

THE IMPACT OF SERVICE-LEARNING ON ENGAGEMENT  
AND DEGREE COMPLETION FOR UNDERGRADUATE  
STUDENTS

by

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B.A. (University of Southern California) 1997

M.A. (University of California, Berkeley) 2002

A dissertation

submitted in partial fulfillment of the requirements for the degree of

Doctorate in Education

Doctoral Program in Educational Leadership at Fresno State  
Kremen School of Education and Human Development

California State University, Fresno

2017

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May 2017  
Educational Leadership

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**Abstract**

In light of growing concerns over increasing the number of college graduates in the U.S., particularly among traditionally underrepresented student populations, this mixed methods study evaluated the impact of service-learning on institutional engagement and graduation rates. The study focused on the impact of service-learning experiences on students with low socio-economic status (SES) or those who identify as members of traditionally underrepresented minority (URM) populations. The intent was to develop a better understanding of how engagement indicators are influenced by service-learning in order to help practitioners design service-learning courses that maximize the experiences that contribute to student success. Quantitative methods were used to evaluate if participation in service-learning is predictive of degree attainment, and to identify the differences in engagement indicators from the National Survey of Student Engagement (NSSE), among students who participated in service-learning compared to those who did not. Qualitative methods were used to deepen the understanding of how service-learning impacts engagement and graduation rates for SES and URM undergraduate students. Interviews were conducted with students at senior status who participated in service-learning, and focus groups were held with recent alumni about the factors that contributed to their institutional engagement and

degree attainment. The quantitative results found that service-learning is significantly associated with graduation rate, and that students in service-learning courses reported enhanced academic challenge through collaborative learning. Qualitative findings revealed that service-learning experiences supported an improved campus environment for students through quality interactions with other students, faculty, and individuals at their service-learning site. The study confirmed previous research indicating that service-learning is an effective high-impact practice that promotes improved outcomes for undergraduate students.

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## ACKNOWLEDGMENTS

Reflecting back on the process of writing this dissertation, I am overwhelmed by the many individuals who so graciously gave their time, knowledge, guidance, encouragement, and humor. My deepest and most heartfelt thanks go out to all of those who stood by my side through the many ups and downs of this undertaking. My success is directly attributed to the team of people who supported me through the process. It takes a village to write a dissertation, and I was blessed to have been surrounded by the very best.

My first acknowledgement must go to my chair, Dr. James Mullooly, for his incomparable encouragement and support. I came to him more than a year ago with a loose assortment of interests and ideas, and he played a vital role in transforming those disparate thoughts into a coherent and hopefully valuable addition to the field of research on service-learning and degree attainment. He challenged me to think deeper and more broadly about the complex issues tied to student success, all the while maintaining his trademark humor. I am so thankful to have had the opportunity to work by Dr. Mullooly's side.

My deepest gratitude also extends to my other committee members, Provost Lynnette Zelezny and Dr. Steven Hart. I asked the Provost to sit on my committee because of my deep admiration of her as a professional and her demonstrated commitment to student success. Indeed, her brilliant mind and deep dedication to students, particularly those from underrepresented populations, was vital in shaping the direction of my research. She pushed me to take on challenges and step outside of my comfort zone, for which I am so appreciative. I was also deeply

fortunate to have Dr. Hart, one of the leading minds in service-learning, as a part of my committee. His extensive knowledge on service-learning, and willingness to share of his wisdom, resources and time, played a critical role in my success. I will be forever grateful to them both.

A number of people outside of my committee also directly contributed to this process. Dr. Susan Tracz spent hours helping me navigate my quantitative analysis, patiently answering questions, offering insight, and pushing me in the right direction. Dr. Matthew Zivot with the Office of Institutional Effectiveness went to extraordinary lengths to assist not only with the datasets, but also with the interpretation of the findings. His help, knowledge, and friendship were an expected gift for which I am profoundly grateful. And Chris Fiorentino with the Jan and Bud Richter Center for Community Engagement was there in support of this project from day one. Along the way he provided the resources, information, and contacts that made this research possible.

I would be remiss in not also acknowledging the members of Cohort 8. Going into this program I could not have anticipated what a pivotal role they would play in my growth, and in supporting me through this journey. I cannot think of a better group of individuals with whom to have traveled this road. It was truly a master stroke of luck to have landed in this cohort of extraordinary men and women.

There are simply too many people who have supported me along the way to mention by name, but to my friends and family, I adore you all. But I must offer a special acknowledgement to my dad. While he is no longer with us in the flesh, his

love of me is alive and well in my heart. As I write these words, I can hear him clear as a bell, whispering in my ear, “I love you more. Now go give ‘em hell!”

And finally, but most importantly, my deepest gratitude goes to my husband Carey and step-daughter Sydney. When you two entered my life, you created a foundation from which I have achieved things I never thought possible. You have been there every step of the way with hugs when I’m sad, food when I’m hungry, support when I’m discouraged and laughter when I’m cranky. You fill my life with immeasurable joy. Thank you for your patience, kindness, and unwavering support. I would not be here if it were not for you. There are simply no words for how much I love you both.

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## CHAPTER 1: INTRODUCTION

### **Purpose of the Study**

In light of growing concerns over increasing the number of college graduates in the U.S., the body of research on higher education degree attainment must continue to evaluate the effectiveness of current pedagogical practices thought to help students reach graduation. The intent of this research was to examine the effectiveness of one practice that in recent years has become widely adopted by higher education institutions as an instrument to improve student engagement and thus contribute to graduation rates: service-learning. The goals were first to evaluate the impact of service-learning on institutional engagement, and then to investigate how the engagement that occurs through service-learning contributes to improved graduation rates. Research into service-learning as a tool to improve graduation rates is relatively scarce. As such, this study will contribute to the nascent field of inquiry, while also taking a somewhat different methodological approach in the hopes of identifying new insights.

Decades of research into the factors that predict which students will stay in school and reach graduation have revealed two primary sets of predictors. The first is “student characteristics” such as race, socio-economic background, first-generation status, gender, SAT scores and high school grades (Arredondo & Knight, 2005; Astin, 2006) followed by “institutional engagement,” defined as the extent to which students are connected to the university through project work, activities, group memberships, and active learning experiences (Bringle, Hatcher, & Muthiah, 2010; Pascarella & Terenzini, 1991, 2005, Tinto, 1993, 2003).

The implementation of programs and practices to increase student engagement as a means to improve retention and graduation is a growing area of

interest at higher education institutions across the United States (Astin, 2006). The practice is of particular concern at public colleges and universities that serve traditionally under-represented student populations statistically less likely to be successful in college (Arredondo & Knight, 2005; Astin, 2006). As an act of leveling the playing field for students of all backgrounds, many schools are actively implementing “High Impact Practices,” a series of educational programs recommended by the American Association of Colleges and Universities (AACU) that are shown to increase student engagement and retention (Kuh, 2008; Robinson, 2007). Service-learning was identified as one of those practices (Kuh, 2008) and subsequently has seen wide-spread adoption throughout higher education.

Service-learning is a pedagogical technique in which service projects are integrated into the academic curriculum with the goals of deepening student engagement, reinforcing learning, and addressing community needs (Eyler & Giles, 1999; Furco, 1996; Stanton, Giles, & Cruz, 1999; Strage, 2000). Service-learning is a broad term used to encompass a variety of learning experiences that could range from working in a homeless shelter, to writing environmental policy, to conducting research for a non-profit agency (Furco, 1996). While there is no set definition for what does or does not constitute service-learning, it is widely described as a method through which students learn course materials through participation in organized service experiences, designed to meet the needs of a community (Butin, 2010b; Eyler & Giles, 1999; Furco, 1996). These experiences must be closely tied to the academic curriculum, and provide structured reflection on the experience (Butin, 2010b; Eyler & Giles, 1999; Furco, 1996; Giles & Eyler, 1994; Pollack, 1999; Zlotkowski, 1996).

This research study explored how service-learning, a practice that emerged in response to the civic unrest of 1960s America (Kenny & Gallagher, 2002), came to be recognized as a mechanism to support the psychological processes that influence student success in higher education and in the workforce (Bean & Eaton, 2002). Research into the factors that contribute to student success, led by scholars including Vincent Tinto and others, identified student engagement with the institution as an important predictor of retention and graduation (Braxton, Sullivan, & Johnson, 1997; Tinto, 1993, 2003). As the study of engagement, retention and graduation evolved, service-learning was identified as a practice that encourages strong social interactions through collaborative learning, which thus helps students develop higher order thinking, an enhanced sense of control over their own success, and stronger connections to the institution and community (Bean & Eaton, 2002). This chapter will explore the context in which service-learning became a best-practice in higher education to support student success.

### **Background**

In the later part of the 20<sup>th</sup> Century, a conversation emerged among higher education leaders around how colleges and universities should evaluate the quality of a student's experience (Kuh, 2001b). Rankings from such publications as *U.S. News and World Report* were critiqued for valuing institutional resources, exclusivity, and reputation, while paying scarce attention to how well an institution succeeds in the actual work of educating students (Kuh, 2001b). The year 1990 also marked the passage of the *Student Right-to-Know and Campus Security Act*, which obligates all U.S. higher education institutions to make public their 6-year graduation rates. This legislation was enacted in part to make higher education more accountable to the public by disclosing data that reflects upon institutional quality or performance (Astin, 2006).

In response to growing public pressure for better measures of higher educational quality, a new era of research on education practices was led by a number of scholars including Alexander Astin, Arthur Chickering and Nevitt Sanford (Kuh, 2001a). In 1987, the formative work, *Seven Principles for Good Practice in Undergraduate Education*, used engagement and retention research to develop the following recommended guidelines to support improved student learning: “1) encourage contact between students and faculty; 2) develop reciprocity and cooperation among students; 3) encourage active learning; 4) give prompt feedback; 5) emphasize time on task; 6) communicate high expectations; and 7) respect diverse talents and ways of learning” (Chickering & Gameson, 1987, p. 2).

This work was followed by the 1991 publication of *How College Affects Students*, a synthesis of research on higher education outcomes dating back to 1967 (Pascarella & Terenzini, 1991). Of the recommendations that emerged from this meta-analysis, the authors concluded that extracurricular involvement, internships, and group-learning experiences positively impact the development of career-related skills. The study found that the activities and experiences students have in college are a greater influence on career success than the institution students attend, and that student-faculty interaction strongly influences student career paths (Pascarella & Terenzini, 1991).

Astin (1993), an important voice in student success research, conducted a study of nearly 25,000 freshmen, which revealed that the college experience helps students develop improved interpersonal and intellectual competency, as well as a deepened commitment to cultivating a meaningful philosophy of life. Another investigation into the effectiveness of learning was the *Making Quality Count in Undergraduate Education* report by the Education Commission of the States

(1995). This mixed-methods study found that quality curriculum is built upon coherent learning practices that offer an ongoing, synthesized, and integrated educational experience. Additionally, that report found that quality instruction includes active learning experiences, responsive feedback, time on task, collaboration, and contact with faculty outside of the classroom (Education Commission of the States, 1995).

Grounded in this research, George Kuh introduced the “National Survey of Student Engagement (NSSE) (Kuh, 2001a). This instrument varied from other measures of institutional effectiveness in a number of important ways. First, it did not directly assess student-learning outcomes like GPA, retention, or graduation rates. Rather, NSSE asks students to self-report on their experiences related to engagement, which research has shown contribute to improved outcomes (Kuh, 2001b). The NSSE survey also varies from other university assessment instruments in how it is administered. The Indiana University Center for Survey Research, an independent third-party, administers the survey directly to first-year and senior students enrolled at 4-year colleges and universities. The survey results are reported annually to audiences inside and outside academia in the hope of connecting educational practice with institutional quality (Kuh, 2001a). Multiple years of NSSE results from hundreds of colleges and universities across the nation, in conjunction with decades of educational research, contributed to the development of a series of practices found to positively influence learning outcomes from students from a variety of backgrounds (Kuh, 2008).

In 2007, AACU introduced the concept of “High Impact Practices” as part of its publication, *College Learning for the New Global Century*. That report addressed the kind of learning experiences that best support student success, both during college and in the workforce. A key recommendation from that report was

a series of researched-based activities colleges and universities could implement to improve student engagement and retention (Association of American Colleges and Universities, 2007; Kuh, 2008). High-impact practices were also singled out for their ability to assist students from a variety of backgrounds. Research indicates that these practices are the most beneficial for students who identify as members of under-represented minority groups, or who had lower standardized test scores coming into college relative to other students (Association of American Colleges and Universities, 2007; Brownell & Swamer, 2010). Vincent Tinto (1975), a leading voice in student retention research, posited that the effects of high-impact practices are profound. Students are more likely to form self-supporting peer groups and spend time together outside of class, are more active in the learning process in class, develop a deeper understanding of course content and are more likely to advance toward degree attainment (Tinto, 2003).

The recommended practices include: first-year seminars; learning communities; shared intellectual experiences; writing-intensive coursework; collaborative projects; undergraduate research; internships; global learning; capstone courses/projects; and finally, service-learning – a practice identified for its ability to support critical thinking, civic knowledge, engagement with “big questions,” intercultural competency, and integrated learning (Association of American Colleges and Universities, 2007). The report defined service-learning as educational experiences that employ field-based experiential learning in conjunction with community partners as part of the curriculum. These courses are constructed with the goal to help students directly engage with real-life issues and problems facing a community in order to grow as citizens (Association of American Colleges and Universities, 2007).

Service-learning was singled out by Bean and Eaton (2002), who expanded Tinto's work on retention by considering engagement as an outcome of a psychological process. They asserted that students enter college with psychological attributes based on past experiences. Students then will engage with individuals both inside and outside of the institution, a process resulting in a series of self-assessments that lead either to engagement or dis-engagement with the university (Bean & Eaton, 2002; Demetriou & Schmitz-Sciborski, 2011). Considering that social interactions are at the very heart of service-learning, the practice is widely believed to help students develop higher-order thinking, improved problem-solving skills, and better stress management (Eyler & Giles, 1999; Eyler, Giles, Stenson, & Gray, 2001; Stanton et al., 1999). Additionally, Bean and Eaton contended that service-learning helps students cultivate a sense of ownership for the communities in which they engage. This process can help students develop a more internal locus of control, or belief that they have control over their own successes (Bean & Eaton, 2002). This concept has been further developed by social psychologist Carol Dweck (2006), who referred to an internal locus of control as a growth mindset or the belief that intelligence is a malleable quality that can grow in response to situations or environments.

While the work of modern psychologists and educational researchers draws close a relationship between service-learning experiences and enhanced student outcomes, it is important to note that the practice was not developed as a vehicle to improve student success. The roots of service-learning extend back to the central debate over what is the role of a university within a society (Pollack, 1999; Stanton et al., 1999). As far back as the 12<sup>th</sup> Century when the medieval university first emerged, so did the conflict between whether it is the goal of the university to advance objective truth through research and study (*veritas*), or to support

character development through engagement with the larger community (pietas) (Malley, 2000). Within the context of this struggle, this study explores how service-learning developed first as a way to integrate scholarship with the real-world in the hopes of developing more engaged citizens, but ultimately became identified as a tool to enhance learning outcomes that support the fundamental objective to improve graduation rates.

### **Context of the Study**

During the Great Recession of the late 2000s and early 2010s, four out of five jobs lost were those that required a high school education or less (Lumina Foundation, n.d.), highlighting the symbiotic relationship between a college degree and economic stability. Early in the Obama presidency, college degree attainment was identified as a critical component of the administration's plans to stimulate the economy, bolster the middle class and pull the nation out of the Great Recession. In 2009, President Obama announced at a joint session of Congress an economic recovery plan that included the goal to dramatically increase college graduation rates as a "prescription for economic decline." Obama called on America to have the world's highest proportion of college graduates by 2020 (Obama, 2009), a goal that would require the U.S. to raise the percentage of citizens with a college degree from 41% in 2010 to almost 60% by 2020.

This goal has proven to be an ambitious but ultimately unachievable target. Yet the calls to improve the nation's college graduation rates continue. The Lumina Foundation, the country's largest private foundation focused on higher education, has set a goal to increase the percentage of Americans with a college degree to 60% by the year 2025 (Lumina Foundation, n.d.). To put that goal in context, it is estimated that California must graduate a million more individuals with certificates or degrees than it currently has capacity to accommodate by 2025,

shining a light on the need to dramatically improve graduation rates. Since their founding in 2000, they have issued grants surpassing \$250 million toward achieving that goal (Lumina Foundation, n.d.). In 2008 the College Board has also set a similar target, calling for 55% of U.S. citizens ages 25-34 to hold an associate's degree or higher by 2025 (Hughes, 2012).

In order to achieve these benchmarks, U.S. higher education institutions are under pressure to dramatically improve the college completion rates.

Compounding the urgency of the issue, employers now report that by 2020, two-thirds of all jobs will require a college degree (Lumina Foundation, n.d.). Meeting the nation's higher educational demands will require near perfect college completion rates, a particularly daunting challenge considering that historically the national undergraduate graduation rate has hovered round 50% (Demetriou & Schmitz-Sciborski, 2011).

Current statistics suggest that while persistence and graduation rates are an ongoing concern for higher education institutions, improvement is taking place. Among first-time, full-time undergraduates who started their college experience in fall 2008 at a four-year-degree-granting institution, 60% earned bachelor's degrees by 2014 (National Center for Educational Statistics, 2016). It is also important that the likelihood of college completion varies dramatically among institutional types, with open-access universities falling far behind their more prestigious counterparts. For example, at highly-selective universities with acceptance rates under 25%, the 6-year graduation rate was at 89%. That figure drops to 35% for 4-year universities with open enrollment policies (National Center for Educational Statistics, 2016).

### **Significance of the Study**

As colleges and universities expand the implementation of high-impact practices service-learning as an instrument to improve engagement, persistence, and graduation, it is imperative that institutions go beyond asking if the practice is effective. Empirical research must also evaluate how it is effective. This study contributes to the small but growing body of research on the relationship between service-learning, institutional engagement, and graduation rates. Additionally, this study explored the type of engagement generated in a service-learning course compared to traditional courses. Cultivating a richer understanding of the manner in which service-learning affects engagement and graduation will have concrete significance for practitioners. A better understanding of how the engagement indicators are influenced by service-learning could help practitioners design service-learning experiences that maximize the kind of engagement that contributes to student success.

### **Research Questions**

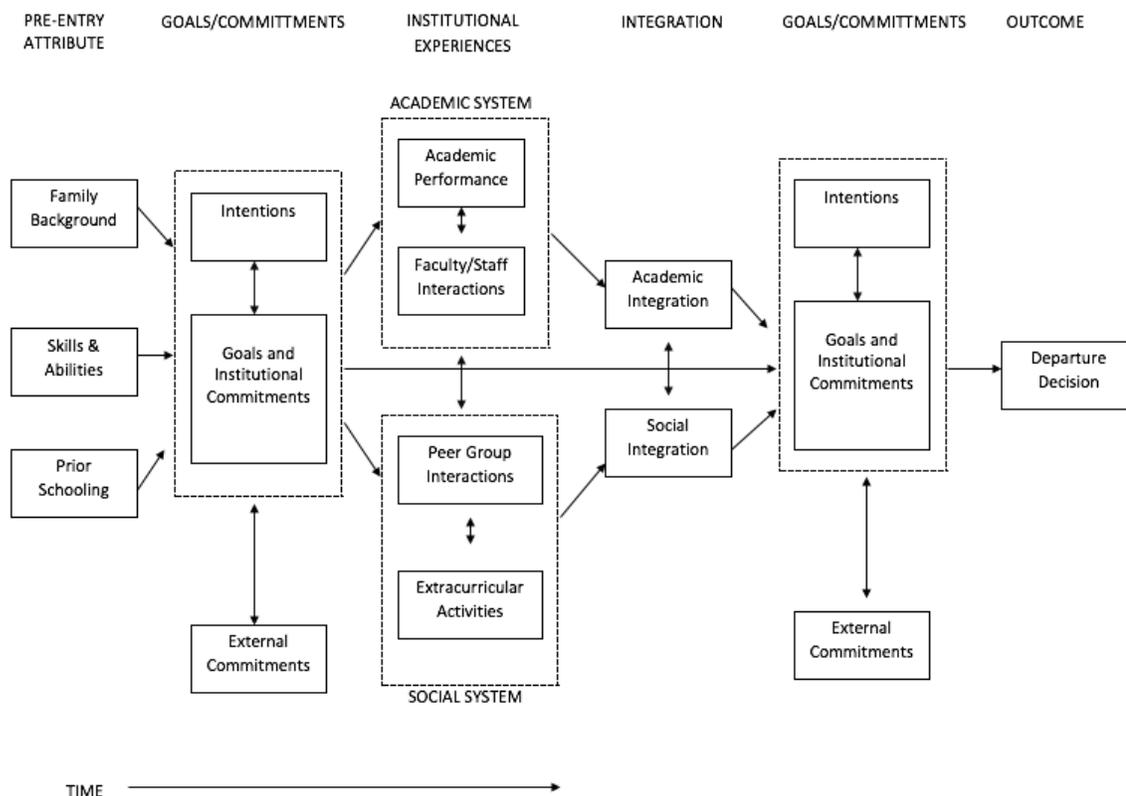
The research questions for this study were as follows:

1. Is participation in a service-learning course predictive of graduation for undergraduate students from low SES or who identify as URM?
2. Is there a difference in engagement indicators among low SES and URM undergraduate seniors who participated in service-learning and those who did not?
3. Do student engagement indicators and service-learning play a significant role in graduation outcome for low SES and URM undergraduate students?
4. What factors contribute to the decision to participate in service-learning for low SES and URM undergraduate students?

## **Theoretical Framework**

The modern era of college retention theory was born out of the work of William Spady, who in the early 1970s adopted a theory developed by Emile Durkheim that viewed suicide as an act of social withdrawal to college dropouts (Bean & Eaton, 2002; Demetriou & Schmitz-Sciborski, 2011). Reasoning that the same principle could be used to understand why students drop out of school, Spady linked this model to multiple variables in a longitudinal model (Demetriou & Schmitz-Sciborski, 2011). His scholarship contributed to Tinto's landmark work on how social and academic integration related to student retention (Demetriou & Schmitz-Sciborski, 2011).

In 1975, Tinto broadened thinking on why undergraduates drop out by acknowledging the issue's complexity and the many factors that contribute to individual attrition. He developed a theory that mapped the interaction between students and individuals that can lead to a student's decision to drop out. Tinto (1975) identified four conditions for student retention: 1) institutional commitment; 2) academic and social supports; 3) academic and social integration; and 4) learning. Tinto (1975) held that the active involvement of students with faculty and peers in the learning experience is key, but can be a challenge, particularly for students who do not live on campus, have familial obligations or who are working. Given that the classroom is often a student's primary (or in some cases sole) place of connection with the university, traditional lecture-style instruction – viewed by some as isolating and passive – could contribute to conditions that may lead a student to dropout (Tinto, 2003). This conceptual model is displayed in Figure 1.



*Figure 1.* Tinto's model of student attrition.

Adapted from "Dropouts from higher education: A theoretical synthesis of recent literature," by V. Tinto, 1975, *A Review of Educational Research*, 45, p. 114.

The model starts by acknowledging the attributes of the student prior to enrolling in college, including but not limited to family/community background, personal attributes (e.g. gender, race, physical ability), cognitive abilities, social skills, socio-economic status, motivation, and prior academic performance (Tinto, 1993, 2003). These attributes contribute to the establishment of academic objectives and the degree to which students commit to achieving their goals.

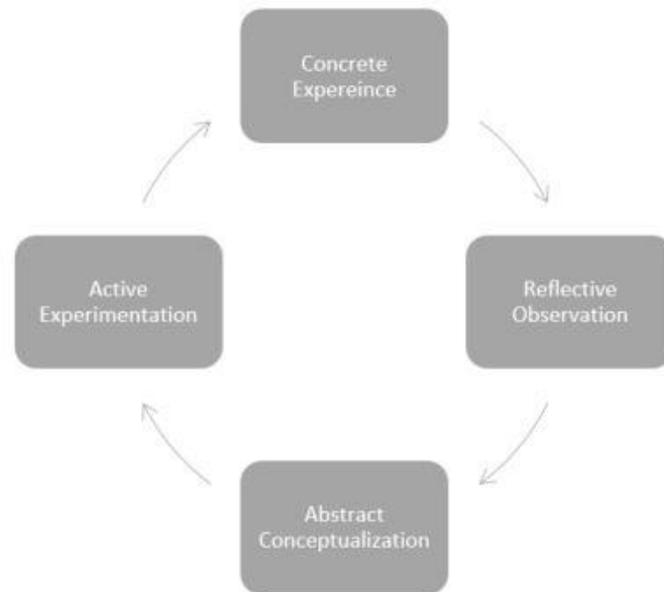
The model then contends that experiences within the college or university, particularly as they pertain to peer-to-peer and student-to-faculty relationships, influence retention (Tinto, 1993, 2003). Positive interactions with members of the campus community contribute to persistence, but isolation or negative interaction increases the likelihood of departure (Tinto, 1993, 2003). Of all the potential

forms of contact, the relationship between students and faculty, particularly outside of the classroom, appears to be especially beneficial (Pascarella & Terenzini, 1991, 2005, Tinto, 1993, 2003). The extent to which these factors serve to integrate the individual student academically and socially will determine the ultimate commitment to the stated goal, and thus affect the decision to exit or persist (Tinto, 1993, 2003).

Tinto's model for persistence has become seminal in the study of higher education retention, but the theory is not without its critics (Metz, 2004). Nearly two decades ago, Nora found that campus-based financial aid, a factor not included in the Tinto model, significantly contributed to the retention of Hispanic students at two-year institutions (Nora, 1990). This finding pointed to another limitation in Tinto's theory that is a byproduct of its focus on 4-year undergraduate students. Future studies called for more retention research focused specifically on community college and graduate students (Metz, 2004; Nora, 1990). Tierney (1992) furthered the criticism, pointing out that Tinto failed to account for the unique circumstances facing students who are of non-traditional ages or who are members of a URM. The critique holds that departure is not "value-neutral" as Tinto suggests, but rather a function of the unique interplay of personal experiences that take place both during and before college (Tierney, 1992). Tinto revised his model to include the influence of external commitments, as well as the relational interplay of the factors contributing to persistence over time (Tinto, 1993), but there continues to be debate over how to best operationalize the theory (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Service-learning has emerged as a practice that may provide an avenue to institutionalize the experiences Tinto associates with persistence and retention (Kuh, 2001a).

Service-learning is built upon the idea that subjective experience plays an important role in how individuals learn, develop, and grow (Giles & Eyler, 1994). Grounded in the theoretical work of learning theorists, including Dewey, Levin, Vygotsk, and Piaget, the concept was refined by American scholar David Kolb (1984) who described experiential learning as a practice whereby knowledge is created through experience. This definition of knowledge creation is, according to Kolb, the byproduct of what he calls grasping and transforming experiences (Kolb, 1984). The manners of grasping experience are identified as either Concrete Experience (CE) or Abstract Conceptualization (AC), while transforming experience is done through Reflective Observation (RO) and Active Experimentation (AE) (Kolb, 1984, 2015). The process of experiential learning takes place as the learner cycles through all four modes in response to what they are experiencing (Kolb & Kolb, 2005; Kolb, 1984). The process is presented in Figure 2.

Experiential learning is a rejection of the “banking theory,” whereby students are containers that hold the knowledge that teachers deposit in them (Freire, 1968). Instead, experiential learning invites the student to function as a co-facilitator in the learning process in the hopes of creating a more impactful educational experience and facilitating personal growth (Butin, 2010b; Eyler & Giles, 1999; Giles & Eyler, 1994). In practice, the adoption of experiential learning theory requires a reimaging of the traditional academic experience, especially in higher education settings that have traditionally been reliant on lecture-style teaching. As described by Chickering (1977), experiential learning can be highly disruptive to the academe, challenging both the mode and the objective of education.



*Figure 2.* Kolb's cycle of learning

Adapted from Kolb, 1984, "Experiential learning: experience as the source of learning and development." New Jersey, NJ: Prentice-Hall p. 21.

Chickering (1977) wrote that the goal of higher education should reach beyond the development of verbal and academic skills to also include the cultivation of citizenship and moral development. In order to accomplish this new understanding of the role of colleges and universities, institutions must reimagine its core structures and processes. Chickering's vision is one in which universities work as partners with businesses, museums, organizations, government agencies, and other community institutions to give students exposure to broad experiences designed to support their learning and personal growth (Chickering, 1977).

Many scholars contend that service-learning is emblematic of the best practices exulted in experiential learning (Butin, 2010b; Furco, 1996; Giles & Eyler, 1994). Service-learning places theories and concepts introduced in the classroom into the real world, asking students to both apply their learning in an

active way, but also to reflect upon the experience (Furco, 1996). Positioned as “scholarship of engagement,” service-learning has experienced an explosive growth in higher education over the past two decades (Butin, 2006). Campus Compact, a national partnership of higher education institutions committed to civic engagement through service-learning, has expanded rapidly since its founding in 1985. Today the organization boasts nearly 1,100 member colleges and universities, representing more than 25% of the nation’s higher education intuitions (Campus Compact, n.d.). The practice has been further legitimized by its growing acceptance as a field of study, with more than 30 universities offering majors, minors, or certificates in service-learning or community engagement (Butin, 2010a). Service-learning courses have also become general education requirements at schools such as California State University Los Angeles, California State University Monterey Bay, Tulane and University of San Francisco.

### **Summary**

As service-learning becomes increasingly common on college campuses, the field of research on the practice must broaden and diversify. According to Butin (2006), “the question today is no longer if service-learning is to become a part of the academy so much as how it is already becoming a part of it and the resulting implications” (p. 479). To date, much of the focus of service-learning research has centered on personal outcomes, social outcomes, and character development (Eyler et al., 2001). Service-learning and academic outcomes are emerging areas of research, (Eyler et al., 2001), that are particularly relevant in light of service-learning’s identification as a high impact practice believed to improve engagement, persistence, and completion.

According to Kuh (2008), it is not enough to merely offer high-impact practices to students, the experiences must be done well. While much of the research to date on service-learning has focused on *if* the practice is beneficial, this study seeks to investigate the specific reasons that explain *how* it successfully keeps students on track to graduate. This study will contribute to the body of research on service-learning and student success, exploring how service learning modulates for the effect of engagement on graduation rates for undergraduate students. The intent of this study is to develop a more nuanced understanding of how service-learning affects student engagement and contributes to 6-year graduation rates.

## CHAPTER 2: REVIEW OF THE LITERATURE

This chapter will explore why college completion has become a critical focus in higher education and then investigate how service-learning came to be associated with efforts to improve engagement and graduation rates. This will require an examination of the history of the service-learning movement in higher education. Next, the chapter will trace how the concept's goals have evolved over time from character development, to social justice, and finally to more academic objectives focused on student success. A firm grounding in the evolution of service-learning is necessary to appreciate the widespread adoption of the practice in the last two decades, as well as the changing expectations of what service-learning is intended to accomplish. This study seeks to contribute to the evolving field of research on service-learning as an instrument to support the ultimate measure of student success: degree attainment.

### **Service-Learning's Origins and Evolution**

#### **Higher Education and Civic Engagement**

American colleges and universities were established with public purpose as a central tenant of their mission (Kenny & Gallagher, 2002). In the early years of American higher education, theorists such as Alexis de Tocqueville provided a philosophical framework for positioning secondary education into the broader context of the community (Tocqueville, 2012). He argued that in a healthy democracy, the individual quest for advancement must be balanced by civic engagement (Tocqueville, 2012). He wrote in the second volume of his 1840 publication, *Democracy in America*, that people have an obligation to help others for the mutual benefit of society as a whole. This duty, he argued, is not inherent

to human nature, but should be viewed as compulsory because of its value to sustaining a healthy and functioning society (Tocqueville, 2012).

A national commitment to connect higher education with public interests was demonstrated legislatively through the passage of the Morrill Act of 1862, establishing the land grant university system, which valued academic excellence and the application of academics to serve the practical needs of the community and nation (Kenny & Gallagher, 2002; Stanton et al., 1999). Nearly a century after Tocqueville, Dewey made a similar case for the importance of developing healthy citizenship by individual learning through interaction with others (Dewey, 1916). The theoretical origins of service-learning are rooted firmly in the work of Dewey, who contended that experiential learning supports academic growth and personal development (Dewey, 1938). Dewey (1938) argued that the best way to prepare students to contribute to society was through experiential or project-based learning opportunities that include opportunities for reflection and discussion.

Experiential education as articulated by Dewey and further developed by theorists such as Freire (1970), Kolb (1984), and Schon (1983, 1987) provided the pedagogical foundation upon which service-learning was established by a handful of educators in response to the civic unrest of 1960's America (Stanton et al., 1999). The volatile political climate of the era caused some leaders in higher education to examine the responsibility of the academy to society as a whole (Pollack, 1999). Two seminal works on higher education further advanced this discussion. Nevitt Sanford wrote, in *The American College*, that a university should value students as individuals, not just cognitive learners. He contends that linking curriculum to social responsibility is a mechanism to recognize the complex lives of faculty and students, and ultimately to improve educational outcomes (Sanford, 1962). In the influential book *The Emergence of the American*

*University*, Laurence Veysey (1965) explored the conflicting points of view on the mission of higher education between the advancement of academic interests versus the development of better citizens. The tension, he argued, is rooted in diverging options about what it means to be successful as an institute of higher education. His suggestion to resolve this conflict included the identification of public service as one of three academic objectives of the modern postsecondary institution (Veysey, 1965).

### **Origins of Service-Learning**

The term service-learning is thought to have emerged in 1967 to describe an internship program that offered students either academic credit or compensation for participating in community service projects (Sigmon, 1979). The practice was built upon three principles developed by Sigmon that for decades have been widely cited in service-learning planning, development, and research: 1) services provided are determined by the individuals being served; 2) the community should become better equipped to address its own needs as a result of the service experience; and 3) the students, staff and educators involved should have control over what is being learned (Sigmon, 1979).

Fueled by the social activism of the 1960s and 1970s, service-learning origins were firmly rooted in social justice objectives to address power inequities in society and encourage student civic engagement (Porfilio & Heather, 2011). But as cultural and social values shifted over time, student interest in community engagement went on the decline. The American Council on Education (ACE) Cooperative Institutional Research Program (CIPR) conducted a national longitudinal study of first-time freshmen, which asked students to rate the importance of meaning in life against the importance of financial success (Astin, Parrott, Korn, & Sax, 1997). In the late 1960s, more than 80% cited meaning as

either “essential” or “very important,” while fewer than 45% of freshman listed financial success as an important value. By the late 1980s, these two values had flipped, with nearly 80% valuing financial success and fewer than half placing a high importance on meaning (Astin, et al., 1997).

A coalition of college and university presidents gathered to address criticisms that young people did not engage enough civically, and higher education was not responsive to the needs of the community (Kenny & Gallagher, 2002). In 1985 they established Campus Compact, an organization that supports campus-based community service projects (Eyler & Giles, 1999; Kenny & Gallagher, 2002). Starting with just three founding institutions, by 2008 Campus Compact grew to include 1,100 campuses, which represented more than one quarter of the nations’ colleges and universities (Butin, 2010b).

The 1990s brought a renewed interest in using higher education as an instrument to develop engaged citizens (Hollander, Saltmarsh, & Zlotkowski, 2002), fueling an expansive growth in service-learning initiatives fund largely through federal grants. President George H. Bush established the White House Office of National Service in 1989, followed a year later with the passage of the National and Community Service Trust Act, which created the Commission on National and Community Service. When the Higher Education Act was reauthorized in 1992, a stipulation was added requiring that 5% of work-study funds be allocated toward students performing community service (M. Kenny & Gallagher, 2002). President Clinton campaigned on a promise to further expand national service initiatives (Kenny & Gallagher, 2002). After taking office, Clinton established the Corporation for National Service, which operates AmeriCorps, the National Senior Services Corp, and Learn and Serve America, a national initiative to support service learning (Kenny & Gallagher, 2002).

The National Service's Learn and Serve Higher Education (LASHE) program issued grants to help colleges and universities integrate service learning into the curriculum (Eyler & Giles, 1999). A Rand evaluation from 1995 to 1997 found that the 458 institutions that received LASHE grants developed approximately 3,000 service-learning courses over a 3-year period (Eyler & Giles, 1999). Learn and Serve America continues to support and fund service-learning in K-12 and higher education institutions. The organization reports that currently 35 states have adopted service-learning policies, and the practice can be found in more than half of the nation's community colleges and more than a quarter its colleges and universities (Corporation for National and Community Service, 2006).

The rise of service-learning in the 1990s and 2000s coincided with scholarship that made cognitive arguments supporting the theories put forth by experiential learning proponents like Dewey, Lewin, Piaget, and Kolb. Service-learning, along with other activities such as internships, laboratory studies, action research, project-based learning, work/study experiences, and field work, were identified as tools to help students translate concepts into realities (Kolb, 2015). Within this school of thought, the focus of education should be on output, or what students learn, rather than input, or how students learn (Kolb, 2015). Educational setting also emerges as an important part of the learning process. Schon (1995) argued that decontextualized instruction does not support deep learning, but integrated scholarship rooted in reflective practice enhances learning experiences by providing a context in which students can apply and integrate new ideas.

Another important strategy utilized by service-learning proponents was to focus on the practice's academic outcomes and educate faculty on the academic legitimacy of the practice (Zlotkowski, 1996). The argument was not to distance

service-learning from its social justice origins, but rather to adopt a broader view of the value it offers to the learning experience. While serving as the head of the Carnegie Foundation for the Advancement of Teaching, Ernest Boyer, former chancellor of the State University of New York and U.S. Commissioner of Education, published a 1994 opinion piece in the *Chronicle of Higher Education* that articulated the evolving understanding of how service-learning should integrate into higher education. He described the "New American College" as an institution that prioritizes its role educating undergraduates over its function supporting research. He calls on universities to institute cross-disciplinary departments organized around the social issues of the day. In this model, he argues that undergraduates should engage in field-research and project-based learning that is rooted in the community. The goal of higher-education, he states, is to provide faculty and students with experiences intentionally designed to improve the human condition (Boyer, 1994).

The framing of service-learning to address the interests of both supporting curriculum *and* enhancing moral development allowed the practice to flourish (Zlotkowski, 1996). Campus Compact reports that over the last 5 years its membership has grown by an average of 70 campuses per year (Campus Compact, n.d.). Service-learning was further legitimized as an instrument to support student learning and engagement in 2007 when the American Association of Colleges and Universities released a report identifying it as a "high-impact" practice (Association of American Colleges and Universities, 2007).

### **Engagement, Retention, and Graduation**

The study of college retention in the U.S. dates back to the 1930s when the U.S. Department of Interior gathered data on demographics, engagement, and reasons for departure of students at 60 colleges and universities (Demetriou &

Schmitz-Sciborski, 2011). The effort was bolstered following World War II when interest in tracking student success rose after the GI Bill dramatically increased the number of students enrolling in college. The face of a “typical” American college student evolved in the 1960s with the passage of the Higher Education Act of 1965. By the end of that decade, retention was an issue widely evaluated at many campuses (Demetriou & Schmitz-Sciborski, 2011).

The theory of attrition developed by Tinto in 1975 and revised over the past 4 decades has played a pivotal role in scholarship surrounding persistence and graduation (Braxton et al., 1997; Tinto, 1975, 2003). While Tinto’s model is not without its detractors (Braxton, Jones, Hirschy, & Hartley, 2008), it has provided a solid framework from which to explore the complex interaction of factors that contribute to persistence and graduation. Persistence, Tinto argued, is contingent on the successful rite of passage in which a student separates from the groups and institutions they came from, transitions to their current institution, and ultimately incorporates the university’s values and norms (Tinto, 1993). Tinto (1975) described the process of integration as having academic (i.e., performing well in courses and accepting the institution’s academic norms), and social (i.e., interactions with peers and faculty) components. Research suggests that of the two forms of integration, the social component is a superior predictor of persistence (Braxton et al., 1997).

While persistence and degree completion are two distinct outcomes, they are undoubtedly connected. As such, for the purposes of this report, studies that measure both persistence and degree completion are included in acknowledgment of their symbiotic relationship. In considering what factors support improved graduation rates, research strongly indicates that likelihood to reach graduation is highly predicted by student characteristics (Arredondo & Knight, 2005; Astin,

2006); however, the extent to which students academically and socially engage with their universities can effectively offset the probability of dropping out (Tinto, 1975, 1993, 2003). In short, the research indicates that it is not who students are, but rather what they do while in college that makes the difference (Bringle et al., 2010; Pascarella & Terenzini, 1991, 2005; Tinto, 1993). Consequently, while student characteristics, including gender, race, socio-economic status, secondary school grades, admission test scores, and others are highly predictive of 4- and 6-year graduation rates, research suggests that other factors are in play that should be considered in evaluating institutional effectiveness in supporting student success (Arredondo & Knight, 2005; Astin, 2006).

In a review of the literature on persistence, the authors group studies into distinct categories: social networks; organizational perspectives; psychological perspectives; cultural perspectives; and economic perspectives (Kuh et al., 2006). The social network perspective holds that persistence is supported by the relationships students develop with peers, faculty, staff, community members, and family (Astin, 2006; Kuh, 2001a, 2008; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1993, 2003). Values and norms are also included in this category, with studies indicating that students are more likely to persist when they enter college with similar values as the institution (Berger & Milem, 1999). Organizational perspectives include how an institution's size, policies, selectivity, and faculty-staff ratios influence student performance (Kuh et al., 2006).

Personality traits such as self-efficacy, motivation and grit comprise the factors that influence persistence from a psychological perspective (Kuh et al., 2006). Students who possess certain traits are more successful overcoming the challenges of higher education, and those with an internal locus of control demonstrate confidence in their ability to navigate difficulties and challenges

(Bean & Eaton, 2002). The cultural perspective category explores the unique challenges that students from historically underrepresented populations face in developing institutional engagement (Kuh et al., 2006). Among the many questions explored in this area of research are whether students should be expected to conform to the prevailing culture, values and norms at an institution (Kuh et al., 2006). Finally, Kuh (2006) identified economic factors that influence persistence. This area of scholarship contends that when the perceived financial costs associated with staying in school or in activities that support persistence outweigh the return on investment, students are less likely to persist (Braxton, 2003).

Astin (2006) set out to contextualize degree completion rates by comparing “expected” rates based upon student characteristics against actual completion data. Using the Cooperative Institutional Research Program (CIRP), data were compiled from 262 institutions reporting on a combined 56,818 students who completed the CIRP entering Freshman Survey in 1994 and for whom retention data were available for the fall-winter of 2000-2001. Based on student characteristics, the correlation between expected rates and actual rates was .84. In light of this strong relationship, Astin (2006) recommended that colleges and universities look at their own actual versus projected graduation rates to determine how well the institution is doing relative to its population. If the findings show that students are not graduating at predicted rates, institutions can implement measures to increase engagement in order to close the gap (Astin, 2006).

Arredondo and Knight (2005) replicated Astin’s study at Chapman University. Looking at 356 freshmen who started in 1996, Arredondo and Knight (2005) found that gender, high school GPA, SAT scores, and ethnicity were more predictive of 4-year graduation rates than 6-year, but these characteristics only account for 32% to 35% of the variation in degree attainment. These findings

strengthen the argument that multiple variables contribute to college retention and graduation (Arredondo & Knight, 2005), raising the question of what institutions can do to improve the probability that students will successfully graduate. Research indicates that improving student engagement could be an effective way to address this issue (Bringle et al., 2010; Laird, Chen, & Kuh, 2008; Pascarella & Terenzini, 2005; Tinto, 1993).

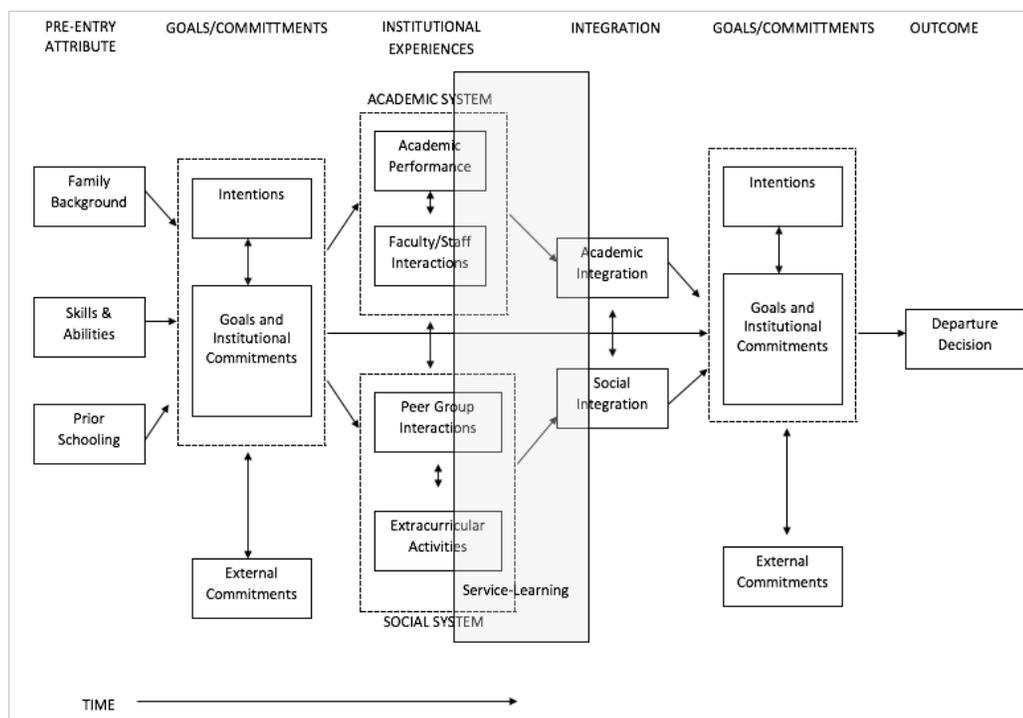
Laird, Chen and Kuh (2008) used information from the Integrated Postsecondary Education Data System to identify 174 universities in the U.S. that had higher-than-expected retention relative to their student population. They then took NSSE results from those institutions and compared them to 570 universities that reported expected graduation rates. The study found that student engagement in classroom-related activities was higher at the institutions with better-than-expected persistence rates (Laird et al., 2008).

In order to determine what specific practices were making a difference among the better-than-expected schools, indicators of engagement were standardized, and *t*-tests were used to compare the means for each group of institutions (Laird et al., 2008). Not surprisingly, the study revealed that the better-than-expected institutions reported higher levels of academic challenge, more active and collaborative learning practices, and supportive campus environments in which students reported quality relationships with other students, faculty, and staff (Laird et al., 2008).

### **Service-Learning and Engagement**

The role of service-learning on retention was explored by Bringle et al. (2010), who investigated how a service-learning experience fit into Tinto's theoretical framework. They posited that service-learning intersects with the

model by bridging the academic/social systems with their integration in a student's experience. Their adjusted model is displayed in Figure 3.



*Figure 3.* Conceptual model of Tinto's (1975) theory of attrition with adjustment to the social system and the addition of the intersection with service-learning. Reproduced from "The role of service-learning on the retention of first-year students to second year." R.G. Bringle, J.A. Hatcher, and R.N. Muthiah, 2010, *Michigan Journal of Community Service Learning*, 16(2), p. 41.

This model was included in the reported findings of a study of 805 freshmen from 11 universities in Indiana (Bringle et al., 2010). The researchers used pre-course and post-course questionnaires and re-enrollment data to compare intention to persist and retention rates. The study found a positive correlation between taking a service-learning course and re-enrollment the following year ( $\eta^2 = .083$ ,  $p < .05$ , chi-square (1) = 4.94,  $p < .05$ ). Intention to stay at the college was also related to participating in a service-learning experience  $r(733) = .17$ ,  $p < .01$ , when mediated by the quality of the course (Bringle et al., 2010). Another

interesting finding of this study was that students reported having better educational experiences in service-learning courses than in traditional courses, based on peer interaction, the extent of faculty interaction, course satisfaction, and personal relevance (Bringle et al., 2010).

### **Service-Learning, Retention and Graduation**

Research indicates that service-learning may positively influence retention rates (Axsom & Piland, 1999; Bringle et al., 2010; Gallini & Moely, 2003; Keup, 2005) and graduation rates (Lockeman, 2012) for undergraduate students. A study conducted at a private research university in the southern U.S. found that participation in a service-learning class positively affected plans to stay at the institution (Gallini & Moely, 2003). Data were obtained from 333 students, roughly half of whom were participating in a service-learning course. The participants completed a questionnaire at the end of the semester asking them to evaluate how the course influenced engagement and intent to persist at the institution. Univariate analyses of covariance of five scales revealed significant differences, with service-learning students scoring higher in community engagement  $F(1, 307) = 120.24, p, .001$ ; academic engagement  $F(1, 307) = 19.73, p, .001$ ; interpersonal engagement  $F(1, 307) = 49.72, p, .001$ ; academic challenge  $F(1, 307) = 35.89, p, .001$ ; and retention  $F(1, 307) = 23.38, p, .001$  (Gallini & Moely, 2003).

The findings of Gallini and Moely (2003), while significant, should be considered in the context of the study's limitations. While the authors did control for a number of factors (age, sex, GPA, time spent studying and year in school), the study lacked randomization (Gallini & Moely, 2003). Because the students self-selected whether or not to take the service-learning courses, the findings could indicate that students who chose the service-learning option were more engaged to

begin with. Additionally, the results are based on only one assessment, offering no pre-post course comparison.

Keup (2005) analyzed data collected through the CIRP to evaluate the impact of three interventions (service-learning, first-year seminars, and learning communities) on first-to-second year retention. Information was obtained from the 2002 CIRP Freshman Survey and its one-year longitudinal follow-up, the 2003 Your First College Year (YFCY) survey. The sample was comprised of nearly 20,000 first-time, full-time, first-year students from 115 institutions. Nearly 40% of the students included in the study engaged in service-learning. A multivariate analysis grounded in Tinto's (1975, 1993) model of student retention was used to reveal potential causal relationships between the curricular interventions and retention. As a block, the interventions were not found to predict the intent to re-enroll at the institution, however, service-learning did produce a marginally significant odds ratio ( $p, .05$ ) when entered in the second block, indicating that the practice increases the odds of intent to re-enroll by 14% (Keup, 2005).

An unexpected finding in this study involved student-faculty interactions (Keup, 2005). Service-learning students reported greater interaction with faculty, an experience commonly associated with engagement (Braxton et al., 1997; Kuh et al., 2006; Tinto, 2003), but they were also more likely to report feeling occasionally intimidated by faculty compared to non-service-learning students. This variable was not found to impact the intent to re-enroll, but could suggest the need for further study (Keup, 2005). It is also important to note that this research evaluated the intent to re-enroll, but did not examine actual re-enrollment figures, which would have enhanced the study's validity.

A small-scale pilot study at a community college found that students in an English course with a service-learning requirement were more likely to have

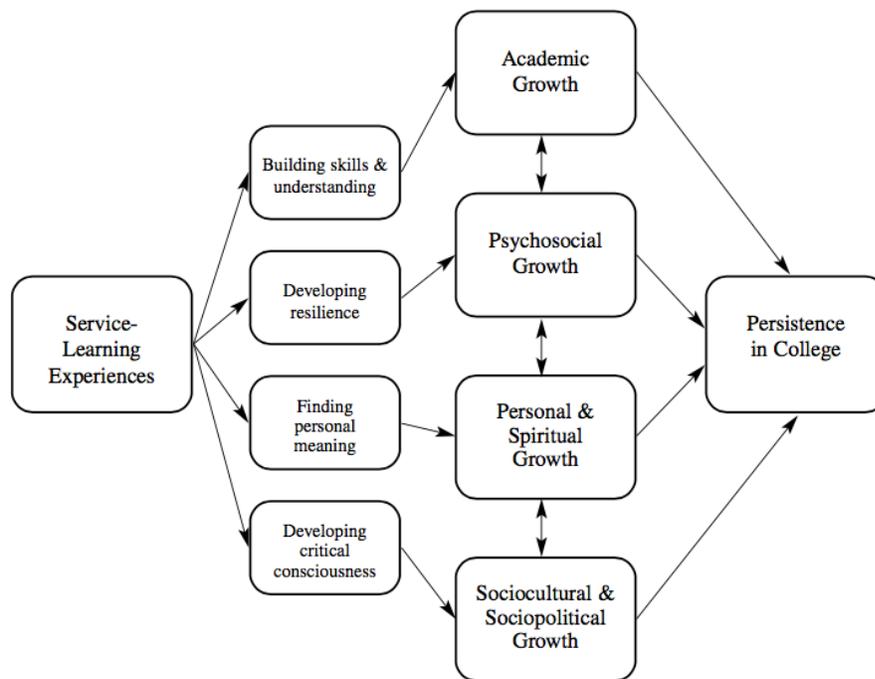
finished than students in courses without the requirement (Axsom & Piland, 1999). The study looked at 120 students enrolled in eight sections of an English course (four with the service-learning requirement and four without). Retention was measured by enrollment counts 3 weeks into the semester compared to the end of the term. Retention for the service-learning students was 78% for males and 83.6% for females, compared to 65.3% for males and 63.5% for females who did not participate in service-learning (Axsom & Piland, 1999).

While most of the research on the impact of service-learning on persistence and retention are quantitative studies, Yeh (2010) used a qualitative approach to develop a conceptual framework to describe the relationship between service-learning and persistence for low-income, first-generation (LIFG) students. Data were collected through semi-structured interviews with six LIFG students who had participated in a service-learning class, interviews with program directors, observations of service-learning projects, and documents (including program brochures, syllabi, and course papers). Following initial coding, the constant comparison technique was used to further hone the coding scheme, revealing four major themes of the development of the following: 1) skills and understanding; 2) resilience; 3) personal meaning; and 4) critical consciousness (Yeh, 2010).

The students in the study shared that service-learning linked them to new educational opportunities, connected course material to the real-world, and enhanced knowledge acquisition (Yeh, 2010). One student said, “It’s definitely affected my academic experiences in the sense that, I feel like when I’m talking in class, I actually know what I’m talking about” (Yeh, 2010, p. 55). Students also reported improved academic self-confidence as a result of service-learning, along with the development of skills that helped them to perform better academically,

including critical thinking, talking to their professors, seeking help from others, and improved time management (Yeh, 2010).

The themes that materialized from Yeh's (2010) findings illuminated the areas of growth that students attributed to their service-learning experiences. Similar themes were then considered through the lens of retention theory to develop a framework that conceptualizes how service-learning impacts college retention, displayed in Figure 4.



*Figure 4.* Conceptual framework of service-learning and persistence of low-income, first-generation college students

Reproduced from "Service-Learning and persistence of low-income, first-generation college students: An exploratory study," by T.L.T. Yeh, 2010, *Michigan Journal of Community Service Learning*, 16(2), p. 58.

It is the goal of higher education for persistence to lead to degree completion, and Lockeman and Pelco (2013) published the first known study into the direct relationship between service-learning and graduation. The quantitative,

non-experimental *ex post facto* study at a large, public research university indicates that students who take one or more service-learning courses have higher GPAs and are more likely to graduate compared to students who did not engage in service-learning (Lockeman & Pelco, 2013). Looking at the 2005 cohort of entering full-time freshmen ( $N = 3,458$ ), 24% of which participated in a service-learning class, the study evaluated data on student progress each semester for a 6-year period. Of the participants, 58% were white/non-Hispanic, 40% were male, 29% received Pell Grants at some point in their studies, and the average high school GPA was 3.24. A discrete-time survival analysis was used to account for both the occurrence and timing of an event, as well as its effect on the outcome.

The graduation rate for non-service-learning students was 48%, compared to 73% for service-learning students,  $\chi^2 (N = 3,458) = 163.51, p = .000$  (Lockeman & Pelco, 2013). Surprisingly, the impact of service-learning was found to be independent of student characteristic variables that traditionally predict graduation rates, such as GPA, race, and socioeconomic status. The effect of service-learning on graduation rates was particularly powerful for minority and low-income students. The percentage of service-learning versus non service-learning students to graduate was 71% vs. 29% for minority students, and 72% vs. 28% for low-income students (Lockeman & Pelco, 2013).

A study modeled after Lockeman and Pelco's (2013) research also found it is both *if* and *when* a student engaged in service-learning that makes a difference on college completion (Yue & Hart, 2017). Using event history analysis, the study tracked 31,074 undergraduate students over 6-years. The majority of the population (60.7% first-time freshmen and 57.1% transfer) were first-generation college going. Of students who identified as part of an underrepresented minority, 40.5% were first-time freshmen and 34.9% were transfer students. Using a

discrete-time logit hazard model, the effects of service-learning on graduation were evaluated, controlling for gender, underrepresented minority status, first-generation status, and Pell Grant eligibility (Yue & Hart, 2017).

The study found that first-time freshmen and transfer students who took a lower division service-learning class were not more likely to graduate compared to non-service learning students, however, there was a significant difference for students who participated in upper-division courses (Yue & Hart, 2017). First time freshmen who participated in at least one service-learning course were 25.4% more likely to graduate within 6-years than students who did not. First-time freshmen students who took an upper division service-learning course were 40.3% more likely to graduate, and transfer students who took an upper division service-learning course were 72.0% more likely to graduate compared to transfer students who did not participate in service-learning. The study also found the likelihood of graduation rose by taking more than one service-learning course. One additional service-learning course led to a 10.9% increase in the likelihood of graduating for first-time freshmen and 33.9% for transfers. One additional upper division service-learning course led to a 21.0% increase in the likelihood of graduating for first-time freshmen and 46.2% for transfer students (Yue & Hart, 2017).

### **Service-Learning Academic Outcomes**

While the focus of this research is on how service-learning modulates for the effect of engagement on degree completion, any conversation about a pedagogical practice should also consider its academic relevance. More than two decades of scholarship about the impact of service-learning on undergraduate students demonstrate a wide range of positive social and academic outcomes that indicate that the practice is an effective tool to support student-learning and develop engaged, civically minded individuals (Eyler et al., 2001). Research

shows that service-learning experiences lead to improved efficacy, morality, identity, and spiritual growth (Eyler et al., 2001; Furco, 1996; Porfilio & Heather, 2011). Service-learning experiences have also been shown to support the development of soft skills like leadership, communication, interpersonal development and the ability work with diverse populations (Eyler & Giles, 1999; Eyler et al., 2001; Porfilio & Heather, 2011).

Some of the positive social outcomes that have emerged from the research include improved cultural and racial understanding, as well as reduced stereotypical thinking (Porfilio & Heather, 2011). Some studies found that service-learning helps to develop more socially responsible citizens who are more likely to engage in community service throughout their lives (Eyler et al., 2001). Many studies indicated that service-learning is an instrument to assist students in the development of their social responsibilities, civic engagement and belief that their actions can make a difference (Eyler et al., 2001).

Scholarship on service-learning shifted to include more academic outcomes in the 1990s. Markus, Howard, and King (1993) conducted one of the earliest studies to find that service-learning had a positive effect on academic outcomes. The study involved 89 University of Michigan undergraduates enrolled in a political science lecture/section course. Of the course's eight sections, two were randomly selected to be service-learning. Participants in those sections were required to complete 20 hours of community service with pre-determined agencies related to the course content. Reflection on the community service took place through section discussions about what students experienced, as well as short papers and oral reports. The other six sessions served as the control. The lectures, readings, and exams were the same for all participants in the study. The study evaluated academic outcomes by comparing course grades and through a pre-

post-course, self-administered questionnaire in which students evaluated their perceived performance in the course (Markus et al., 1993).

Paired *t* tests of the survey revealed that compared to participants enrolled in the traditional course, service-learning students were more likely to agree that they performed up to their potential in the course and that they discovered how to apply what they learned to other situations (Markus et al., 1993). Academic performance, as measured by GPA, was statistically different for students in the service-learning sections. Students in the sections with no service-learning earned an average grade of 6.42 (B+ and a B), while service-learning students earned a mean grade of 7.47 (A- to B+), ( $t = 2.66, p < .01$ ) (Markus et al., 1993).

Osborne, Hammerich and Hensley (1998) further advanced this line of research by studying the effect of service-learning in a pharmacy communications course. Ninety-three participants were randomly assigned to a section with either a service-learning requirement or a section with a traditional project assignment. The initial phase of surveying the students with several self-characteristic scales at the start of the semester revealed no significant differences between the two groups. When the students were given the same questionnaire later in the semester, students in the non-service-learning course showed virtually no change while service-learning students reported positive improvements on cognitive complexity, social competency, perceived ability to work with diverse others, and self-worth in social situations (Osborne et al., 1998). Students were also evaluated on their written work as the semester progressed. Again, there were no significant differences early in the semester, but the second phase of analysis showed that the service-learning students rated significantly higher scores on integration of practical examples  $F(91) = -3.819, p = .0002$ , sensitivity of the communication,

$F(91) = -4.259, p = .0001$ , and awareness of diversity  $F(91) = -7.900, p = .0001$  (Osborne et al., 1998).

Eyler and Giles (1999) also explored how service-learning contributed to academic success, conducting two national research projects that found service-learning had a consistently positive impact on student learning. However, the effects were not large, nor more significant for students who participate in high-quality service-learning experiences. The research involved more than 1,500 students from 20 colleges and universities, of which 1,100 were taking a service-learning course. Surveys were administered before and after the semester to gauge the impact of the service-learning experience, and hierarchical multiple regression was used to analyze the results, controlling for age, gender, minority status, socioeconomic status, and other community service experiences outside of the service-learning course. That study also involved interviews with 67 students from six colleges. The research found that service-learning students reported learning more and developed deeper comprehension than students in traditional courses. The study also revealed that outcomes were best when reflection was well integrated into the curriculum (Eyler & Giles, 1999).

While volunteerism is a central component of service-learning, studies such as Eyler and Giles (1999) pointed to the importance of reflection and course relevance as part of the service learning experience. Research on the impact of community service on college students that occurs outside of a service-learning class is different, but arguably connected to this field of study. Astin and Sax (1998) found a positive impact of community service on academic development, life-skill development and civic responsibility. It is important to note that this study looked at service in general, with just 29% of students performing in service-learning and the rest participating in service through other college-

sponsored activity or on their own. Data were drawn from the CIRP Freshmen Survey of 3,450 students representing 42 universities. Using multivariate analysis, the study controlled for independent variables including input characteristics, environmental measures, and prior service participation. Participation in volunteerism had a positive effect on all of the academic outcomes measured, including GPA, educational aspiration, and increases in general knowledge. Faculty interaction was greater for service participants, and they reported spending more time studying. Service participants were more likely than non-service participants to spend more than 20 hours per week studying (19% vs. 12%). The one area that showed the least positive benefit was retention, with only a small group of students who participated in a public safety-related-service experience reporting a significant effect ( $p < .001$ ). While the findings are significant and surprising, it is important to note that the effect sizes of the academic outcomes were small – accounting for less than 1% of the variance in the dependent variable (Astin & Sax, 1998).

A study published two years later found that service-learning has intrinsic value beyond that offered in “generic” service experiences. Vogelgesang and Astin (2000) conducted a longitudinal study using College Student Survey results from 1991-1997 of more than 22,000 students. Service-learning participation was compared to “generic” service done outside of a course, with non-service participants serving as controls. A stepwise linear regression analysis was run to evaluate the changes for each variable. Controlling for high school GPA, gender, and institution type, the study found that critical thinking skills, writing skills and GPA were higher for service-learning students over those who participated in “generic” service or no service (Vogelgesang & Astin, 2000).

Studies have shown that certain program characteristics can determine the nature of the outcomes students can expect from a service-learning experience (Eyler et al., 2001; Kenny & Gallagher, 2002; Porfilio & Heather, 2011). The duration, quality, and intensity of the service experience was shown to relate to student outcomes. Additionally, the process of reflection – both during and after the service experience - was shown to play a key role in aiding the development of critical thinking skills and a stronger connection to the community served among students (Eyler et al., 2001; Kenny & Gallagher, 2002; Porfilio & Heather, 2011).

A study of the application of a service-learning requirement in a large, lecture-style, introductory Child Development course isolated the program characteristics in order to evaluate the impact of different experiences (Strage, 2000). The research found that students in the service-learning cohorts reported better results on their final essays than students who took the course before the requirement (Strage, 2000). The study contrasted three cohorts of pre-requirement students ( $N = 311$ ) to two cohorts in the service-learning group ( $N = 166$ ). The non-service-learning students received instruction primarily through lectures and readings but did not participate in 10-15 hours of structured observations of toddler/pre-school students. Those students were restricted from interacting with the youth, and were asked to submit a paper based on their notes. In contrast, the service-learning students spent at least 20 hours at a school site working directly with students and were asked to make weekly journal entries on topics articulated in the course curriculum. Scores between the two student groups were compared on the three course examinations (two midterms and a comprehensive final). ANOVAs revealed that the scores were consistent among the two groups for the first midterm (24.58 versus 24.39 out of a total 40 possible points,  $F(1, 473) = 0.777, p = .7805$ ). But as the semester progressed, significant differences did

emerge between the two groups. Service-learning students did more than 7% better than the non-service-learning group (32.99 vs. 30.81 out of 50 possible points,  $F(1, 473) = 9.3629, p = .0023$ ). The gap between the group further grew with the final essay results, with service-learning students demonstrating an 11-point advantage (16.15 vs. 14.50 out of 20 possible points,  $F(1, 473) = 16.6960, p = .0001$ ). Finally, service-learning students did significantly better on their final exams (38.67 vs. 36.50 out of 50 possible points,  $F(1, 473) = 3.9560, p = .0473$ ). Analysis of the journals revealed that students were thinking and applying the course material to their service-learning experiences, and more than half ( $n = 98$ ) wrote that lectures and service-learning components of the course were mutually beneficial (Strage, 2000).

A meta-analysis of 62 studies involving nearly 12,000 students also delivered encouraging findings for advocates of service-learning (Celio, Durlak, & Dymnicki, 2011). The study found that students in service-learning courses demonstrated improved academic performance compared to controls. The report included studies of K-12 and higher education service-learning courses, with the majority (68%) representing undergraduates. The meta-analysis assessed the strength of each study by calculating the effect size values for the following outcomes measures: attitude toward self; school and learning; academic performance; civic engagement; and social skills. Students in service-learning courses reported significant gains in each area. Academic performance reported the most significant effect ( $N = 17, ES = 0.43$ ). The other four outcome measures ranged from 0.27 to 0.30, with an effect size for attitudes toward school and learning at 0.28 (Celio et al., 2011).

### **Summary**

This review of the literature provided a historical context for the emergence of service-learning, a practice that developed first as an instrument to address issues of social justice, but was ultimately identified as a tool to deepen student engagement, which research indicates supports improved student outcomes. This chapter summarized current research into how student engagement with the institution is predictive of retention and graduation. It also explored existing studies into how service-learning interacts with engagement, retention and graduation.

Service-learning is a relatively new pedagogical instrument, and as such, the body of research into its effectiveness in supporting student success is relatively scarce. The next chapter will present the methodological approach this study will take in an effort to better understand if students who participate in service-learning engage differently with their institutions, and if the experience is predictive of degree attainment.

## CHAPTER 3: METHODOLOGY

### **Purpose of the Study**

The complex factors that contribute to college persistence and graduation make it challenging to isolate the effect of a solitary program or pedagogy. Additionally, the variety of experiences that are encapsulated within service-learning makes it difficult to reach sweeping conclusions about the practice's effectiveness. As such, this study took both an inductive and deductive approach to its design. While the overwhelming majority of prior research on the impact of service-learning on persistence or degree attainment has employed quantitative research methods, the current study employed a mixed methods approach, using quantitative methods to test existing theories and qualitative methods to deepen our understanding of the relationships between service-learning, engagement, and graduation for SES and URM undergraduate students. This approach was also selected for its ability to potentially introduce concepts or patterns that may warrant further research.

### **Research Questions**

The following research questions were addressed:

1. Is participation in a service-learning course predictive of graduation for undergraduate students from low SES or who identify as URM?
2. Is there a difference in engagement indicators among low SES and URM undergraduate seniors who participated in service-learning and those who did not?
3. Do student engagement indicators and service-learning play a significant role in graduation outcome for low SES and URM undergraduate students?

4. What factors contribute to the decision to participate in service-learning for low SES and URM undergraduate students?

### **Research Design**

A concurrent triangulation strategy was deployed in which quantitative and qualitative data were collected and analyzed independently before the two datasets were compared in search of cross-validation or corroboration. Creswell (2008) contends such an approach is useful when investigating complex problems and for offsetting any inherent weaknesses of a single method. Additionally, the ability to collect and interpret data independently works well with the limited timeframe in which the study must be conducted. Finally, the ability to integrate and compare the results of each study lends validity to the findings.

### **Quantitative Component**

This study utilized existing data provided by the university's office of institutional research. The study looked at graduation data from low SES and URM undergraduate students at a 4-year public university in California to report how strongly participation in a service-learning course predicts degree attainment. The study also used responses to the NSSE survey from low SES and URM undergraduate seniors to measure engagement for service-learning students and compare the results against undergraduate seniors who did not take a service-learning course. The same data set of NSSE results was analyzed against graduation data to evaluate the extent to which the co-occurrence of service-learning and engagement impact the probability of degree attainment.

### **Qualitative Component**

The qualitative research consisted of a modified version of the diary-interview method of data collection. Rather than asking participants to reflect on

their service-learning experience in a diary over a fixed period of time, which would be the traditional approach to this research protocol, participants were instead asked to share with the researcher the reflections they wrote as part of the curricular requirement for the service-learning course. Following the semester, the reflections were reviewed by the researcher and follow-up interviews were conducted with each participant (Zimmerman & Wieder, 1977). Data from both the reflections and the interviews were analyzed, looking for themes and patterns. Additionally, the observations of recent graduates from the same institution and who come from low SES or URM backgrounds were documented through focus groups, one with graduates who participated in service-learning and one with graduates who did not. Those datasets were coded, analyzed, and cross-triangulated against the other findings.

## **Participants**

### **Quantitative Component**

Quantitative data were provided from students at a public, 4-year university in California who were at senior status in either 2011 ( $N = 1,782$ ) or 2015 ( $N = 929$ ) and who participated in the NSSE survey. Those years were selected because they are the two most current available data sets of students who participated in the NSSE survey. Results from both years were used to measure differences in NSSE engagement indicators between service-learning students and those who did not participate in the practice. Because the survey's engagement indicators changed between 2011 and 2015, the data sets were not combined and were analyzed independently. Among students at senior status in 2011, 964 had not taken a service-learning course, and 818 had taken one or more service-learning courses. Among students at senior status in 2015, 528 had not taken a service-

learning course, and 401 had taken one or more service-learning courses. While data sets from both years were used to evaluate NSSE indicators, the odds ratio of reaching graduation for service-learning students versus non service-learning students was limited to data from students at senior status in 2011. Graduation data from 2015 were not included in this portion of the study because at the time of the analysis, those individuals would have had just two semesters to complete their degree – an achievement frequently not possible in such a short time frame.

### **Qualitative Component**

Working with the university's office for service-learning, a small, purposeful sample of 15 low SES or URM undergraduate students at senior status who entered the university as freshman were selected. These were students currently participating in a service-learning class and selected to represent a diversity of backgrounds (gender, first-generation status and under-represented minority status). Two more small samples of low SES or URM individuals who earned degrees from the same university from 2010-2015 were identified to participate in focus groups. The first group was comprised of graduates who participated in service-learning while enrolled as an undergraduate, and the second group were comprised of students who did not take a service-learning course.

### **Data Collection**

#### **Quantitative Component**

Existing enrollment and graduation data for students at senior status in 2011, along with NSSE results from 2011 and 2015, were provided by the university's office of institutional research. The data were sorted and cleaned to limit the set to students at senior status in either 2011 or 2015 and who participated in the NSSE survey.

### **Qualitative Component**

Data from service-learning students were gathered through the modified diary-interview method of qualitative research, developed by Zimmerman & Wieder (1977). Participants were asked to share their class reflections about their service-learning experiences with the researcher at the end of the fall 2016 semester. Early in the following semester, those students were invited to take part in an interview with the researcher, where they were asked to elaborate on the information they wrote in the reflections, and expand on other concepts measured in the NSSE survey. The data came from both the interviews and the reflections. This method of data collection was selected because the diaries, or in this case reflections, provided an unobtrusive way to provide data in real time. The follow-up interview offered the ability to provide clarification, context, and reflection. Taken together, these two tools offered an opportunity to generate rich data from each participant (Zimmerman & Wieder, 1977).

Data from recent graduates were gathered from two focus groups. For the focus group of graduates who participated in service-learning, open-ended questions based on the NSSE survey were used to prompt a conversation about the service-learning experience and how it positively or negatively influenced success in school and after graduation. They were also asked to discuss what motivated them to enroll in a service-learning course. Open-ended questions for the focus group of graduates who did not take a service-learning course were also focused on areas of engagement measured by the NSSE survey, along with other factors that supported their success as an undergraduate. Additionally, these participants were asked if they were aware of service-learning during their time as students, and if yes, why they did not participate in the courses.

A focus group approach was selected for two primary reasons. First, because of the interactive nature of engagement research, a focus group setting may provide richer or more thoughtful data than individual interviews, especially since these participants will be reflecting on experiences that may have occurred several years in the past. This method also enabled the researcher to collect data from multiple participants at once, leaving capacity to introduce additional data collects methods to diversify the results. This approach was also chosen because the topic of interest should have been an easy one for participants to discuss openly, thereby the technique did not introduce barriers to the data collection process as cautioned by Morgan (1997). The focus group was led by the researcher and an audio recording of the conversation was used to document the session.

### **Instrumentation**

#### **Quantitative Component**

This research used results from the NSSE survey, a widely utilized instrument to gauge student engagement. Administered by a third-party, more than 1,500 higher education institutions have participated in NSSE since it launched in 1998, and more than 4 million students have completed the survey. The five benchmarks measured in the 2011 NSSE survey are 1) level of academic challenge; 2) active and collaborative learning; 3) student interactions with faculty members; 4) enriching educational experiences; and 5) supportive campus environment (Kuh, 2001a, 2001b). The 2011 NSSE survey is comprised of 28 sections which include 14 demographic questions and 85 Likert scale questions.

In 2013, NSSE 2.0 was introduced, featuring many same or similar questions from the prior test. The primary change in the instrument was the introduction of ten new benchmarks, organized within four themes: 1) academic

challenge (higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning); 2) learning with peers (collaborative learning, discussions with diverse others); 3) experiences with faculty (student-faculty interaction, effective teaching practices); and 4) campus environment (quality of interactions, supportive environment).

### **Qualitative Component**

Questions for the focus groups with recent graduates and the interviews with service-learning students were constructed to gather information on the participant's feelings of engagement and support while participating in a service-learning course, or as a student overall if they did not participate in service-learning. They were asked to provide examples of how their service-learning experiences or academic experiences positively or negatively impacted their success as students. Interview questions also included follow-up and clarification of information shared in the reflection papers. Each interview was conducted by the same interviewer to control for the observer effect and to ensure that the same approach was used for each subject. Interview questions were also informed by the results of the quantitative component of this study. All participants were asked why they did or did not participate in service-learning. The focus group with non-service-learning graduates focused on gathering data on participant thoughts about how they engaged with the institution and the support they received to help them during their time as students.

### **Data Analysis**

#### **Quantitative Component**

The focus of this study was undergraduate students who participated in service-learning during their academic experience. Using graduation rates from the

2011 data sets, a logistical regression was used to determine if participation in one or more service-learning courses is predictive of graduation outcomes for SES and URM students. For this analysis, graduation stood as the categorical, dependent variable. Participation in a service-learning course, URM and low SES (as defined by Pell grant eligibility) were the independent variables. Another analysis was performed to measure the relationship between graduation and number of service-learning courses taken. A chi-squared test of independence was run, with graduation as the dependent variable and number of service-learning courses as the independent variable.

In analyzing the NSSE data, a multivariate analysis of variance (MANOVA) was used to indicate differences in engagement indicators between service-learning and non-service learning students. Because of the difference in the instrument between 2011 and 2015, the data sets from each year were analyzed separately. Service-learning participation served as the independent variable and the five NSSE engagement indicators for the 2011 data set and ten engagement indicators from the 2015 data set served as the dependent variables.

### **Qualitative Component**

Data from the reflections, interviews, and the focus group were collected and entered into a Word document. Emergent themes were identified through the use of ATLAS.ti software and manual coding for the benchmarks and indicators of student engagement used in the NSSE survey.

A summary of the research questions, methodologies, and methods of analysis are presented in Table 1.

Table 1

*Research Questions, Methodology, and Methods of Analysis*

<b>Research Question</b>	<b>Instrument</b>	<b>Data Analysis</b>
Is participation in a service-learning course predictive of graduation for undergraduate students from low SES or who identify as URM?	Institutional student data from 2011	Logistical Regression Chi-squared
Is there a difference in engagement indicators among low SES and URM undergraduate seniors who participated in service-learning and those who did not?	NSSE data from 2011 and 2015	MANOVA
Do student engagement indicators and service-learning play a significant role in graduation outcome for low SES and URM undergraduate students?	Focus Groups Interviews/ Reflections	Coding, thematic analysis, cross check document analysis
What factors contribute to the decision to participate in service-learning for low SES and URM undergraduate students?	Focus Groups Interviews/ Reflections	Coding, thematic analysis, cross check document analysis

## CHAPTER 4: RESULTS/OUTCOMES

The participants in this study were currently enrolled or recently graduated from a mid-sized, 4-year urban public university in western United States. The university, which will be referred to by the pseudonym Mid-State University, was selected in part because it has offered service-learning courses to undergraduate students for more than a decade and has been awarded the Carnegie Classification of Community Engagement. The quantitative analyses were performed in 2016 using NSSE data from 2011 and 2015. The qualitative research was conducted from December 2016 – March 2017 through data and document analysis, focus groups and interviews. This chapter details the research findings from this mixed-methods study.

### **Research Question 1: Is participation in a service-learning course predictive of graduation for undergraduate students from low SES or who identify as URM?**

The dataset used to answer this research question was provided by the institutional research office at Mid-State University and included all students who had reached senior status in 2011 ( $N=6946$ ). The dataset of students at senior status in 2011 was used because students at that stage in their academic process would have had ample time to both take a service-learning course and reach graduation by the time of the analysis. A logistical regression was run to evaluate if the students who participated in a service-learning class during their time at the university ( $n=3,442$ ) were more likely to graduate than students who did not take a service-learning course ( $n=3,504$ ). Achieving graduation served as the dependent variable, and enrollment in a service-learning course, URM status, and low SES

status, defined as students eligible for a Pell grant, served as the independent variables. The findings from the analysis are presented in Table 2.

Table 2

*Variables in the Equation for the Regression of SL, URM, and SES on Graduation Rates*

Step	Variable	$\beta$	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	2.122	.041	2618.077	1	.000	8.349
Step 1 <sup>a</sup>	URM	.271	.085	10.139	1	.001	1.311
	Pell	.056	.086	.422	1	.516	1.058
	SES	0.214	.049	19.039	1	.000	1.239
	Constant	1.802	.078	528.511	1	.000	6.062

Controlling for URM and low SES, the analysis found that students who take a service-learning course are 1.24 times more likely to reach graduation than students who do not take service-learning. The results, as presented in Table 2, show that graduation rate can be significantly predicted both by participation in service-learning ( $B = 1.802$ ,  $Wald(1) = 19.04$ ,  $p < .001$ ,  $Exp(B) = 1.239$ ) and URM status ( $B = .271$ ,  $Wald(1) = 10.14$ ,  $p = .001$ ,  $Exp(B) = 1.311$ ). It is important to note, however, that these findings are mitigated by the effect size (Nagelkerke  $R^2 = .011$ ), indicating that only 1.1% of the variability can be accounted for by the model.

A chi-squared test of independence was used to analyze the effect of the number of service-learning courses taken on graduation. The 2011 dataset of students at senior status was used. No service-learning was coded as 0, one service-learning class was coded as 1, two classes was coded as 2, three classes were coded as 3, and four or more service-learning courses was coded as 4. As presented in Table 3, this found a significant relationship between the number of service-learning courses taken and degree attainment ( $\chi^2(4) = 30.57$ ,  $p > .001$ ).

Table 3

*Frequencies and Percentages of Degree Attainment of Students at Senior Status in 2011 by Number of Service-Learning Classes*

Graduate	No		Yes		Total	
	N	%	N	%	N	%
SL 0	439	12.5	3065	87.5	3504	50.4
SL 1	197	26.8	2090	91.4	2287	32.9
SL 2	78	9.5	742	90.5	820	11.8
SL 3	16	7.5	198	92.5	214	3.1
SL 4+	6	5.0	115	95.0	121	1.7
Total	736	10.6	6210	89.4	6946	100.0

The percentages presented in Table 3 show that the number of service-learning courses taken is strongly related to a change in graduation rates. While students who take no service-learning classes ( $n = 3504$ ) have an 88% graduation rate, students who took one service-learning class ( $n = 2287$ ) have a 91.4% graduation rate. The percentage of students who achieve graduation dips slightly among those who took two service-learning classes ( $n = 742$ ) to 90.5% but goes up to 92.5% with three service-learning courses ( $n = 198$ ), and up again to 95% among students who took four or more service-learning courses.

**Research Question 2: Is there a difference in engagement indicators among low SES and URM undergraduate seniors who participated in service-learning and those who did not?**

Results from the NSSE survey, administered to students at Mid-State University in 2011 and 2015, were provided by the university. Because the engagement indicators changed between those years, the data sets were analyzed independently. Among students at senior status in 2011 who participated in the NSSE survey ( $N = 1,782$ ), 54.1% did not take a service-learning course ( $n = 964$ ) and 45.1% took one or more service-learning classes ( $n = 818$ ) during their time at the university.

For the 2011 dataset, the five engagement benchmarks in the NSSE survey served as dependent variables: Level of Academic Challenge (AC); Active and Collaborative Learning (ACL); Student-Faculty Interaction (SFI); Supportive Campus Environment (SCE); and Enriching Educational Experiences (EEE). Economic status, measured by Pell grant eligibility, and URM status and enrollment in one or more service-learning courses were the independent variables. A MANOVA was used to measure differences in the NSSE benchmarks among the independent variables, finding that both URM (Wilks  $\lambda = .983$ ,  $F(5, 1415) = 4.29$ ,  $p < .001$ , partial eta squared = .015) and service-learning (Wilks  $\lambda = .943$ ,  $F(5, 1415) = 17.18$ ,  $p < .001$ , partial eta squared = .057) are significant, but low SES was not (Wilks  $\lambda = .983$ ,  $F(5, 1415) = 1.16$ ,  $p < .325$ , partial eta squared = .004). The means and standard deviations are presented in Tables 4-6.

The univariate found of the five benchmarks, ACL was significant for students who took service-learning ( $F = 27.483$ ,  $p < .001$ ,  $\eta^2 = .019$ ) with service-learning as the highest ( $M = 52.10$ ) and non-service-learning as the lowest ( $M = 47.46$ ). ACL was also significant for URM students ( $F = 7.69$ ,  $p < .006$ ,  $\eta^2 = .005$ ) with URM students as the highest ( $M = 51.30$ ) and non-URM students as the lowest ( $M = 48.89$ ). The findings are presenting in Tables 7 and 8.

For the 2015 dataset, the 10 engagement indicators in the NSSE survey served as dependent variables. The indicators are grouped into four themes: Academic Challenge - Higher-Order Learning (HOL); Reflective and Integrative Learning (RIL); Learning Strategies (LS); and Quantitative Reasoning (QR); Learning with Peers – Collaborative Learning (CL); and Discussions with Diverse Others (DDO); Experiences with Faculty – Student-Faculty Interactions (SFI) and Effective Teaching Practices (ETP); and Campus Environment – Quality of Interactions (QI) and Supportive Environment (SE).

Table 4

*Means and Standard Deviations for 2011 NSEE Benchmarks by Economic Status*

NSSE Indicator	Not Pell Eligible		Pell Eligible	
	M	SD	M	SD
AC	55.19	13.38	55.88	14.12
ACL	49.40	16.76	50.47	17.26
SFI	37.57	20.41	37.06	19.57
EEE	36.98	17.12	36.01	16.98
SCE	55.38	18.87	57.74	19.64

Table 5

*Means and Standard Deviations for 2011 NSEE Benchmarks by Underrepresented Minority Status*

NSSE Indicator	Non-URM		URM	
	M	SD	M	SD
AC	55.13	13.50	56.02	14.02
ACL	48.89	16.58	51.30	17.48
SFI	37.57	20.41	37.06	19.57
EEE	36.98	17.11	36.01	16.98
SCE	55.38	18.87	57.74	19.64

Table 6

*Means and Standard Deviations for 2011 NSEE Benchmarks by Enrollment in One or More Service-Learning Courses*

NSSE Indicator	Non-Service Learning		Service Learning	
	M	SD	M	SD
AC	55.98	13.93	55.06	13.51
ACL	47.46	16.54	52.10	17.10
SFI	38.89	20.50	35.96	19.57
EEE	35.32	16.97	37.74	17.08
SCE	55.74	19.01	56.90	19.40

Table 7

*Summary of Univariate Results for 2011 NSSE Benchmarks for Service-Learning*

Source	Sum of Squares	df	Mean Square	F	P	eta <sup>2</sup>
AC	102.88	1	102.88	.548	.459	.000
Error	266588.86	1419	187.87			
ACL	7748.77	1	7748.77	27.48	.000	.019
Error	400081.90	1419	281.95			
SFI	2470.29	1	2470.29	6.144	.013	.004
Error	570513	1419	402.05			
EEE	1661.86	1	1661.86	5.732	.017	.004
Error	411375.60	1419	289.91			
SCE	741.79	1	741.785	2.017	.156	.001
Error	521737.74	1419	367.68			

Table 8

*Summary of Univariate Results for 2011 NSSE Benchmarks for URM*

Source	Sum of Squares	df	Mean Square	F	P	eta <sup>2</sup>
AC	176.7	1	176.7	.941	.332	.001
Error	266588.86	1419	187.87			
ACL	2168.09	1	2168.09	7.69	.006	.005
Error	400081.90	1419	281.95			
SFI	199.01	1	199.01	.495	.482	.005
Error	570513	1419	402.05			
EEE	122.65	1	122.65	.423	.516	.000
Error	411375.60	1419	289.91			
SCE	1214.14	1	1214.14	3.302	.069	.002
Error	521737.74	1419	367.68			

A MANOVA was used to measure differences in the NSSE benchmarks among the independent variables. The analysis of the 2015 NSSE dataset found that low SES (Wilks  $\lambda = .956$ ,  $F(10, 604) = 2.81$ ,  $p < .002$ ) was the only significant variable. The results are presenting in Tables 9-12.

Table 9

*Means and Standard Deviations for 2015 NSEE Benchmarks by Economic Status*

NSSE Indicator	Not Pell Eligible		Pell Eligible	
	M	SD	M	SD
HOL	40.16	14.16	40.99	14.37
RIL	39.37	12.39	39.04	13.97
LS	41.18	14.55	37.64	14.21
QR	31.41	17.47	28.86	16.68
CL	36.20	13.76	34.07	13.20
DDO	46.27	15.18	43.17	16.15
SFI	24.36	16.58	22.53	16.24
ETP	37.35	14.42	39.48	14.53
QI	40.74	11.44	40.13	12.48
SE	32.68	14.44	33.79	13.93

Table 10

*Means and Standard Deviations for 2015 NSEE Benchmarks by Underrepresented Minority Status*

NSSE Indicator	Non-URM		URM	
	M	SD	M	SD
HOL	39.48	14.03	41.95	14.45
RIL	39.11	12.67	39.30	13.59
LS	39.59	15.04	38.91	13.76
QR	30.91	16.99	28.98	17.18
CL	35.63	13.45	34.36	13.53
DDO	44.85	15.77	44.31	15.78
SFI	23.42	16.52	23.32	16.31
ETP	38.18	14.86	38.87	14.09
QI	40.08	12.16	40.81	11.82
SE	33.00	14.11	33.61	14.25

Table 11

*Means and Standard Deviations for 2015 NSSE Benchmarks by Enrollment in One or More Service-Learning Courses*

NSSE Indicator	Non-Service Learning		Service Learning	
	M	SD	M	SD
HOL	40.28	14.90	40.87	13.73
RIL	39.35	13.86	39.06	12.42
LS	39.27	14.93	39.29	14.08
QR	29.94	16.75	30.12	17.39
CL	33.67	14.11	36.21	12.86
DDO	43.82	15.46	45.27	16.02
SFI	24.17	16.78	22.71	16.09
ETP	38.03	14.78	38.88	14.29
QI	40.79	11.61	40.09	12.34
SE	32.67	14.24	33.79	14.11

Table 12

*Summary of Univariate Results for 2015 NSSE Benchmarks by URM, SES, and Service-Learning*

Source	Sum of Squares	df	Mean Square	F	p	eta <sup>2</sup>
HOL	1808.40	7	258.34	1.27	.261	
Error	124340.15	613	202.84			
RIL	961.11	7	137.30	.800	.587	
Error	105184.98	613	171.59			
LS	2467.44	7	352.49	1.70	.106	
Error	127211.29	613	207.52			
QR	2667.90	7	381.13	1.31	.243	
Error	178364.56	613	290.97			
CL	2362.95	7	337.56	1.87	.072	
Error	110510.08	613	180.28			
DDO	2051.82	7	293.12	1.18	.312	
Error	152176.52	613	248.25			
SFI	1507.10	7	215.30	0.80	.589	
Error	165450.22	613	269.90			
ETP	1003.25	7	143.32	.679	.690	
Error	129475.98	613	211.22			
QI	422.19	7	60.31	.416	.893	
Error	88927.08	613	145.07			
SE	1291.99	7	184.57	.919	.491	
Error	123133.33	613	200.87			

The findings from the MANOVA analysis of the 2015 NSSE data set contradicted the findings from 2011, showing a significant difference in mean for SES, but no significant difference for URM or service-learning. However, the univariate results supported the results from the 2011 data, revealing that students in service-learning courses report greater peer-to-peer interaction. Of the 10 benchmarks, CL was significant for students who took service-learning ( $F = 5.821$ ,  $p < .015$ ) with service-learning as the highest ( $M = 36.21$ ) and non-service-learning as the lowest ( $M = 33.67$ ). Among URM students, HOL was a significant benchmark ( $F = 4.124$ ,  $p < .043$ ) with URM students as the highest ( $M = 41.95$ ) and non-URM students as the lowest ( $M = 39.48$ ).

Two NSSE benchmarks were significant for low SES students. The first was LS, defined in the instrument as summarizing learning, reviewing notes, and identifying important information in the course readings (National Survey of Student Engagement, 2014). The analysis found a significant difference in mean for LS ( $F = 8.457$ ,  $p < .004$ ) with high SES and the highest ( $M = 41.18$ ) and low SES ( $M = 37.64$ ) as the lowest. This indicated that students with economically stable backgrounds reported engaging in these learning techniques more than students who are less financially privileged. The other benchmark that was significant for SES was DOD ( $F = 5.962$ ,  $p < 0.15$ ) with high SES has the highest ( $M = 46.27$ ) and low SES as the lowest ( $M = 43.17$ ). This finding shows that the students with a high economic status reported more interaction with people from different racial, economic, religious or political backgrounds than students compared to less-wealthy students.

The findings from both 2011 and 2015 indicate that among the NSSE indicators, students in service-learning courses reported stronger experiences learning with peers and engaging in collaborative learning compared to students

who did not participate in service-learning. Collaborative learning, as defined by the NSSE instrument, includes seeking help from a peer to understand concepts or material, explaining content related to the course to other students, studying with peers, or working with students on assignments or project work (National Survey of Student Engagement, 2014). The collaborative nature of service-learning could account for the difference between the groups. This concept will be further explored in the qualitative findings of the remaining research questions.

**Research Question 3: Do student engagement indicators and service-learning play a significant role in graduation outcome for low SES and URM undergraduate students?**

Qualitative data were collected from the student reflections, interviews, and focus groups and coded by the researcher looking for indicators of student engagement as defined and measured by the NSSE survey. This technique was deployed in order to triangulate the quantitative with the qualitative results, finding a strong relationship between the two. Mirroring the quantitative findings, analysis of the the qualitative data found that Collaborative Learning (CL) was a key component in student engagement and success for participants who took service-learning. The analysis also revealed additional NSSE benchmarks that service-learning participants associated with engagement including: Experiences with Faculty (EWT); Campus Environment (CE); Academic Challenge (AC); and Quality Interactions (QI).

Qualitative data were gathered from class reflections, individual interviews and focus groups with undergraduate students at senior status and recent alumni from Mid-State University. The researcher contacted five faculty members who had received advanced training in service-learning best practices and were teaching service-learning courses to senior undergraduates during the fall 2016

semester. Of those five faculty, one agreed to invite the researcher to their class to recruit participants. The researcher visited two sessions of a service-learning course that was a requirement for students majoring in Public Relations. A total of 16 students agreed to participate in the study by sharing with the researcher the reflection they wrote as part of the course requirements, and agreeing to a follow up interview during the spring 2017 semester.

The researcher received the 16 reflections from the faculty member early in the spring 2017 semester. Those documents were reviewed before the researcher conducted interviews with 15 of the participants between late January and early February 2017. Of the 15 who participated in the interview, seven were Latina women, one was a Latino male, four were Caucasian women, one was a Caucasian man, one was an African American woman and one was a female international student. During the interviews, participants were asked to clarify information provided in their reflections and asked the following questions about their service-learning experience:

- Why did you enroll in the service-learning course?
- In what ways was your service-learning course different from other courses you took at the university?
- Compared to other courses, did your service-learning class make you feel more or less connected to your university?
- Was there anything unique about your service-learning class that you felt either helped or hurt your success as a student?
- Describe the relations you developed in your service-learning courses with students, faculty, and the service-learning client.
- Would you recommend service-learning to other students?

- Did your service-learning experience affect your academic success in other classes or outside of school?

The interviews were transcribed by the researcher and ATLAS.ti was used to analyze the data from both the reflections and interviews. The researcher also manually coded the data looking for examples of the ten NSSE engagement indicators, as well as other examples of student engagement that are not represented on the NSSE survey.

In March 2017, two focus groups were conducted with alumni who graduated from Mid-State University within 4 years of the study. A snowball technique was employed to recruit participants, whereby the researcher invited a purposeful sample of alumni to participate, and encouraged those participants to share the research opportunity with friends and contacts. A qualifying survey disseminated by the researcher on social media asked potential participants to share their contact information, major, year of graduation, race/ethnicity, Pell grant eligibility, and whether or not they took a service-learning course while enrolled at Mid-State University. The participants were selected based upon their answers to the survey.

The first focus group was comprised of five participants who graduated within 4 years of 2017 and did not recall participating in service-learning. Of the participants, there were two Latino men, one Latina woman, and two African American women. All five reported qualifying for Pell grants during their time as students. The same questions prepared for the student interviews were used with this focus group.

The second focus group was comprised of seven recent alumni who did participate in service-learning while earning their undergraduate degrees. Four of the participants were Pell grant eligible, two were unsure/did not remember, and

one was not. Two identified as Latino/a, four as Caucasian and one declined to state. The group was comprised of two men and five women. All of these participants were transfer students. The questions posed to this group were inspired by the 2015 NSSE benchmarks:

- When you were a student, did you feel connected to the university?
- Did you have academic experiences that connected what you learned in the classroom to the real world or to a problem in society?
- Did you collaborate (formally or informally) with other students?
- What were your interactions like with faculty?
- What were your interactions like with your academic advisors?
- Did the university provide an environment that supported you academically?
- Were you familiar with service-learning during your time as a student?

### **Dominant Themes from NSSE Benchmarks**

#### **Collaborative Learning**

The results of both the interviews and focus groups corroborated the quantitative findings of the study, with nearly every participant who took a service-learning class identifying collaborative learning as a central component of their service-learning experience. The students also shared that collaborative learning contributed to their enjoyment of the service-learning course and to success as a student. “You get to learn not only from what the professor is teaching you but you get to learn what...your peers are doing with their clients and go, ‘oh, that’s a good idea, I should do that with mine,’” said one student during her interview. This sentiment was shared by another student, who reported more interaction with other students in her service-learning class compared to other

courses. “When it comes to service-learning, you talk so much about your experiences and what you did and what you’re working on, that you interact more with your classmates than in other classes where you’re not required to do service-learning hours,” she said. This idea was echoed by a Latino male student, who said he built lasting relationships with students he worked with in service-learning classes.

We had to work in pairs, so I had to have a good relationship with the person I was working with. We were on a texting basis, calling basis, we’d be up at weird hours. We had to work with each other’s schedules so we definitely got close.

Among the focus groups with recent alumni, the participants who took service-learning reported more instances of positive collaborative learning than the alumni who did not take service-learning. “Service-learning, I think, makes you work in groups and I don’t know about you guys, but I’m not a real fan of working in groups,” shared a Caucasian female participant. “But the silver-lining part of it is in my job right now I’ve had to work with a lot of really difficult people and I think that is a skill that every college student should learn,” she said. In addition to affirming collaborative learning, this participant’s experience may also point to another NSSE benchmark, Discussions with Diverse Others.

However, it is important to note that while the participants in the service-learning focus group connected positive collaborative learning experiences with service-learning, they also associated collaborative learning with other high-impact practices such as internships, capstone projects, and project-based learning. These findings serve as a reminder that service-learning is one of a number of high-impact practices that could be incorporated into a student’s experience as an instrument to support his or her engagement and deepen peer-to-peer learning.

In the focus group of alumni who did not take service-learning, the examples of interactions with other students were, in general, more negative in nature. While two reported actively participating in study groups and a few pointed to group projects, examples of collaborative learning were not prominent among the participants. A Latina alumna in the focus group said she only engaged in collaborative learning when it was required through a group project. These participants also identified internships as supporting their academic and professional success, but they did not associate those experiences with collaborative learning. Outside of internships, these participants did not report experience with any other high-impact practice during their time as students.

### **Experiences with Faculty/Campus Environment**

Among the more prevalent NSSE themes to emerge from both the student interviews and the alumni focus groups were experiences with faculty members, defined as Student-Faculty Interaction and Effective Teaching Practices by the NSSE engagement indicators. One student was a Mexican American, first-generation student who described himself as a “super senior,” or someone who took 6 years to achieve senior status. At the time of the interview, he was three months from graduation. When asked what experiences helped him to stay in school and be successful, he said, “the professors, definitely...if it wasn’t for the professors being so diligent, I probably wouldn’t have finished.” This student took four service-learning classes during his time as a student, repeating one because he did not pass it initially. He said, “the service-learning courses definitely make you feel more connected to [the university] because when you’re off in one of the service-learning classes, you’re like an ambassador of the university... you feel like you’re representing the university,” The experience motivated him to do his

best. “You don’t want to set a bad image, not just for yourself but because of your professor and your class and the university itself,” he said.

The concept of representing the university while working with a service-learning client emerged in multiple interviews when asked if the experience deepened their relationship to the institution. One student participant reported a very different experience in service-learning compared to other courses.

I think it helped me feel more connected, because in all my other classes I just go, I sit, I read, you know, take notes, do assignments, that sort of thing. But when you do a service-learning you have to realize that you are representing [the university] and all that [the university] stands for.

The concept of serving as an ambassador for the institution was mentioned

The concept of serving as an ambassador for the institution was shared by many participants, with one student saying, “I felt like I was being a spokesperson for [the university] in a way. I was showing off for [the university], so I was able to represent in a unique kind of way.” The reported experience of representing the university could contribute strongly to the students’ sense of belonging (Kuh, 2001a; 2008; Kuh et al., 2006) and institutional engagement (Bringle et al., 2010; Tinto, 1975, 1993, 2003).

A Latina student, who at the time of the interview anticipated would be in school another year before graduating, singled out the experiences she shared with faculty during her two service-learning courses as an important part of her success as a student. “[Service-learning] didn’t necessarily make me do better in the class, but it made me more interested in the class,” she said. When asked what helped her stay in school and be successful, she said it was taking service-learning classes and having open communication with her professors. “Professors who welcome questions make you feel like it’s okay, you don’t have to have the right answer while you’re learning, I feel like I’m more successful. And I guess that’s also what

made me stay in school.” While she reported having particularly close relationships with her service-learning professors, she believed the relationships developed independently from the service-learning experience.

Both focus groups expressed mixed encounters with faculty during their time as students, with some expressing that instructors did not express concern about their success. However, students in the service-learning and non-service-learning focus groups shared positive experiences of faculty who connected with students outside of the classroom, linked learning to the real world, and facilitated opportunities for students to engage in real-life experiences and/or project-based learning. “For me it was certain faculty members who saw something in me I guess or who validated me...if they saw something in me or said you’re doing great...that motivated me to do better,” said an URM female alumni who participated in service-learning. This sentiment was shared by another woman in the same focus group who, after changing majors felt, “on top of the world” after a positive encounter with a faculty member in her new department. “Knowing that you have a support system with your professors and with different administrators...I think that makes a big difference to feel that you’re supported in everything that you do.”

The alumni in the service-learning focus group who took courses from faculty who demonstrated best practices in service-learning expressed closer relationships with those faculty members compared to faculty less knowledgeable or committed to the process. A Caucasian male student took a service-learning class that was required for his major, and another from a faculty member in another department. He said the faculty member who taught the service-learning class in his major lacked the commitment that the other professor demonstrated. “It’s just like pick these random nonprofits and you could have easily lied about

what you did the whole time,” he said of the required class. But of the other service-learning course he said, “I don’t know if she knew more about it or was more passionate about it but I learned so much more from that service-learning.”

Alumni who did not take service-learning expressed strong feelings about their interactions with faculty that included both positive and negative experiences. A Latino alumnus shared in the focus group:

I felt like my professors just didn’t care. They didn’t care if I learned it. They didn’t care if I got it right away and they didn’t care essentially what the project turned out to be. So that was very disappointing and I had to find other motivating ways to motivate myself to be successful.

He went on to say that he had far more positive experiences with faculty while attending community college than he did after transferring to the university. A Latina alumna said of her professors, “they were there if I needed help, if I had a question or an issue or anything I’d make an appointment and go and meet them. But I never really developed a personal relationship with them.” All but one participant in the non-service-learning focus group shared similar experiences, saying that it took initiative to develop relationships or gain additional support beyond what transpired in the classroom.

While most in the non-service-learning focus group expressed neutral to negative interactions with faculty, an African American woman said she had a very different experience.

Mine were really positive. I had really good interactions. They were actively engaged in initiating conversations, and even now a lot of motivating, trying to figure out when you’re graduating and when you’re going to graduate school. Telling me about things that are happening off campus that I would be interested in...or volunteering you to do something at an event they thought you’d be good at.

When asked about the overall environment of the university, this student said, “they set up the environment for you to learn, but you have to search. You

have to find the people that know things and get connected because it's not going to just be there." The other alumni in the focus group agreed strongly with this sentiment. "They do have a lot of resources and you have to look, like you said. But for me it was really overwhelming so I didn't use any of them," a Latina alumna said. All of the participants in this focus group said the university could have done a better job informing them of the resources and educational opportunities available.

### **Quality Interactions**

Relationships and the opportunity to network with fellow students, faculty, and clients at a service-learning site emerged as the one of the most frequently cited positive benefits of service-learning. "Not only do you build relationships with your peers...and build relationships you know with your professor, but it's an opportunity to get out and meet people you wouldn't otherwise meet. And you get to network and make connections," a Latina student shared during the follow up interview. When asked about the impact of the service-learning experience on their success as a student, the majority of participants said the interactions they experienced were critical. Of particular importance was the contact with professionals at the service-learning site. The participants felt the interactions gave them insight into potential career options and professional networking opportunities that could lead to employment.

Another Latina student, who will be the first in her family to graduate from college, pointed to the interactive nature of service-learning as a unique feature of the experience. "When it comes to service-learning you talk so much about your experiences and what you did and what you're working on that you interact more with your classmate than in other classes when you're not required to do service-learning," she said. The participants described a high-level of interaction with

peers, faculty and clients as a critical part of the service-learning experience and a key differentiator from traditional classes. “This was different because you’re actually working for organizations, like real organizations, and you’re meeting them in person, you’re contacting them. Whether it be online or a phone call about your project you’re doing for them. So you basically...it feels like a real job but just in the classroom,” one student shared. The social networks described by the participants support existing research that relationships with peers, faculty, staff, community members and family support persistence and graduation (Astin, 2006; Kuh, 2001a, 2001b, 2008; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1993, 2003).

This sentiment was also strongly reflected among the alumni who participated in service-learning. One recent graduate took a service-learning class early in her undergraduate career during which she developed such strong relationships with the organization, she spent 4 years on a volunteer board raising money for the non-profit. Another alumnus described his service-learning classes as extremely beneficial because of the relationships he developed. “You’re not just a number. You really get those personal connections with professors, with classmates, with community members,” he said. A Latino alumnus described the structure of the service-learning course as instrumental in developing relationships and cultivating interaction.

Your [service-learning] supervisor is a mix between your teacher and the real-life professional so it’s like you have to connect and report back on what you’re doing. You have to walk through some things but you get a better sense of connectedness with a professor, or I think your friends, because they’re doing the exact same things.

## **Academic Challenge**

Higher-Order Learning, defined as the ability to apply information or methods to new situations or problems, and Reflective and Integrative Learning, or the demonstration of an ability to connect learning to larger societal issues, were the primary NSSE engagement indicators (National Survey of Student Engagement, 2014) that emerged related to academic challenge among the qualitative findings.

A Latina student participant shared during the follow up interview that her she developed life skills in her service-learning class that led her to rethink her motivations as a student.

I think I was always thinking about myself, coming in as a college student, what kind of things are going to get me ahead? What things can I do to get my degree and to make sure that I have a job after college? But after taking service-learning courses and being involved as a student leader, it started changing my perspective on things as more about what can I do for others to make their load a little bit easier.

This student, who had a history of volunteerism in high school, took three service-learning classes and participated in two international service-learning trips that she described as transformational.

Someone from the village said thank you for your contribution and I was kind of like, 'whoa.' It took me back because, I did contribute something but there is so much more than just the service aspect of us building toilets and helping lift rocks and moving and transporting material... You really build a community and that's something that can transform the way you serve, it transformed the way I serve definitely and the way that I wanted to become more invested in the people that I'm around here and at [the university]... You never leave an experience like that the same person that you began. And that's why I think it's so important that those kind of projects exist.

She described three unique areas of impact within her service-learning experiences: on the organizations she was serving; on the community the

organization serves; and on the personal growth she experienced. “Those three things are all so tied together and for students that get to experience that or reflect on that is really important,” she said.

Several students and alumni described feeling out of their comfort zones during a service-learning course, but enjoying the experience and ultimately growing both personally and academically. One student wrote in her reflection on the service-learning class that the experience was different than she expected, writing, “I thought we would turn in our assignments and move onto the next. I really enjoyed the way we did the assignment, edited it to make it technically perfect, and then got to interact with our client.” Another Latina student suggested in her interview that service-learning should be incorporated into more courses as a way to improve the educational experience. “I feel like there are a lot of courses at [the university] that could definitely use that service-learning portion, even if it’s just 5 or 10 hours, just because I think it will give students a better understanding of the material.”

Hands-on learning, as described by most of the participants, was another strong theme connected to Academic Challenge that surfaced from the data as a motivator to reach graduation. An African American student shared that the hands-on nature of service-learning has motivated her to reach graduation. She said, “having the hands-on experiences... that’s been kind of helping me decided what I want to do in my life, which then in turn makes me want to graduate so I can do those things.” Opportunities to participate in hands-on learning that was connected to the academic coursework was also viewed as a benefit in mastering the course material and improving overall engagement in the course.

I think the service-learning, as well as the labs that I’ve taken for classes, are what really keep me wanting to go to class and wanting to continue on in college because I am a very visual, hands on learner...so getting to take

those different courses where you can be hands-on and get real life experience rather than just look at a PowerPoint is what has really continued my drive.

The impact of the hands-on experience was amplified when the materials developed for the service-learning course were beneficial for the client. “We wrote [the projects] for a real organization with real goals and objectives that we needed to incorporate into our assignments. Understanding how a real organization would utilize these assignments put into context the purpose and use for the assignments,” a student shared in her course reflection. “My service-learning experience was way more fulfilling than I could have ever expected. It was amazing to be able to have every assignment have a real-life purpose,” a Latina student shared. “Though I personally typically strive to achieve highly on any assignment, the service-learning aspect of this course was a new incentive.”

The act of creating content or participating in work that was beneficial to an outside organization helped students imagine themselves in a professional context. “I got to write like actual real content that my service-learning partner used. So it helped me figure out if that’s exactly what I want to be doing, like real stuff that I would be doing as a professional,” a student said during the interview. While some students gained similar experiences through internships or working on campus, most identified service-learning as the primary mechanism through which they gained professional experience as a student. “Real world experience in school is extremely, is as important as your academic work. But being able to balance that is very important and the easiest way or the best way to do that is a service-learning course,” another student said.

Alumni reflecting back on their service-learning experiences made similar connections. An alumna who identified herself as low SES in the pre-focus group survey, shared that the amount of service-learning courses she took as an

undergraduate differentiated her when she entered the workforce. “Sometimes I feel like we’re all way smarter than like half the schools in [the state] because we did stuff, real world things,” she said. “People are actually doing things outside of the text book.” A Latina student in the focus group echoed this sentiment:

I don’t know how popular service-learning is for other colleges, but maybe it puts you in a different category almost. I don’t know. Because you have other real-world experiences like writing a press release for an actual nonprofit. Or you know, it’s not just a class assignment that somebody graded you on, it’s like something that actually went out...I think that really helps put you into another category of students that are only doing in class stuff as opposed to the real world.

The service-learning alumni also said that the experience helped them identify what career path they wanted to pursue. One woman spoke about friends who changed majors after taking their first service-learning course. Another woman said service-learning helped her discover, “...what you like and what you didn’t like, or what you thought you liked and you’re not really good at.” The alumni expressed that they didn’t appreciate the full impact of student-learning until after they entered the job market. One Latina alumna shared that 4 years after graduation she continues to use work done for a service-learning class in her professional portfolio. An alumna who participated in service-learning as part of a sign-language interpreting course also said the experience helped her establish professionally. “It pushed me to show the community who I was as an interpreter,” she said. “This is my work. This is what I’m doing. So it was more showing the community what things I’m capable of.”

A connected theme that emerged from some of the students was the opportunity to engage in new concepts or materials that had not yet been covered in class or in the academic sequence of courses.

I learned things from [the service-learning client] that I hadn’t yet learned in class. And so then when I got to [the writing course] I kind of already

knew some of the writing things because I'd gotten that experience from my first service-learning client. So I'd say it definitely...helped me be more successful in other courses.

This concept emerged among a handful of the student participants, suggesting the need for further research. It could be that instances where service-learning exposes students to ideas beyond those covered in the curriculum, students are pushed to expand academically, improve their confidence and deepen their resiliency.

## **Other Themes**

### **Personal and Academic Self-Assurance**

Beyond the NSSE indicators, a number of themes related to how service-learning helped students engage and reach graduation emerged from the data. The most prominent of these concepts was personal and academic confidence. Several students and alumni spoke favorably about the self-assurance that was cultivated in their service-learning courses. "My communication skills and my confidence in talking to people in the professional world is definitely a lot higher than it would be if I hadn't done a service-learning class. That to me has been awesome," one student said during the interview. This theme emerged in the class reflections as well, with one student writing, "Knowing that I had the skills to develop a plan was something I never knew I could do." An international student described growing in her self-confidence, particularly as it related to her language skills. She wrote in her reflection, "I didn't have much confidence...but in this class, I feel that I finally overcame some of those anxieties, due to the welcoming atmosphere of the class."

One alumna, who described herself shy as and introverted, said service-learning forced her to engage in experiences that have benefited her over time.

I'm usually not the one to initiate a conversation to like introduce myself or network in that way and then I think service-learning has helped me to be more comfortable in that situation. So I'm more comfortable introducing myself to people at my organization that I'm working with, just introducing and meeting them and creating those relationships. And then even for professors, I'm more comfortable conversing with them. And I feel that's probably due to the exposure that I've had due to service-learning.

An URM alumna shared a similar experience. "I'm super introverted, like when I was a student I didn't want to do any internships, I didn't want to do extracurricular, so service-learning is a way to like force you to get experience," she said. These findings could indicate that service-learning supports the development of a growth mindset rooted in an internal locus of control for students (Dweck, 2006).

### **Time Management**

The final major theme that surfaced was how service-learning helped students develop better time management skills. "Having to learn how to manage your time, it's a good skill...having to be a full-time student, with a service-learning class and a part-time job because then you're able to go, 'I was able to balance this, what's next?'" a Latino student said of his schedule. Many students also spoke about the time demands associated with service-learning.

I thought I had pretty solid time management skills, but this course put those skills to the test. Meeting deadlines while also writing multiple drafts and following the writer's checklist was difficult for someone who falls into the 'winging it' camp. I had never spent so much time preparing for assignments versus diving into writing headfirst. However, this process made me a better editor of my own work, helped me become more organized, and motivated me to set goals and objectives for upcoming project.

Another student shared during the interview that staying on top of the deadlines in the service-learning class was challenging but beneficial in that it "instilled a better sense of responsibility."

**Research Question 4: What factors contribute to the decision to participate in service-learning for low SES and URM undergraduate students?**

All of the participants interviewed for this study enrolled in service-learning because it was a requirement of their major. “I didn’t necessarily go out of my way to take [service-learning], I had to take them...I didn’t know what service-learning was until I took the class,” one Latina student shared in the interview. Many students reported similar experiences of being unfamiliar with service-learning prior to participating in the class.

The alumni who did not take service-learning either had not heard of it or were confused about what it entailed. One Latina student asked if it was related to volunteerism. Two students spoke about completing projects in a course for an outside organization, but neither thought the courses were designated as service-learning. This finding is surprising given the decade long commitment to service-learning demonstrated by the school they attended, as well its recognition with the Carnegie Classification of Community Engagement. It is possible the lack of awareness of service-learning could be attributed to the participants’ status as transfer students. While it is possible they had less time for exposure to service-learning, nonetheless, the finding could warrant future research into the relationship between knowledge of service-learning among students and likelihood of participating in the courses.

While the alumni who took service-learning reported that it was a requirement, they were all strongly affirmative of the experience and suggested that the university could better promote the experience to future students. Several focus group participants suggested that service-learning should be a unique selling point of the university. One alumna suggested that the name service-learning was

not descriptive enough of the experience, and speculated that students would be more inclined to participate if they better understood its benefits, specifically preparing students for the workplace. Another alumnus said that it could be helpful for current students to hear from recent alumni about the importance of service-learning as a means to encourage students to enroll in more of those courses during their academic careers.

## CHAPTER 5: CONCLUSION

In evaluating the role of service-learning on retention, Bringle et al. (2010) theorized that service-learning intersects with Tinto's (1975) model of student attrition by bridging a student's academic/social systems with their level of institutional engagement. Bringle et al.'s work is supported by the findings of this research study, which identified specific engagement indicators that are enhanced by a service-learning experience. Additionally, this study helps to understand how service-learning impacts goal setting and commitments, further indicating how the practice supports engagement, persistence and graduation, particularly for URM and low SES students.

In keeping with other research, the quantitative findings of this study show a significant relationship between service-learning and graduation (Lockeman, 2012; Lockeman & Pelco, 2013; Yeh, 2010). Regression models deployed for this study found that service-learning was predictive of graduation. The statistical findings also revealed that the more service-learning courses taken may increase the likelihood of degree attainment. Analysis of NSSE data indicates that among the engagement indicators measured, collaborative learning is shown to be stronger for students who took one or more service-learning courses compared to students who did not take service-learning. This finding was supported by the qualitative findings, with students reporting positive student-to-student learning experiences while participating in a service-learning class. These experiences appear to support academic growth, which contributes to persistence and degree attainment.

Other qualitative findings show that students in service-learning courses report quality interactions with faculty, students, and their service-learning clients.

These interactions supported student confidence and psychosocial growth, enhanced academic challenge, improved time-management skills, and supported hands-on learning experiences that contributed to their motivation. The participants in the study reported that these factors directly contributed to their overall academic success and ability to reach graduation.

### **Interpretation of Findings**

#### **Service-Learning as a Predictor for Degree Completion**

The quantitative findings in this study supported previous studies in finding that degree attainment can be predicted by participation in a service-learning course (Lockeman, 2012; Lockeman & Pelco, 2013; Yeh, 2010). Graduation rates were also found to be predicted by URM status, but not SES status. It is, however, important to note that the results of this study are diminished by the model, which only accounted for 1.1% of the variability.

Further analysis found a relationship between the number of service-learning courses taken and graduation, with 95% of students at senior status who took four or more service-learning classes achieving graduation. This finding was supported by the qualitative findings of this study, suggesting that encouraging students to take more service-learning courses could be a tool to improve graduation rates for low SES and URM students.

#### **Service-Learning as an Instrument for Institutional Engagement**

Overall, student-to-student collaboration emerged as the most prominent differing engagement indicator for service-learning students compared to their counterparts who did not take service-learning. For the 2011 dataset, the only

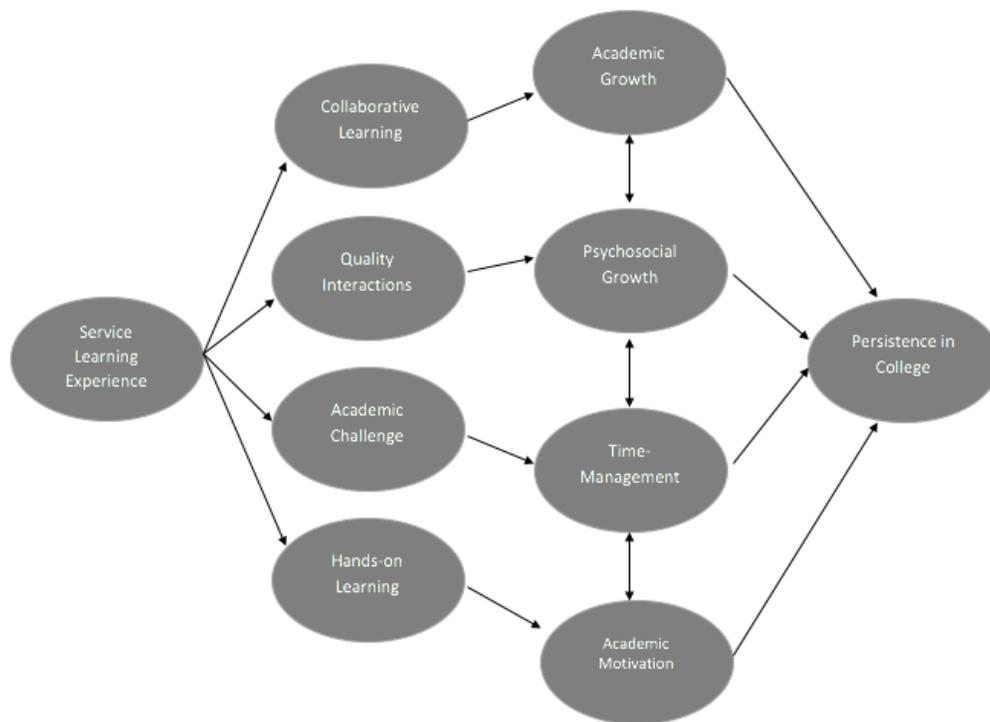
NSSE benchmark with significant variation in means between service-learning and non-service-learning students was Active and Collaborative Learning. The 2015 NSSE results found no significant univariate for any of the 10 engagement indicators. However, the analysis found some difference in means among some indicators. For students who participated in service-learning, Collaborative Learning was significant. The interviews and focus groups with students and alumni support this finding, with the participants who took a service-learning class describing close collaboration with other students as an important differentiator of service-learning compared to a traditional course.

### **Engagement Indicators and Service-Learning in Graduation Outcome**

Qualitative data from students at senior status and alumni who graduated within 4 years from the time of this research supported the quantitative findings that Collaborative Learning played an important role in engagement and graduation outcomes for students who took service-learning courses as undergraduates. These data also pointed to several additional engagement indicators that could support degree attainment, including: quality interactions through enhanced experiences with faculty, and academic challenge expressed as enhanced higher-order learning, and reflective and integrative learning. A connected theme to academic challenge that was expressed by the participants was the opportunity to encounter concepts or materials that had not yet been covered in the academic coursework. Other themes beyond those measured in the NSSE instrument that emerged included hands-on learning, professional experiences, increased confidence, and improved time-management skills.

Overall, these findings point to the important role service-learning plays in supporting student success and reaching graduation. Participants shared multiple

examples of personal and academic growth that occurred as a result of their participation in service-learning. They also reported gaining experiences that helped to connect the course work to professional opportunities, which in turn motivated the participants to persist in college and reach graduation. These findings support the conceptual framework presented in Figure 5.



*Figure 5.* A conceptual framework of service-learning and engagement impact degree attainment for Under Represented Minority and low Socio-Economic college students

While past research has asked *if* engagement is occurring, the findings from the qualitative data paint a picture of *how* engagement factors into the experience of students in service-learning courses. The identification of the specific ways that service-learning supports student academic/psychosocial growth, motivation and time-management skills points to a more nuanced understanding of how these experiences help students achieve in the classroom. These findings, grounded in

the qualitative data, not only support the literature around student engagement, but also point to a new way of thinking about the impact of service-learning on student success. Beyond the bottom line objective of degree attainment, this research infers that the positive benefits of a service-learning experience extend beyond graduation. As reported by the recent alumni who participated in the study, service-learning helped prepare them to interact in the workplace, gain experience in their field, and network professionally.

### **Factors that Contribute to Service-Learning**

#### **Participation**

The findings for this research question are limited, as all the participants who enrolled in a service-learning course did so because it was a requirement of their major. Many expressed holding negative pre-conceptions about the time commitment and workload associated with service-learning prior to taking the class. These pre-conceptions fueled reluctance to enroll in a service-learning class. Additionally, the students reported having limited understanding of what service-learning was prior to participating in the course. The participants in the study who did not take service-learning echoed this finding, stating that they had minimal understanding of what a service-learning course was, or how it differed from a traditional course.

While the participants who took service-learning did so to fulfil a requirement and expressed reservations prior to taking the class, in retrospect the majority could clearly articulate the unique value the experience offered. This sentiment was strongest among the alumni participants who took service-learning. They shared that the time they had spent in the workforce helped them to better appreciate how service-learning contributed to their success both as a student and as a professional. In light of that realization, the alumni expressed regret that they

did not take better advantage of service-learning during their time as undergraduate students.

### **Implications for Practitioners**

The quantitative and qualitative findings of this study indicate that of the 10 NSSE benchmarks, collaborative learning is stronger among student who participate in service-learning, compared to students who do not. This finding could be highly valuable to higher education practitioners who seek to maximize the impact of service-learning as a tool for student engagement. Moving forward, recommendations include the integration of enhanced peer-to-peer interaction in service-learning courses. This could be achieved through partnering students both in the classroom and at a service-learning site, and developing formal structures for students to collaborate on the work performed for a service-learning client. Additionally, this finding could be of value to instructors who are not teaching a service-learning course. The addition of structured ways to facilitate collaborative learning in non-service-learning courses through group work, partnering and other activities could be a impactful way to enhance student engagement, particularly among URM and low SES students.

The qualitative data analyzed in this research also suggest that student engagement is stronger for students in service-learning courses led by faculty who are enthusiastic about the process well trained in best practices. This suggests that enhanced education among faculty about the value of service-learning, in addition to training and professional development on how to best integrate service-learning into the curriculum, could lead to improved experiences for students.

Service-learning has the potential to push both students and faculty out of their comfort zones. As such, it can take time and effort to get faculty to participate in service-learning and develop enthusiasm for the technique. This

challenge speaks to the need for campus leadership to communicate the value of service-learning to faculty. The case for service-learning can be made through the research, but it could also come via the voices of former students. By connecting faculty with alumni who benefited from the practice, faculty could develop an enhanced appreciation for how the experience benefits student success, engagement and graduation.

Interactions with faculty and enhanced academic challenge through connecting coursework with community needs also emerged qualitatively as important aspects of the service-learning experience for students. These findings suggest that educators might tailor service-learning offerings in ways that enhance those experiences. Developing coursework around collaborative learning and hands-on experiences can be a way to deepen the level of academic challenge. Furthermore, faculty should be encouraged to work closely with students, interacting in a collaborative way that contributes to a student's sense of belonging.

The data also suggest that practitioners could rethink the way in which they assess service-learning experiences. By considering engagement indicators alongside other measures like GPA, persistence and graduation rates, practitioners could develop a more nuanced understanding of the value of the experience for students. This could be accomplished simply by looking for evidence of engagement indicators in the reflections students write as part of most service-learning courses, or could also be measured more extensively through the evaluation of NSSE data or other engagement measurements.

Another finding of note to inform practice is that students highly value their interactions with service-learning clients. The data shows that those clients willing to work closely with students and integrate their experience into the work of the

organization leads to improved outcomes related to engagement. Consequently, practitioners could improve the experience for students by clearly communicating the expectation of interaction between client and student to both parties, as well as by seeking out opportunities conducive to this kind of engagement. This finding may also support the establishment of long term relationships with service-learning clients, who can in turn develop experience in building close working relationships with students.

As it relates to participation in service-learning, the research shows that enhanced education is needed to communicate the value of the practice. The data from the alumni focus group were most compelling on this point. The participants spoke passionately about how recent alumni can best communicate the impact of service-learning for students. They suggested bringing recent alumni back to campus to explain and promote service-learning during new student orientation programs. They also suggested developing more robust communications about service-learning both for students and the community. One alumni participant said that she felt service-learning was a pride point of her university, that that she wished the institution better promoted the practice.

And while the focus on this research was on service-learning, it is reasonable to infer that the NSSE benchmarks that resonated with service-learning students may also be of import to students participating in other higher-impact practices, or in traditional courses. Collaborative learning, hands-on experiences, quality interactions and enhanced academic challenge can be cultivated in any classroom. Academic leaders looking to improve engagement, particularly among SES and low URM students, could encourage faculty to reimaging how they might integrate these forms of engagement, and others, into the classroom experience.

### **Limitations**

In the case of this research, the methodology and sampling limited the reliability of the findings. The model used to predict the relationship between service-learning and graduation rates proved to be weak, likely as a result of the population. By restricting the population to students at senior status, the variation was limited. With an overall graduation rate of 87%, the model correctly predicted that everyone in the population should reach graduation. The lack of variability in the population made it difficult to isolate the role service-learning played in helping students attain their degree. Other limitations could also be addressed in part by adding other predictors of graduation to the statistical model. For example, in order to control for the possibility that students who are performing better in school are more likely to enroll in service-learning courses, GPA could have been another variable added to the analysis.

The qualitative findings were also limited as a result of the population sample. The researcher was only able to gain access to participants in two sections of the same course, taught by the same instructor. A broader distribution of students representing different academic disciplines would have enhanced the credibility of the findings. The lack of gender variation among the student participants was another limitation. And while there was more variation among the participants in the alumni focus groups, a more random sampling would have enhanced the findings.

### **Recommendations for Future Research**

As the call to improve graduation rates among undergraduate students grows, so does the value of research to identify the experiences that support student success. This will be of particular import to institutions that serve populations of traditionally under-represented students. In order to close

achievement gaps between various student populations, a more sophisticated understanding of the complex factors that contribute to a student's decision to persist and reach graduation should be developed.

This study indicates that service-learning could be a valuable experience to support student success for low SES and URM students, but further research that encompasses a larger population would be valuable in understanding with better clarity how service-learning contributes to engagement and graduation. There is also a need to develop an improved understanding of the factors that contribute to engagement beyond those measured by the NSSE survey. Additionally, given that service-learning is just one pedagogical technique that a student may encounter during his or her undergraduate experience, further research into how service-learning interacts with other academic experiences and/or high impact practices would help educational leaders understand how to best deploy the technique as part of the undergraduate experience.

The finding in this study that most students do not understand service-learning and/or hold negative perceptions of what the experience could entail point to the need for more research. The findings of this area of research could be a valuable tool in helping to market service-learning to both students and faculty. It could also help in the development of communications strategies pertaining to service-learning designed to better educate future students about the benefits of the experience.

### **Conclusions**

Service-learning appears to be a valuable pedagogical technique in its ability to support both engagement and degree attainment for low SES and URM students. The quantitative findings of this study show a significant relationship between service-learning and graduation, and the analysis of NSSE data indicate

that student engagement through collaborative-learning is greatly enhanced with service-learning compared to traditional courses. Student-to-student relationships were also shown to positively enhance student experiences through the qualitative findings. This research also indicates that students in service-learning courses benefit from improved interactions with faculty and their service-learning clients, enhanced academic challenge, and hands-on learning experiences. These experiences support academic growth, psychosocial growth, time-management skills, and motivation. These outcomes may all be powerful factors in helping students persist to graduation.

It is important to note that service-learning is just one of several factors that may contribute to a student's overall success and connection to his or her institution. While this research attempted to isolate the impact of service-learning for low SES and URM students, these courses are experienced by students in the broader context of their undergraduate experience. The findings of this study indicate that service-learning is a powerful tool that supports a number of beneficial experiences for students, but it is by no means a singular solution. Universities committed to access and equity for low SES and URM students would be advised to consider the adoption of service-learning as part of a comprehensive strategy to address the many factors that contribute to improving graduation rates for traditionally under-represented students.

## REFERENCES

- Arredondo, M., & Knight, S. (2005). Estimating degree attainment rates of freshmen: a campus perspective. *Journal of College Student Retention: Research, Theory and Practice*, 7(1), 91–115. Retrieved from <http://doi.org/10.2190/EG5X-LN6A-JL8X-CJ0W>
- Association of American Colleges and Universities. (2007). *College learning for the new global century*. Retrieved from [http://www.aacu.org/sites/default/files/LEAP/GlobalCentury\\_final.pdf](http://www.aacu.org/sites/default/files/LEAP/GlobalCentury_final.pdf)
- Astin, A. W. (1993). *What matters in college: four critical years revisited*. San Francisco, CA: Jossey-Bass.
- Astin, A. W. (2006). Making sense out of degree completion rates. *Journal of College Student Retention: Research, Theory and Practice*, 7(1), 5–17. Retrieved from <http://doi.org/10.2190/7PV9-KHR7-C2F6-UPK5>
- Astin, A. W., Parrott, S. A., Korn, W. S., & Sax, L. J. (1997). *The American freshman: thirty year trends*. Retrieved from <https://www.heri.ucla.edu/PDFs/pubs/TFS/Trends/Monographs/TheAmericanFreshman30YearTrends.pdf>
- Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. *Journal of College Student Development*, 39(3), 251–263.
- Axsom, T., & Piland, W. (1999). Effects of service learning on student retention and success. *NSSE Quarterly*, 24, 15–19.
- Bean, J., & Eaton, S. B. (2002). The psychology underlying successful retention practices. *College Student Retention*, 3(1), 73–89. Retrieved from <http://doi.org/10.2190/6R55-4B30-28XG-L8U0>

- Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education, 40*(6), 641–664. Retrieved from <http://doi.org/10.1023/A:1018708813711>
- Boyer, E. L. (1994). Creating the new American college. *Chronicle of Higher Education, 40*(27), 58.
- Braxton, J. M. (2003). Student success. In S. R. Komives & D. B. Woodard (Eds.), *Student services: A handbook for the profession* (4th ed., pp. 317–338). San Francisco, CA: Jossey-Bass.
- Braxton, J. M., Jones, W. A., Hirschy, A. S., & Hartley, H. V. (2008). The role of active learning in college student persistence. *New Directions for Teaching and Learning, 115*, 71–83. <http://doi.org/doi:10.1002/tl.326>
- Braxton, J. M., Sullivan, A. V. S., & Johnson, R. (1997). Appraising Tinto's theory of college student departure. In J. C. Smart (Ed.), *Higher education handbook of theory and research* (pp. 107–164). New York, NY: Agathon Press.
- Bringle, R. G., Hatcher, J. a., & Muthiah, R. N. (2010). The role of service-learning on the retention of first-year students to second year. *Michigan Journal of Community Service Learning, 16*(2), 38–49.
- Brownell, J., & Swamer, L. E. (2010). *Five high-impact practices: research on learning outcomes, and quality*. Washington, DC: Association of American Colleges and Universities.
- Butin, D. W. (2006). The limits of service-learning in higher education. *The Review of Higher Education, 29*(4), 473–498. Retrieved from <http://doi.org/10.1353/rhe.2006.0025>

- Butin, D. W. (2010a). "Can I major in service-learning?" An empirical analysis of certificates, minors, and majors. *Journal of College and Character*, 11(2), 1–19. Retrieved from <http://doi.org/10.2202/1940-1639.1035>
- Butin, D. W. (2010b). *Service-learning in theory and practice*. New York, NY: St. Martin's Press.
- Celio, C. I., Durlak, J., & Dymnicki, A. (2011). A meta-analysis of the impact of service-learning on students. *Journal of Experiential Education*, 34(2), 164–181. Retrieved from <http://doi.org/10.5193/JEE34.2.164>
- Chickering, A. W. (1977). *Experience and learning: an introduction to experiential learning*. New York, NY: Change Magazine Press.
- Chickering, A. W., & Gameson, Z. F. (1987). Seven principles for good practice in undergraduate education. *American Association of Higher Education Bulletin*, 39, 3–7. Retrieved from [http://doi.org/10.1016/0307-4412\(89\)90094-0](http://doi.org/10.1016/0307-4412(89)90094-0)
- Campus Compact (n.d.). Who we are. Retrieved from <http://compact.org/who-we-are/>
- Creswell, J. W. (2008). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles, CA: Sage.
- Demetriou, C., & Schmitz-Sciborski, A. (2011b). Integration, motivation, strengths and optimism: Retention theories past, present and future. In R. Hayes (Ed.), *Proceedings of the 7th National Symposium on Student Retention* (pp. 300–312). Norman, OK: The University of Oklahoma.
- Dewey, J. (1916). *Democracy and education: an introduction to the philosophy of education*. New York, NY: Macmillan.
- Dewey, J. (1938). *Experience and education*. New York, NY: Macmillan.
- Dweck, C. S. (2006). *Mindset*. New York, NY: Ballantine Books.

- Education Commission of the States. (1995). *Making quality count in undergraduate education: A Report for the ECS Chairman's "Quality Counts" Agenda in Higher Education*. Indianapolis: Liberty Fund. Retrieved from <http://files.eric.ed.gov/fulltext/ED388208.pdf>
- Engagement, N. S. of S. (2014). *From Benchmarks to Engagement Indicators High-Impact Practice Items*. Retrieved from [http://nsse.indiana.edu/pdf/Benchmarks to Indicators.pdf](http://nsse.indiana.edu/pdf/Benchmarks%20to%20Indicators.pdf)
- Eyler, J., & Giles, D. E. J. (1999). *Where's the learning in service-learning*. San Francisco, CA: Jossey-Bass.
- Eyler, J. S., Giles, D. E., Stenson, C. M., & Gray, C. J. (2001). At a glance: What we know about the effects of service-learning on college students, faculty, institutions and communities, 1993- 2000. *Corporation for National Service, 1993–2000*.
- Lumina Foundation (n.d.). Goal 2025. Retrieved from [https://www.luminafoundation.org/goal\\_2025](https://www.luminafoundation.org/goal_2025)
- Freire, P. (1968). *Pedagogy of the oppressed*. New York, NY: Seabury Press.
- Furco, A. (1996). Service-learning: a balanced approach to experiential education. In B. Taylor (Ed.), *Expanding boundaries: serving and learning* (Vol. 1, pp. 2–6). Washington, DC: Corporation for National Service.
- Gallini, S. M., & Moely, B. E. (2003). Service-learning and engagement, academic challenge, and retention. *Michigan Journal of Community Service Learning*, (Fall), 5–14.
- Giles, D., & Eyler, J. (1994). Theoretical roots of service-learning in John Dewey: Toward a theory of service-learning. *Michigan Journal of Community Service Learning*, 1(1), 77–85.

- Hollander, E. L., Saltmarsh, J., & Zlotkowski, E. (2002). Indicators of engagement. In M. E. Kenny, L. A. K. Simon, K. Kiley-Brabeck, & R. M. Lerner (Eds.), *Learning to serve: promoting civil society through service learning* (pp. 31–49). Norwell, MA: Kluwer Academic.
- Hughes, K. (2012). *The college completion agenda 2012 progress report*. Retrieved from <http://media.collegeboard.com/digitalServices/pdf/advocacy/policycenter/college-completion-agenda-2012-progress-report.pdf>
- Kenny, M., & Gallagher, L. A. (2002). Service-learning: a history of systems. In M. E. Kenny, L. A. K. Simon, K. Kiley-Brabeck, & R. M. Lerner (Eds.), *Learning to serve: promoting civil society through service learning* (pp. 15–29). Norwell, MA: Kluwer Academic.
- Keup, J. R. (2005). The impact of curricular interventions on intended second year re-enrollment. *Journal of College Student Retention: Research, Theory and Practice*, 7(1), 61–89. Retrieved from <http://doi.org/10.2190/2DCU-KABY-WVQH-2F8J>
- Kolb, A., & Kolb, D. (2005). Learning styles and learning spaces: enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193–212. Retrieved from <http://doi.org/10.5465/AMLE.2005.17268566>
- Kolb, D. (1984). *Experiential Learning: experience as the source of learning and development*. Upper Saddle River, NJ: Prentice-Hall.
- Kolb, D. (2015). *Experiential learning: experience as a source of learning and development* (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Kuh, G. D. (2008). *High-impact educational practices*. Washington, D.C.: Association of American Colleges and Universities.

- Kuh, G. D. (2001). Assessing what really matters in student learning. Inside the National Survey of Student Engagement. *Change*, 33(3), 10–66. Retrieved from [http://cpr.indiana.edu/uploads/Assessing\\_What\\_Really\\_Matters\\_To\\_Student\\_Learning\\_\(Kuh,\\_2001\).pdf](http://cpr.indiana.edu/uploads/Assessing_What_Really_Matters_To_Student_Learning_(Kuh,_2001).pdf)
- Kuh, G. D. (2001). The National Survey of Student Engagement: conceptual framework and overview of psychometric properties. *Framework & Psychometric Properties*, 1–26. Retrieved from <http://doi.org/10.5861/ijrse.2012.v1i1.19>
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature spearheading a dialog on student success. Commissioned Report for the National Symposium on Postsecondary Student Success Spearheading a Dialog on Student Success*. Retrieved from [https://nces.ed.gov/npec/pdf/kuh\\_Team\\_Report.pdf](https://nces.ed.gov/npec/pdf/kuh_Team_Report.pdf).
- Laird, T. F., Chen, D., & Kuh, G. D. (2008). Classroom practices at institutions with higher-than-expected persistence rates: what student engagement data tell us. *New Directions for Teaching and Learning*, 115(Fall), 85–99. Retrieved from <http://doi.org/10.1002/tl.327>
- Lockeman, K. (2012). *The impact of service-learning among other predictors for persistence and degree completion of undergraduate students*. (Doctoral dissertation). Retrieved from <http://scholarscompass.vcu.edu/etd/2910/>.
- Lockeman, K. S., & Pelco, L. E. (2013). The relationship between service-learning and degree completion. *Michigan Journal of Community Service Learning*, 20(1), 18–30.

- Malley, J. W. O. (2000). How Humanistic is the Jesuit Tradition?: From the 1599 Ratio Studiorum to Now. *Jesuit Education 21: Conference Proceedings on the Future of Jesuit Higher Education.*, 21, 189–201. Retrieved from <http://www.bc.edu/content/dam/files/offices/mission/pdf1/ju7.pdf>
- Markus, G. B., Howard, J. P. F., & King, D. C. (1993). Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational Evaluation and Policy Analysis*, 15(4), 410–419.
- Metz, G. W. (2004). Challenge and changes to Tinto's persistence theory: A historical review. *Journal of College Student Retention: Research, Theory and Practice*, 6(2), 191–207. Retrieved from <http://doi.org/10.2190/M2CC-R7Y1-WY2Q-UPK5>
- Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- National Survey of Student Engagement (2014). *From benchmarks to engagement indicators high-impact practice items*. Retrieved from [http://nsse.indiana.edu/pdf/Benchmarks to Indicators.pdf](http://nsse.indiana.edu/pdf/Benchmarks%20to%20Indicators.pdf).
- Nora, A. (1990). Campus-based aid programs as determinants of retention among Hispanic community college students. *Journal of Higher Education*, 61(3), 312–330.
- Obama, B. (2009, February 24). President Obama addresses joint session of Congress. *Washington Post*. Retrieved from [http://www.washingtonpost.com/wp-srv/politics/documents/obama\\_address\\_022409.html](http://www.washingtonpost.com/wp-srv/politics/documents/obama_address_022409.html)
- Osborne, R. E., Hammerich, S., & Hensley, C. (1998). Student effects of service-learning: tracking change across a semester. *Michigan Journal of Community Service Learning*, 5(1), 5–13.

- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco, CA: Jossey-Bass.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: a third decade of research* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Pollack, S. (1999). Early connections between service and education. In T. K. Stanton, D. E. J. Giles, & N. I. Cruz (Eds.), *Service-learning: a movement's pioneers reflect on its origins, practice, and future* (pp. 12–32). San Francisco, CA: Jossey-Bass.
- Porfilio, B. J., & Heather, H. (2011). *Critical service learning as revolutionary pedagogy*. Charlotte, NC: Information Age.
- Robinson, G. (2010). *Community colleges broadening horizons through service learning, 2006-2009*. Retrieved from <http://files.eric.ed.gov/fulltext/ED499827.pdf>
- Sanford, N. (1962). The American College. In N. Sanford & J. Adelson (Eds.), *The American college: A psychological and social interpretation of the higher learning*. New York, NY: Wiley & Sons.
- Schon, Donald, A. (1995). The new scholarship requires a new epistemology. *Change*, 27(6), 26–34. Retrieved from <http://doi.org/10.1007/978-94-011-0071-7>
- National Corporation for Community Service (2006). *Educating for active citizenship: service-learning, school-based service, and civic engagement*. Retrieved from [http://www.nationalservice.gov/sites/default/files/documents/SL\\_briefing.pdf](http://www.nationalservice.gov/sites/default/files/documents/SL_briefing.pdf)
- Sigmon, R. L. (1979). Service-learning: three principles. *Synergist*, 8(1), 9–11.

- Stanton, T. K., Giles, D. E. J., & Cruz, N. (1999). *Service-learning: A movement's pioneers reflect on its origins, practice, and future*. San Francisco, CA: Jossey-Bass.
- Statistics, N. C. for E. (2016). *The Condition of Education*. Retrieved from [https://nces.ed.gov/programs/coe/indicator\\_ctr.asp](https://nces.ed.gov/programs/coe/indicator_ctr.asp)
- Strage, A. A. (2000). Service-learning: enhancing student learning outcomes in a college-level lecture course. *Michigan Journal of Community Service Learning, 7*(1), 5–13.
- Tierney, W. G. (1992). An anthropological analysis of student participation in college. *Journal of Higher Education, 63*(6), 603–618.
- Tinto, V. (1975). Dropout from higher education: a theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89–125.
- Tinto, V. (1993). *Leaving college* (2nd ed.). Chicago, IL: The University of Chicago Press.
- Tinto, V. (2003). Establishing conditions for student success. In L. Thomas, M. Cooper, & J. Quinn (Eds.), *Improving completion rates among disadvantaged students* (pp. 1–10). Sterling, VA: Trentham Books.
- Tocqueville, A. de. (2012). *Democracy in America: In two volumes*. Indianapolis, IN: Liberty Fund.
- Veysey, L. (1965). *The emergence of the American university*. Chicago, IL: The University of Chicago Press.
- Vogelgesang, L. J., & Astin, A. W. (2000). Comparing the Effects of Community Service and Service-Learning. *Michigan Journal of Community Service Learning, 7*(Fall), 25–34.

- Yeh, T. L. T. (2010). Service-Learning and persistence of low-income, first-generation college students: An exploratory study. *Michigan Journal of Community Service Learning, 16*(2), 50–65. Retrieved from <http://www.freepatentsonline.com/article/Michigan-Journal-Community-Service-Learning/255178770.html>
- Yue, H., & Hart, S. (2017). Service-learning and graduation: evidence from event history analysis. *Michigan Journal of Community Service Learning, 24*(1).
- Zimmerman, D. H., & Wieder, D. L. (1977). The diary: “diary-interview method.” *Urban Life, 5*(4), 479–498.
- Zlotkowski, E. (1996). A new voice at the table? Linking service learning and the academy. *Change, 28*(1), 21–27.