston where a heavy emphasis on leadership development and mentoring were included in lesson plans and in the proposal to funding agencies for the program. Assignments in both programs were designed to improve critical thinking skills. For instance, one assignment gave students a list of items and presented them with a scenario where they were stranded and lost in the woods overnight. Students produced a variety of responses on how they would use the materials to survive the scenario, all of which demonstrated critical and creative thinking. For instance, students described how they would use materials to build a tent, make a fire, kill and cook an animal and even burn a tree to signal their location to rescuers.

According to teachers, these assignments built confidence, made students more willing to take risks and made it more likely that they would step out of their comfort zones. Kendra, a teacher in the Central Falls program, described how students asked appropriate questions when they were unsure of how to arrive at an answer, which is another 21st Century skill. The curriculum of both programs was designed for students to self-assess, evaluate each other, provide peer feedback, and reflect on practice, all of which are components of 21st Century skill development. Each of these examples demonstrate that while the primary focus of the program
was to stem summer learning loss or increase academic learning during the summer, hands-on, experiential programming had additional benefits that went beyond the original intent of the program.

**Theme Four: Embedding Academic Content into Hands-On Programs is Successful to Varying Degrees**

The final theme that emerged from the multiple-case analysis was the fact that embedding the academic content into hands-on programming is difficult. The Cranston case description outlined those difficulties clearly, as very little in the way of academic standards were explicitly addressed. Instead, lessons addressed items like the ABCs of safety, how to correctly use various tools, and how to paint themed rocks and stones. With the exception of the social entrepreneurship class in Cranston, the only major writing component of the program was the reflection period at the beginning of each class. Teachers emphasized the difficulty with explicitly addressing academics in the program curriculum that was designed to focus on concepts such as woodworking, art, and cooking. Despite the difficulty in doing so, these concepts were embedded into the lessons, even if it were accidental. As described earlier, students in the Cranston program did identify the type of learning that occurred in woodworking and art classes.

The difficulty embedding mathematics and literacy concepts into hands-on programming was also evident in the use of more traditional methods of teaching that fall outside the definition of hands-on programming. For instance, teachers used pre-made worksheets that had little to do with the program theme or curriculum to teach certain academic concepts. A reading comprehension story from Scholastic Inc. focused on a story about bullying, which was not related to any program components. Additionally, online reading comprehension programs were
utilized in Central Falls to deepen the learning in that subject. These online modules did not connect to the hands-on programming, and therefore were not embedded. Alternatively, if a subject did not fit with the curriculum, teachers chose not to focus on that topic. In Central Falls, the seventh grade program focused exclusively on science and literacy, since it was difficult to embed math into the program. Rather than turn to more traditional means such as worksheets and unrelated lessons to address mathematical concepts, the teachers relied on the fact that students might engage in mathematics as a byproduct of the science component of the curriculum. It is unclear whether this method for this particular classroom was successful or not.

What these examples, and many described in earlier parts of this chapter demonstrate, is that some academic concepts are hard to incorporate fully into hands-on, experiential programming. Doing so is not impossible however, as evidenced by the vast amount of academic concepts intentionally embedded into the program curricula in the Central Falls and Cranston programs, and by the unintended academic concepts that were embedded into the curriculums or taught throughout the programs.

**Summary of Results**

This chapter presented a comprehensive look at two hands-on, experiential summer programs: the Calcutt Middle School summer program in Central Falls, Rhode Island and the Bain Middle School summer program in Cranston, Rhode Island. The demographics of these communities are significantly different. The population of Central Falls is predominantly Hispanic and predominantly low-income, while the population of Cranston is more mixed, with a population that includes various income levels and a more stable tax-base. As a result, the school systems reflect the communities that they serve. The Central Falls School District has been under state control since the early 1990s and Calcutt Middle School is classified as persistently low-
achieving by the state department of education. Meanwhile, Bain Middle School in Cranston has met adequate yearly progress each year, and the school district produces strong results for students. Both schools however, have challenges, and both ran similar summer programs during the summer of 2013.

While the program structure and curriculum of the two programs were different, both implemented hands-on, experiential programming during the summer that was designed to stem summer learning loss for participating students and even help students to make academic gains during the summer. The goal was to embed academic concepts into the hands-on, experiential programming. Another goal was to utilize service learning as the driver for the theme, curriculum, and lessons. In both cases, programs were successful at implementing the hands-on, experiential programming and were unsuccessful at implementing the service learning component.

A review of documents from the programs, observations of both programs, and interviews with parents, students, teachers, and district-level administrators at each program suggest that the programs were successful at increasing student’s academic knowledge during the summer. Further, according to program stakeholders, the programs also helped students to grow socially and emotionally, built confidence in students, and also helped them to further develop 21st Century skills such as problem solving, critical thinking, and collaboration. The review of each case found both successes and areas for growth. For instance, teachers in the Central Falls program described issues with program administration and the timeliness of responses to their requests. Despite the small challenges, programs were successful.

The research question for this study was whether and how do experiential, service learning summer programs keep academic knowledge flowing for urban middle school students
during the summer months. The results described throughout this chapter suggest that across both sites, experiential summer learning programs do keep academic knowledge flowing for students during the summer months. They do this by embedding academic concepts into the hands-on programming, and they have benefits that go far beyond academic knowledge retention. However, the results also suggest that, as implemented, service learning had little to do with the success of students. Other themes that emerged from the multiple case analysis include the fact that the program had benefits for parents and teachers that went beyond the academic, social, and emotional benefits that the program had for students enrolled in the program. Additionally, it was clear from the data that academics are somewhat difficult to fully embed into hands-on, experiential programming.

The evidence presented in this chapter provides a comprehensive answer to the research question, and outlines not only that experiential programming can keep academic knowledge flowing, but also how it keeps that knowledge flowing. The next chapter connects these findings to previous research on summer learning loss and summer programs, and describes why certain elements of the programming may have been successful. It will also list the implications of this study to research, policy, and practice. Finally, it will outline the limitations of this research study and recommendations for future research on the topic.
Chapter V: Discussion and Implications

This study focused on whether and how hands-on, experiential service learning summer programs can reduce or eliminate summer learning loss. Specifically, the research question asked whether this type of programming could keep the faucet of knowledge flowing for students during the summer months so that they do not experience summer learning loss, which the literature shows, contributes to the achievement gaps that exist in this country between low-income students and their more affluent peers (Alexander, Entwisle, & Olson, 2007a; Cooper et al., 1996). Chapter two outlined the reasons that this question is important, and especially why hands-on, experiential service learning might be an effective intervention to reduce or eliminate summer learning loss for students. Chapter three outlined the data collection process to explore the research question, and described why specific sites in Cranston, Rhode Island and Central Falls, Rhode Island were selected. It also described how data would be triangulated using observations, document analysis, individual interviews with district administrators and focus group interviews with parents, students, and instructors in the program.

The results presented in chapter four of this study suggest that hands-on, experiential programming is successful at keeping the faucet flowing during the summer months, while it is unclear whether service learning specifically is an effective way to reduce summer learning loss. The evidence also suggests that hands-on, experiential programming has benefits that extend beyond academic improvement to the improvement of 21st century skills and social and emotional growth. These findings were developed after an analysis of over 200 pages of documents, eight hours of observations, and over 40 pages of interview transcripts. This chapter will explore those findings in greater detail and place them within the greater context of the literature on achievement gaps, summer learning loss, summer programming, and experiential and service learning. Implications of the study to research, policy, and practitioners are then
presented. The chapter will conclude with a discussion of the limitations of this research and recommendations for future research that can build on the findings.

**Synthesis of Findings**

The multiple case analysis presented in chapter four produced for themes that emerged from the two cases studied. The first was that hands-on, experiential programming was an effective curriculum model. Second, the service learning component of the program did not have an effect on program outcomes. Third, the experiential programming had benefits that went beyond academics. Specifically, students showed growth in 21st century skills like problem solving, critical thinking and collaboration, and they also showed social and emotional growth. Finally, the academics were embedded into the hands-on programming to varying degrees of success. The existing literature on these topics discussed in chapter two can provide possible explanations for these outcomes.

**Hands-on, Experiential Programming is Effective at Reducing or Eliminating Summer Learning Loss**

The research question for this study specifically asked whether hands-on, experiential learning is effective at reducing summer learning loss. Alexander, Entwisle, and Olson’s (2001) faucet theory served as the theoretical framework to answer this question because it focused on whether specific resources can help to reduce summer learning loss. Giles and Eyler’s (1994) service learning theory was utilized as the conceptual framework for the research in part because it built on Kolb’s (1984) experiential learning theory. The observations, focus groups, and documents that were analyzed confirmed that learning did take place and that resources continued to flow for students in the programs during the summer. Parents in Central Falls identified that at the end of the program, their children were better able to read as a result of the
program, and teachers in both programs identified several instances where the students improved academically such as when Richard began counting the number of baskets that had been created by the students and calculated how much money the program could raise through the sale of the baskets. Observations also suggested that academic resources continued to flow for students in this program. The experiments conducted in Central Falls helped students to better understand chemical reactions and how certain chemicals and products change reactions.

Cooper and his colleagues (1996) conducted a meta-analysis on what happens when students are not engaged in learning during the summer months. Their study, one of the seminal works in summer learning loss research found that students lose an average of two months of grade level equivalency in mathematics skills when not engaged in learning during the summer months and for low-income students that loss also occurs in reading. An analysis of the pre-test and post-test data from the outside program evaluator collected as part of the document analysis suggests that these hands-on, experiential programs not only eliminated summer learning loss for students, but also that the students made gains. Some research suggests that summer learning interventions may increase achievement gaps when middle- and upper-income students participate in them (Alexander, Entwisle, & Olson, 2007a). The data from this research contradicts those findings. According to the pre- and post-test data collected from each of the programs, students in the predominately low-income Calcutt Middle School program gained an average of 50% from the pre-test to the post-test in both math and language arts/literacy. In the Bain Middle School program, which had a more mixed-income population, the gains were present but were much smaller, suggesting that high-quality summer program can positively impact low-income students and can help to close achievement gaps. The degree to which they do this is beyond the scope of this research however.
Focus groups with teachers and parents suggest that the Calcutt Middle School students did make greater gains than the students at Bain Middle School as well. Gary, a teacher at Bain Middle School articulated in the post-program focus group that he was unsure how much students grew academically during the program and thought stronger growth was in other areas. However, parents from Calcutt Middle School identified several areas of academic growth for their students including improved reading and an improvement in English language speaking skills. While stronger data would be required to fully confirm this finding, the data does suggest that Calcutt Middle School students performed better academically in the programming than their peers at Bain Middle School in Cranston.

**Explaining program effectiveness.** While these gains are important, a more important question from a research perspective is why the hands-on, experiential programming was effective. Several pieces of research indicate that to be effective and to better engage students, programs must feel different than the school year (Alexander, Entwisle, & Olson, 2001; Cooper, 2001). Those studies also suggest that enrichment can be a key component that makes programming look and feel different than the school year. All of the data collected for this research confirm that the program looks different curriculum delivered during the school year. For instance, Denise, one of the teachers at Calcutt Middle School stated that the field trips were a key experiential component of the summer than would be impossible to implement during the school year. She also discussed the need to get through curriculum during the school year while the experiential learning and curriculum development provided more freedom. Gary, a teacher at the Bain Middle School program in Cranston also supported this, and said that while an experiential learning curriculum is ideal, it is difficult to implement during the school year for a variety of reasons.
Enrichment was a key component of the curriculum. In both programs, academics were embedded into the enrichment activities, which seemed to make the program more enjoyable for students. For instance, Cranston provided enrichment as the core curriculum (woodworking, art, cooking) and both programs offered enrichment and physical activity in the afternoon as part of the programs. In addition to enrichment, Deschenes and Malone (2011) argue that community engagement is a crucial element to program success. Both programs developed hands-on experiences that engaged community. Field trips and guest speakers were part of the curriculum in both programs designed to broaden the types of experiential learning for students, and the hands-on, experiential curriculum was designed to address community needs. In Central Falls, the fifth and sixth grade curricula were focused on addressing specific needs in the city, and in Cranston, the culminating event was focused on community outreach and engagement.

There are other reasons that the hands-on, experiential programming was effective. Both programs contained over 80 hours of instructional time, which is the recommended amount of instruction necessary to stem summer learning loss (McLaughlin & Pitcock, 2009). Additionally, both programs began initial planning of the curriculum in February, according to interviews, although some members of the teaching staff did not join the program until after the curriculum and program had been planned. Early planning is considered an essential element to effective summer programming (Rischer, 2009; Wimer & Gunther, 2006). Finally, in both programs, class size were kept under 15 students per adult in the classroom. This is the level that is generally accepted as the correct student/teacher ratio for effective summer programming (Rischer, 2009; Terzian & Moore, 2009). All of this suggests that there are legitimate reasons why the programs in Central Falls and Cranston were so effective at eliminating summer learning loss for students and keeping the knowledge faucet flowing using hands-on, experiential programming.
Service Learning Not Effectively Implemented

While the hands-on, experiential programming was implemented well, previous research suggests that the service learning component was not, which could explain why that component of the program was not as critical to the student outcomes in the programs. As described in chapter four, both programs had difficulty authentically integrating service learning into the curriculum. In the Bain Middle School program in Cranston the service learning component was not included on lesson plans, and in Central Falls the teachers discussed at length that the service learning was the program component that students did not engage wish. This was especially true for Sally and Kendra, who described how their students disengaged from the lessons that focused primarily on the service learning component of the program. It was clear from the student post-program interviews at both locations that students did not fully understand what service learning was, as they had difficulty defining the term and describing how it was part of the program.

Previous research on service learning explains why this may have been the case. First, research demonstrates that the duration of service learning activities is important to having a lasting impact on students (Conway, Amel, & Gerwien, 2009; Scales, 1999). Students must be fully engaged in service learning over an extended period of time for it to be effective. At none of the program observations by the researcher were students engaged in service learning. Additionally, the curriculum documents showed little integration of the service learning into the core curriculum. Without an extended duration, it was difficult for that component to have an effect. In addition to duration, the intensity of the service learning is also important (Keily, 2005). Again, the data suggests little intensity of the service learning in either Central Falls or Cranston.
Perhaps the most important factor missing from the service learning at both programs was reflection. Many studies on service learning emphasize the importance of reflection in meaningful and successful service learning experiences (Conway, Amel, & Gerwien, 2009; Eyler & Giles, 1999; Hatcher & Bringle, 1997; Mooney & Edwards, 2001; Saltmarsh, 1996; Scales et al., 2006; Wood-Daudelin, 1997). Reflection is part of the definition of service learning utilized for this study (Hurd, 2008). When reflection was present in the programs, as it was in the Cranston program particularly, it was never focused on the service learning component. Additionally, reflection protocols common to service learning were not observed, were not collected as written artifacts for the programs and were not present in lesson plans for the programs. Therefore, according to Hurd’s (2008) definition of service learning, what took place in the two summer programs was not service learning. These activities fall on other parts of the community-based learning spectrum outlined by Mooney and Edwards (2001). The examples of service in the programs varied, but most of them could be classified as out-of-class activities or adding service to existing lessons. For instance, students in the cooking class in Cranston designed healthy recipe books to be circulated at the final service learning celebration of the program that served as a culminating program event. The development of these cookbooks constituted adding service to a lesson rather than a lesson focused on service. Adding service to existing lessons and activities was a more accurate description of service learning in the Calcutt Middle School program in Central Falls as well. For instance, the fifth grade class developed a safety plan for the community and presented it to the Mayor of Central Falls.

There is one additional reason that the service learning had little success in these programs. Hatcher and Bringle (1997) argue that teachers must acknowledge specifically when service learning is taking place and that failure to do so can create a disconnect between a
teacher who perceives that students understood the service learning that took place and students that did not realize the learning took place. Focus group interviews indicate that this was the case, as teachers at both schools clearly identified the elements of their curriculum and lessons that constituted service, but students in both programs could not identify service learning components or even define the term. This, plus the relative absence of the service learning from the program altogether, most likely led to its insignificance as a program element.

Despite the challenges of implementing service learning effectively, students in the program experienced a variety of benefits. However, there are additional positive outcomes that could have been present for students in the program had the service learning been implemented effectively. For instance, had the service learning been successful, there would have been evidence of more active engagement in community among students that participated (Eyler, 2002). The students in both programs did not discuss this as an outcome of the programming in the post-program focus groups and teachers did not state that this was a positive outcome for students. Additionally, research suggests that effective service learning would have built civic responsibility in students (Mooney & Edwards, 2001). Again, student focus groups did not reveal any increase in civic responsibility, and it was not mentioned by teachers or parents in focus groups. Evidence of an increase in civic responsibility was not present in any documents analyzed for the study, and was also not observed during the program. While effective service learning may have led to these additional positive outcomes, it is important to note that the experiential programming did result in many positive outcomes that stretched beyond academics.

**Outcomes of the Program Extended Beyond Academics**

Focus groups and observations of the programs in Central Falls and Cranston, Rhode Island demonstrated that learning during the summer went beyond core subject knowledge, and
included 21st century skills like problem solving, critical thinking, collaboration, and communication. The programs also produced social and emotional growth in students. This growth was identified by teachers, parents, and district administrators in focus groups and individual interviews. Several teachers in Central Falls identified the social and emotional growth of their children. For instance, Stephanie described how students’ persistence and willingness to answer questions on the post-test was much greater than the pre-test. Additionally, Yasmin, another teacher in the program discussed students’ willingness to take more risks as an example of social and emotional growth as well. Fiona, the district-level administrator in Central Falls also identified social and emotional learning as one of the most important outcomes of the program. In her view, the growth in student confidence and the development of friendships were the most long-lasting effects of the summer program. Gary, Edie, and Mary, teachers in the Bain Middle School program in Cranston focused on behavioral improvement as evidence of social and emotional growth in students. Finally, parents in both programs witnessed social and emotional growth in their children; specifically that their children had developed new friendships and were more willing to try new things.

These findings confirm the research on social and emotional learning and experiential learning opportunities. Durlack, Weissberg, and Pachan’s (2010) meta-analysis of experiential afterschool programs found that social and emotional growth was a major outcome of programming. They also found that as a result, incidences of inappropriate behavior in school were reduced. Gary’s analysis of student behavior correlates with this finding. Flanagan (2004) and Camino and Zeldin (2002) also describe the benefits of social and emotional learning as it relates to experiential learning, and those studies make the case that the results seen in the summer programs with regard to social and emotional learning should have been expected.
**21st century skill development.** Several studies address the growth of 21st century skills through experiential learning opportunities (Camino & Zeldin, 2002; Paulson, 2011; Spires, Rowe, Mott, & Lester, 2011). These skills, such as critical thinking, problem solving, and collaboration are developed in many forms of experiential learning including service learning, project-based learning, and problem-based learning. This research was reaffirmed by the findings in the Calcutt Middle School and Bain Middle School programs. Observations of the program demonstrated several instances of 21st century skill development. For instance, during experiments in the eighth grade class at Calcutt Middle School students used critical thinking to predict how and why specific chemical reactions took place. Teachers in both programs also confirmed the growth of 21st century skills during the summer. The teacher focus group in Cranston identified the growth in these skills as the major program outcome. For instance, Gary and Nate articulated in the post-program focus group the story of two students who would never work together during the school year, but worked very closely on a project in the summer. In Central Falls, the teachers identified 21st century skills as a major outcome as well. For instance, Kendra found that students collaborated with each other that might not otherwise collaborate. These instances, and others described in chapter four confirm previous research on 21st century skill development and experiential learning.

**Transformational learning opportunities.** The experiential learning that students engaged in may have been successful because of its transformational nature. Several studies describe the power of transformational learning experiences to accelerate learning for students and help them to develop new skills (Astin, Vogelesang, Ikeda, & Yee, 2000; Keily, 2005). It was clear that teachers in Central Falls saw the experiential learning as transformational for some students. Denise, one of the sixth grade teachers in Central Falls described the various field trips
that students took to area farms and how the trips not only expanded student horizons, but also allowed them to connect the learning taking place in their program with the new experiences. Similarly, Kendra and Sally described the trip that fifth grade students took to the beach as part of their curriculum on safety, and how that experience helped students to understand why safety was important, especially with water. These experiences expanded students understanding of place in the world, and in some ways closed what Evans (2005) and Lareau (2003) describe as the opportunity gap. This opportunity gap, whereby low income students have fewer experiences and opportunities to connect their learning, contributes to achievement gaps as well.

**Embedding Academics into Hands-on Programming**

One of the key elements of the program according to teachers, was that the academic component was embedded into the hands-on, experiential activities. Edie, a teacher in the Bain Middle School program described it as sneaking the learning into the program for students. The data however, showed that this worked to varying degrees. In some cases, the planned lessons were not hands-on, and relied on worksheets and reading comprehension stories to teach or reinforce concepts. In other examples, the lessons were hands-on, but did not contain intentional academic content. For instance, one of the woodworking classes observed in Cranston focused exclusively on how to cut a piece of wood and finish the project rather than attempt to incorporate math or literacy into the activity. In other cases, teachers lectured to get information across before letting students experiment and learn for themselves.

There are several possibilities for why, while the majority of the program was successful at embedding academics into hands-on, experiential programming, some components were not. First, it could be that teachers resisted this method in some cases. For instance, during the teacher post-program focus group in Central Falls, Denise described the ease of having students use an
online program to complete an assignment one of the programming days rather than develop an experiential lesson on the same topic, which may have taken more time. In Cranston, George cited the fact that other types of learning were equally as important, and embedding the academic components would have meant significant changes to the lessons that had been developed. Teacher quality may provide an explanation for this. There is a large body of research on teacher quality as it relates to the achievement gap (Barton, 2004; Borman & Kimball, 2005; Haycock, 1998; Heck, 2007; McKinsey & Company, 2009; Singham, 2002; Talbert-Johnson, 2004). Most of these articles argue that low-income communities tend to have teachers that have less experience than more affluent suburban communities. They also argue that suburban communities tend to recruit higher quality teachers than urban communities. While both programs had teachers with a variety of years of experience, both programs had teachers who had just completed their first year of teaching.

Other teachers in the program were not certified in specific subject areas, which may have led to their discomfort including that material in the curriculum. For instance, the Central Falls program relied on two long-term substitutes, and the Cranston program relied on teachers whose content areas were in the elective course they taught (art, cooking, woodworking). Barton (2004) argues that having certification in a specific subject area matters, and therefore it is important to have teachers comfortable with content teaching that content. Finally, motivation and expectations of students may have played a role in why academics were not embedded into the hands-on experiences all of the time. In the pre-program teacher interview, Gary described that while he enjoyed the program model, one of his main motivators for participation was the money that he would receive as a teacher in the program. This motivation, rather than the model, may have led to less effort on Gary’s part to incorporate academics into the experiential activities.
all of the time. Additionally, low expectations for students may have played a role. On several occasions, during focus group interviews and during observations, two of the teachers expressed opinions about students that suggested the students would not be able to handle more rigorous academic content. Changing the content because of low expectations is one of the activities that lead to achievement gaps (Oakes, Gamoran, & Page, 1992). While content may not have been changed during the program itself, it is possible that teachers, in developing the curriculum and lessons for these programs, took their lower expectations into account and left academic content out of the primary programming. This is truer in Cranston where academic learning that took place in the classroom was more organic and unintentional. In Central Falls, it is less likely that low expectations played a role in why it was difficult to embed academics into the experiential learning for parts of the program.

**Connection to Achievement Gap Research**

There are several other ways that this program connects to the literature on achievement gaps. First, earlier evidence described how both the Central Falls and the Cranston programs expanded opportunities for students that participated, and therefore helped to address some of the opportunity gaps that exist between low-income students and middle- and upper-income students. According to research, these opportunity gaps are contributing factors to achievement gaps (Evans, 2005; Lareau, 2003). Closing these opportunity gaps is one of the reasons that some school districts choose to engage in this type of summer programming rather than more traditional, remedial summer school (Merrow, 2012).

The way that schools are funded is also seen as a contributing factor to achievement gaps (Bell & Carrillo, 2007). The administrators of both programs indicated that the experiential programming model would not have been possible without private funding sources that
complemented meager public resources dedicated to summer programming. Cooper (2001) argues that sufficient funding is critical for summer program quality, and because of private funding both the Central Falls and Cranston programs could provide high-quality programming for children and families. However, as program administrators indicated, without the funding, the programs would not have taken place, which could have led to the knowledge faucet turning off for those participating students.

**Implications for Researchers**

The sections above situate this study within the larger body of research on summer program, experiential learning, and the achievement gap. Most of the findings in this study support previous research, which has implications for researchers on these topics. First, this study suggests that experiential learning can be effective at reducing or eliminating summer learning loss for participating students. This research creates a connection between two previous bodies of research that had little in common. The research on summer learning loss and experiential learning can now be connected and other research can begin to explore these connections using other experiential learning models. Additionally, this research reaffirmed the connection between experiential learning, 21st century skill development, and social and emotional learning. Indeed, those may be the biggest outcomes of the program. Therefore, this research adds to the growing body of literature calling for better strategies to measure the development of these skills and areas (Darling-Hammond & Adamson, 2010; Reeves, 2010).

This study also reaffirms the research that demonstrates the key components for effective service learning. In many ways, by failing to engage in these strategies the programs proved their importance. The teacher and student focus groups, as well as observations and document analysis confirm that these essential elements were missing, and also confirm that the absence made it
difficult to have a meaningful service learning experience. The results strengthen the argument that there is a spectrum of service activities, on which service learning is one of the more intensive experiences (Mooney & Edwards, 2001) and expands a body of research on ways that students can engage in service.

Finally, the results have implications for achievement gap research as well. This study adds to the research about closing opportunity gaps and how those gaps contribute to achievement gaps. It also connects to other non-school related causes of the achievement gap. For instance, teachers at both sites focused primarily on non-school factors as the biggest challenges that students and schools face. In Central Falls, the focus was on the issues within the community including poverty and crime. In Cranston, teachers discussed the lack of parental involvement as a major challenge to student and school success. These non-school related factors do contribute to achievement gaps, and additional examples strengthen the arguments to address them (Lee & Bowen, 2006). As stated earlier, funding also matters and school funding contributes to the achievement gap. Central Falls teachers complained that there were not additional funds to enhance the programming during the summer, and both programs indicated that they would not have functioned without private support. This adds to the research suggesting that school funding and resourcing matters, as those districts with more public resources can offer more opportunities (Bell & Carrillo, 2007).

**Implications for Practitioners**

In addition to the research implications, this study also has implications for those implementing summer learning programming or experiential learning programming. This includes and goes beyond those implementing this programming in Central Falls and Cranston, Rhode Island. First, one of the biggest implications for practitioners is that service learning must
be implemented properly, and must include all of the critical components such as reflection to be effective. This program clearly demonstrated what happens when service is not deeply thought-out, explicit, and when students do not have an opportunity to reflect on the experience. Service learning cannot be something that is done as an add-on to other coursework. It must maintain a central focus, or it risks falling into another category on Mooney and Edwards’ (2001) continuum of community-based learning.

A second implication based on the findings is that enrichment is an important component to summer programming and that it is possible to embed academics into enrichment. Cranston’s entire curriculum was based on enrichment, and while the academic components may not have been fully intentional, each of the classes effectively incorporated academics into the enrichment programming. In Central Falls, the embedding of academics was more intentional and was still effective. In both cases, the enrichment added to the fun of the program, which several researchers believe is important for student engagement and student success (Alexander, Entwisle, & Olson, 2001; Cooper, 2001). As described in chapter four, the word fun was coded over 40 times, meaning that students, parents, and teachers believed that the students enjoyed the hands-on, experiential and enrichment programming. Since it is possible to embed academics into this type of programming, practitioners should consider doing this more often. It should not be limited to the summer months.

While this type of programming should not be limited to the summer months, this research affirms the use of hands-on, experiential programming as a summer program model. Indeed, it can be more effective than traditional summer school that is remedial (Merrow, 2012). This research demonstrates that the benefits are greater than simply academic improvement, although the findings suggest that academic gains are likely as well. Therefore, this research
helps those developing summer programming to understand that experiential learning is a useful strategy. It also provides key lessons learned from the programs in Cranston and Central Falls to help programs develop a curriculum that suits their specific needs. Practitioners can use this research to better understand strategies for embedding academics into hands-on, experiential learning and for understanding the elements that must be in place for that effort to be successful.

**Implications for Policymakers**

This research also has implications for policymakers such as city officials, state and federal education officials, and local superintendents. First, this study affirms that experiential learning is a potential alternative to the traditional, remedial summer school model that school districts have employed for years. While more research will be necessary to validate the findings, the evidence is clear that major program stakeholders believe that experiential learning is more effective than traditional, remedial summer school and should be considered as an alternative to the more traditional method. Second, the results suggest that this type of program would be a wise investment. All of the evidence indicates that students improved on a variety of outcomes, including academics, growth in 21st century skills, and social and emotional growth. By keeping the resource faucet flowing, the Bain Middle School and Calcutt Middle School summer programs may not have only eliminated summer learning loss for participating students, but also may have helped students to make gains that begin addressing achievement gaps. If those findings are further validated with more longitudinal research, summer programming may be a relatively inexpensive intervention strategy compared with other more expensive, school-year and school-based strategies for closing achievement gaps.

Two final study implications apply the results from the summer programming to the school year. First, the data suggests that experiential learning is an effective programming model
and an effective way to deliver curriculum to students. School policymakers might use this research to consider ways to incorporate more experiential learning into the school year and into more traditional classroom settings. While the research shows that this could be more expensive, that added expense may be worth is when compared to the expense of remediating students (Werth, 2012). Finally, the study suggests that policymakers seek additional ways to measure outcomes. Specifically, it may be necessary for policymakers to find assessments that measure 21st century skill development and social and emotional growth, as all program stakeholders and other researchers view these skills as just as essential as core academic content.

**Limitations**

While chapter 3 of this study addressed some of the limitations to the study design, it is important to restate the limited scope of this research to put the results and the implications in context. It is also important to address these limitations, as they also suggest areas where future research can complement and further validate these findings. First, case study research is not designed to make generalizations, and therefore it is difficult to make generalizations based on this research. Rather, this study suggests that there might be connections to other components of research. In order to confirm these connections, more research, including quantitative studies will be necessary. A second limitation is the non-random sample and sample size. Participants in the program self-selected and chose to enroll in the program, meaning that the students that participated were predisposed to experiential learning and therefore that type of programming had greater effects. The sample size was also small. While the document analysis and the observations looked at the entirety of the programs in Central Falls and Cranston, the focus groups were only a small subset of the bigger populations. Indeed, the parent focus group in
Cranston was limited to two parents. Again, this makes it difficult to generalize findings, even as the triangulation helped to validate and verify the focus group conversations.

Finally, it is important to note what this study did not measure. It did not measure whether the effects of the summer program had an impact into the school year. It also did not measure other longer-term outcomes that cannot yet be measured. The study was only a description of two sites and concerns the outcomes of experiential service learning summer programming as an intervention in these two sites. This study is not asserting, nor did it measure whether all experiential learning programs are effective at reducing summer learning loss. Rather, it has stated that based on the results from these two cases, and the themes that emerged in the multiple case analysis, experiential learning was effective at these two sites and may be effective more broadly. However, to confirm that, more research is necessary.

**Suggestions for Future Research**

This case study research on two experiential summer programs provide an initial exploration into whether hands-on, experiential summer programming is effective at reducing or eliminating summer learning loss. There are many possibilities for future research that emerge from this study. First, quantitative research studies should be designed to confirm that experiential programming can have positive effects on academic, social and emotional, and 21st century skill development. This study employed a qualitative design because most research on summer programming is quantitative and qualitative research represented a gap in the research on summer learning loss and effective strategies to combat the loss. However, moving forward, the best way to confirm the findings and generalize them to a greater number of programs would be to conduct a quantitative analysis.
A second area of research would be to study the longer-term effects of students that participated in the Bain Middle School and Calcutt Middle School summer programs. This can be both quantitative and qualitative and can compare grades and standardized test scores of those students that participated in the programs with students that did not participate in the programs. This can also provide a greater sense not only of the longer-term outcomes of the program, but whether or not the program produced better outcomes for students than if they did not participate in the program. Focus groups also can be reconvened with teachers, parents, and students to measure the perceived longer-term impacts of the programs.

Research should also be conducted on other models of experiential summer programming to determine whether experiential learning is effective more broadly at reducing summer learning loss. While the results suggest that it was the hands-on, experiential component that made this summer program effective, there is a chance that other factors were the reason. A study of other experiential designs could help to validate experiential learning as an effective intervention strategy during the summer months. Research should also be conducted to develop better quantitative measurement tools to measure 21st century skill development and social and emotional growth. It is clear that these areas were to of the major outcomes of the summer programs in Cranston and Central Falls, Rhode Island. To effectively argue their importance as outcomes, it is necessary to have valid and reliable measurement tools that measure the growth in these areas for students.

Finally, research should expand beyond summer programming to determine whether this co-taught model of experiential learning can be an effective strategy in classrooms during the school year. The data from this research suggests that the model is one that is successful in these summer programs. However, nothing in the model suggests that it would only be effective during
the summer months. It would not be difficult to devise a similar experiential curriculum during the school year to determine whether it can be effective as well. This study suggests that experiential learning is an effective intervention. If it is also a successful strategy during the school year it can also provide additional benefits and can begin to change the focus of current, core-subject focused instructional practices in schools.

**Conclusion**

While there are many reasons that there is an achievement gap between low-income students and their more affluent peers, one of the reasons involves the unequal access to programming during the summer that can keep students academically engaged. Without academic stimulation during the summer all students, regardless of income level, regress academically (Cooper et.al., 1996). However, for low-income students that regression is larger and in both mathematics and literacy. Many schools and communities have sought solutions to address this issue of summer learning loss. The research shows that summer programming is effective to varying degrees. However, research also indicates the factors that make programming effective, such as the inclusion of enrichment activities, a quality planning process, and at least 80 hours of instructional time. Various types of summer programming have been attempted across the country to address the phenomenon of summer learning loss. As Alexander, Entwisle, and Olson (2001) state in their faucet theory, programs attempt to keep academic resources flowing for students during the summer months so that the faucet of knowledge is not turned off.

This research focused on the question of whether experiential, service-learning focused summer programming could keep academic resources flowing for students during the summer months. Using faucet theory as the theoretical framework and service learning as the conceptual
framework, a case study design was utilized to study two experiential, service learning summer programs in Rhode Island. These programs had many similarities, and both were provided funding from the same public and private sources. Both expected to implement a curriculum that embedded academics into hands-on, experiential programming that included service learning as a core curriculum element. By analyzing the two middle school programs, the researcher explored themes across the programs that helped to answer the research question.

The data collected for this research included focus group interviews with teachers, parents, and students at each program site, as well as individual interviews with district administrators from both school districts. It also included the collection of documents from both programs such as lesson plans, student work, and curriculum documents. Observations were also conducted of each program throughout the six-week summer programs. The data was then triangulated and analyzed to determine the answer to the research question.

An analysis of the data suggests that experiential summer programming does indeed keep the faucet of knowledge flowing for students that participate. However, service learning was not a crucial element to program success because it was not implemented effectively. Additionally, this type of programming seemed to have benefits that went beyond gains in academic skills. Like other research on experiential learning suggests, students made gains in the development of 21st century skills such as problem solving, critical thinking, and collaboration, and also showed social and emotional growth. Finally, it was clear from the data that academics were embedded into the hands-on, experiential learning components with varying levels of success. Still, stakeholders in the programs believed that students made a broad array of academic, social and emotional, and 21st century skill development gains. Observations and an analysis of documents confirm this.
While this research is limited in its scope and generalizability, it does have implications for summer learning as well as experiential learning. First, it connects the two fields and suggests that experiential learning is an effective programmatic element for summer programming. It also suggests that service learning must be implemented with all of the critical elements that research suggests in order for it to be successful. More research is necessary to determine the extent to which experiential learning is effective as a summer learning strategy more broadly. That research should look at long-term outcomes for students that participate in this type of programming as well as research on other experiential learning programs to determine their effectiveness at reducing or eliminating summer learning loss. Quantitative studies should also be conducted to better understand the outcomes that students can have when engaging in hands-on, experiential summer programming.

This additional research is necessary, as it is critical to find additional solutions to the issue of summer learning loss. Researchers must better understand this phenomenon and practitioners must develop solutions to address it. Closing achievement gaps in the United States is critical for low-income children to be successful and to truly have an equal society. This study suggests that experiential summer programming may be one solution that can contribute to closing achievement gaps for low-income students, and researchers, policymakers, and practitioners must work together to better understand and implement this type of programming for children and youth.
References


Graham, A., McNamara, J., & van Lankveld, J. (2010). Closing the summer learning gap for vulnerable learners: An exploratory study of a summer literacy programme for


