Priority Registration for Well Prepared High School Seniors: A mixed method study at a California community college

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Priority Registration for Well Prepared High School Seniors: A mixed method study at a California community college

A Dissertation by

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Submitted in partial fulfillment of the requirements for the degree of
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May 2018
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ACKNOWLEDGEMENTS

I open by thanking all of the TRIO students for the talent and value to our culture that you bring as you move through barriers to educational success. You have shaped my thinking about the mission and value of the community colleges and strengthened my resolve that students are able to learn far beyond what we think. Your educational futures are not determined by the barriers of your past. Congratulations and carry on.

Thank you, Dr. Goodman, for your consistent encouragement, prodding, counsel, and prayers as this project progressed. Your leadership has taught me much about how to love and lead people. I am grateful for your input and mentorship. Without being trite, it is right to say that this project would likely not have happened apart from your encouragement.

To my beloved Hannah, Joel, and Nathanael I am grateful for your grace to me as I gave inordinate time and attention to a project that likely made little sense to you at the time. I hope that the time away from you will pay dividends as an example as you plan large visionary projects in your own lives. Dream big and be satisfied with small. Honor God. Follow Christ. Protect and serve the weak.

And to the Lovely and Talented Mrs. Ruble, I cannot give sufficient ink here to my gratitude for your impact in my life. Sue, there is no greater gift a man can hope for in a partner than one that will love, support and build up as you have me. Thanks for your patience. Living life beside you under God is the greatest privilege of my life. Thanks for your help with this project. I love you.
ABSTRACT

Registration for Well Prepared High School Seniors: A mixed method study at a California community college

by Joel C. “Jody” Ruble

Purpose: The purpose of this mixed methods sequential explanatory mixed methods study is to explain the association between priority registration and student success as measured by success in transfer level mathematics and English at Sierra College. In addition, it to explain student perceptions of priority registration and their success and whether students perceive a relationship between their success and priority registration.

Methodology: Success will be measured according to the rates at which Sierra College students that are low income and first generation are successful in transfer level math and English. Research questions one and two consider the quantitative data collected from these sources. Questions one and two utilized a chi-square test for independence. Question three considers the qualitative data that is collected through a semi-structured interview design protocol. The interview design is a combination of focus groups interviews utilizing Dr. Raymond Padilla’s unfolding matrix design and individual interviews. The quantitative and qualitative data were combined sequentially; quantitative first with qualitative second to attempt to explain the quantitative results. The target population for this study is West Hills College Lemoore students. The study utilizes criterion purposive sampling to sample successful, low income and first generation students.
Findings: Examination of the mixed methods data revealed the relationship between priority registration and transfer level math and English success was one of independence. As well, students reported strongly that they view priority registration as a strong benefit to their navigation of the institution and through its registration processes.

Conclusions: California community colleges should consider the value of priority registration as a success initiative. It does appear to have a powerful effect as a means of rationing the resource of community college classes.

Recommendations: Further research is recommended to extend the research to all student populations. Additionally, one might examine the relationship between public crowd sourced tools like Rate My Professor and student success. Also, further study could test the relationship between priority registration and time to completion.
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CHAPTER I: INTRODUCTION

In the 2016-17 school year the California Community Colleges enrolled nearly 2.4 million students ("California Community Colleges Chancellor’s Office - Data Mart," 2018). The chancellor of the system adds that this is a full 25% of all community college students nationwide (Student Success Task Force, 2012). These students constitute the most diverse student population of any higher education segment in the state. Community college students come from virtually all backgrounds and from all socioeconomic and educational levels. The system strategic plan lists college awareness and access as the first of its strategic goals (Chancellor’s Office of California Community Colleges, 2013). With access as a driving principle, the system welcomes students from every background and skill level. For this unique population of students, success is elusive (Moore & Shulock, 2010).

According to the Chancellor’s office of the California community college systems, in 2015-16 52% of students from the 2010 cohort had failed to earn a degree, certificate or transfer to a university. These students who began at community college in 2010 dropped out without achieving any of their educational goals ("California Community Colleges: Second Progress Report on the Student Success Act of 2012," 2015). In a study entitled *Divided We Fail: Improving completion and closing racial gaps in California’s community colleges*, Colleen Moore and Nancy Shulock note that a mere 30% of students who entered a California community college had earned an associate degree after 6 years. Only 23% had transferred to a university. Of the 70% that
remained only 15% were still in college at the end of the 6 year period (Moore & Shulock, 2010). The Student Success Task Force of the California community college Chancellor’s office noted in 2012 that of students who came to the community college with the intention of transferring to university, only 41% actually did (Moore & Shulock, 2010; Student Success Task Force, 2012). In 2017, after 5 years of work toward the Student Success Task Force goals, these numbers have improved somewhat. The 2017 scorecard notes that the overall rate of degree, certificate or transfer completion for students entering with these goals, is 48% (California Community Colleges, 2017).

Degree completion is an area of focus in the current era of the completion agenda. 40% of adults 25-64 years old hold some kind of postsecondary degree. Only 8.7% of those hold associates degrees. One can point to a variety of causes for this disparity, but when nearly half of all undergraduates are enrolled in community college, completion is a real concern in our sector of higher education (Baldwin, 2017). Preparation is key to success for these students, as the cultural, academic, and socioeconomic pressures are intense and often much more so than the pressures experienced by students who come from more traditional backgrounds. While there is some variation in the numbers related to student success, it is clear from every reckoning that success, for community college students in California, is an area of study ripe for harvest.

Community college students come from a wide variety of diverse backgrounds and levels of educational attainment. The pressures created by their inherent deficits are great and deserving of consideration by colleges. And at the same time, these students come to their college experience with resources that are also unique and can be parlayed into factors for success with some careful direction and preparation (Canales, 2010;
Serrata, 2009). And this is the lens through which this study will look at the question of student success.

In the Central Valley of California, the pressures are intensified, as poverty levels and lack of family experience in higher education are much higher than in other areas in the state. In 2009, a report for the Congressional Research Service by Tadlock Cowan compared the Central Valley of California to the Appalachian region. In the report, the area is often referred to as Western Appalachia because the poverty levels are like those in the 68 county Central Appalachia sub region. Madera County ranked among the 10 lowest per capita income Metropolitan Statistical Areas (MSAs) in the United States in 2003, and the other five MSAs in the San Joaquin Valley were all in the bottom 20% of all U.S. MSA’s (2006a, p. 3).” The western Appalachian moniker is aptly descriptive, if slightly deceptive inasmuch as the San Joaquin Valley of California experiences economic and cultural pressures that are by many metrics more intense than the Central Appalachia sub region (Cowan, 2006a). This creates a unique environment for the institutions committed to serving the higher education needs of every socioeconomic stratum. Community colleges in this region prepare a workforce from the poorest, least- resourced population in the country. Immigration, generational poverty, lack of educational role models, and very high unemployment numbers make the situation for students entering the community colleges difficult (Cowan, 2006a). The deck is truly stacked against these students before they even enter the halls of the community college.

Precollege preparation for community college students is a unique problem given the need for access, diverse student population (Jennifer Ng, Lisa Wolf-Wendel, & Karen Lombardi, 2012), pressure in the state budget (Bahr, Gross, Slay, & Christensen,
2013), increasing demand for more graduates (Obama, B., 2009) and cultural pressure arising from first-generation (henceforth referred to as FG) and low income (LI) status of a large percentage of our students (Chen, G., 2009; Chen & Carroll, 2005; Research, Analysis and Accountability Unit, 2014; Tinto, 1993). It is an especially unique problem in the San Joaquin Valley of California (Cowan, 2006a). Because of the diverse nature of the students served by them, precollege preparation is even more important in the community colleges. Additionally, the community college has the broadest mission of any segment of higher education; so much so that they have been dubbed “Democracy’s Colleges” in a White House summit briefing (Boggs, 2010). This mission is put to the test in striking and illustrative ways in the lives of the students in the Central Valley of California. The need for access for these populations is summarized well by Expanding Opportunity in Higher Education: Leveraging Promise when the authors describe barriers to access as, “robbery of basic human capital and the loss of hope of entire communities” (Gandara, Orfield, & Horn, 2006). It is evident in the data that these students struggle extraordinarily and require special consideration to ensure their success (Brook, 2011; Davis, 2010; Pascarella, Wolniak, Pierson, & Terenzini, 2003; Research, Analysis and Accountability Unit, 2014). This is further illustrated by the fact that only 41% of students seeking to transfer to a four-year institution are successful. For African American students this number is only 34%. For Latinos, the figure is 31% (Moore & Shulock, 2010; Student Success Task Force, 2012).

As a community college serving students from the impoverished Central Valley of California, it is essential Sierra College take a proactive approach to student preparation. With a significant immigrant student population, precollege preparation must
be directive and purposeful. While demographically majority white non-Hispanic, the college serves 26% Hispanic student and thus qualifies as a Hispanic serving institution under the Federal Title V regulations (“California Community Colleges Chancellor’s Office - Data Mart,” 2018; “Title V Developing Hispanic-Serving Institutions Program - Definition of an HSI,” 2018). These students must be integrated into the institution and have the institution “shrunk” to make it accessible to this vulnerable population (Engle & Tinto, 2008).

Precollege student development is a topic of great importance in the 114-college system of California community colleges. A recent movement focusing on student success (Little Hoover Commission, 2012; Student Success Task Force, 2012) along with a nationwide call for more college graduates, has created a new environment in which success is no longer merely a desired outcome, but now required one. To this end, California Senate Bill 1456, more commonly known as the Student Success and Support Act of 2012, includes recommendations that focus student services on K-12 collaboration, strengthening support structures, incentivizing success behaviors, aligning course offerings with student needs, improving basic skills education, and more (Student Success Task Force, 2012).

Also, the funding crisis that was the hallmark of the period from 2008 to 2013 (Bahr et al., 2013; Little Hoover Commission, 2012) forced community colleges in California to make drastic cuts in the number of sections they offer in any semester. This created a problem with demand that forced institutions to manage enrollment through a variety of strategies and tactics. One of these is strategies for managing enrollment is focusing enrollment on students that are likely to succeed based on research-directed
activities that support success. Another of these methods or means is to offer registration priority to students who participate in a series of designated pre-enrollment processes (Bahr et al., 2013).

Student preparation, success behavior incentives, course offering alignment, and basic skills improvement come together in the area of student development and enrollment management. Priority registration for high school seniors is one method that is arising as incentive for successful behavior, preparation for success and which is also showing benefits in strengthening basic skills course preparation.

**Background**

The background to the issue is a storyline that is concerned first with access and the importance of access in the community colleges. The storyline continues as we consider the economic difficulties (Bahr et al., 2013; Cowan, 2006b) that precipitate the current crisis and occasion many of the policy changes that are currently in play (Little Hoover Commission, 2012; Student Success Task Force, 2012). Coincidental to these economic troubles that result in funding shortages and reduced capacity in the community colleges is a spike in demand for classes in these same institutions. Finally, we consider the response within the community colleges generally and thus far to these stressors and specifically to enrollment management through priority registration and the preparation of students for it, in order to build on the current state of enrollment management and specifically as it relates to low income, first-generation seniors and their priority registration. Low income, first-generation students experience a unique set of barriers and because of these, they develop a unique set of resources for success. In the myriad of
treatments being handed down to the on the California community college system in its 114 colleges, which are effective when it comes to enrollment management and student success? This is the question that currently vexes the system and deserves special consideration. In the rural central valley of California, these treatments are wide ranging and the low income, first-generation, immigrant student population is succeeding to varying degrees (Engle, J. & Tinto, V., 2008; Tinto, 1993, 2002). Determining the set of treatments that is most effective is a field of study ripe for harvest.

Table 1. Fall 2016 Sierra College Student Count by Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra College Unduplicated Head Count</td>
<td></td>
</tr>
<tr>
<td>Student Count (N)</td>
<td>Student Count (%)</td>
</tr>
<tr>
<td>17,826</td>
<td>100.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>476</td>
</tr>
<tr>
<td>American-Indian/Alaskan Native</td>
<td>99</td>
</tr>
<tr>
<td>Asian</td>
<td>835</td>
</tr>
<tr>
<td>Filipino</td>
<td>246</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4729</td>
</tr>
<tr>
<td>Multi-Ethnicity</td>
<td>982</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>59</td>
</tr>
<tr>
<td>Unknown/Decline to State</td>
<td>213</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>10,187</td>
</tr>
</tbody>
</table>

In 2016, Sierra College completed its 80th year of operation as a fully accredited college. Sierra is well established as a pillar of the community and prides itself on providing high quality educational opportunities for its students. From its early
beginnings as Placer Junior College, Sierra College has grown to be a comprehensive community college serving 24,992 unduplicated students in the 2015-16 academic year. The demographic makeup of the college is contained in the tables below. One can see that over 65% of our population is under 24 years of age. The college is predominantly White Non-Hispanic with Hispanic as its second-largest ethnic group. The college’s female to male ratio is almost 1.2:1. In terms of trends, while the population of Sierra’s local area will be mostly unchanging in total size for the next projected decade, with less than 2% growth in the city projected in the next decade, the college’s population is somewhat increasingly Hispanic and increasingly female ("U.S. Census Bureau QuickFacts selected: Rocklin city, California," 2010).

The landscape of the California Community Colleges has changed dramatically in the last three years. As access institutions that are traditionally open to all types of students, community colleges have long been the places students can find a place to, at minimum, start in virtually any field of study. These institutions have traditionally also been the places where a student can earn certifications that lead to better employment opportunities.

These are historically the last institutions of higher education at which a student can take coursework solely for personal enrichment. Students traditionally excluded for a variety of reasons from higher education are welcome to the open-door community college. The community colleges, inasmuch as they reflect the needs, trends, and cultures of the communities in which they are situated, have truly been all things to all people. The community colleges accept students of all types and abilities, however both this philosophy and the colleges themselves have limitations and limiting access has become
a necessary evil in community colleges across the country and especially so in the community college system in California (Luzer, 2011). In 2014, the Legislative Analyst’s office of the California Legislature recommended that the budget for the community colleges cap taxpayer subsidized unit totals for community college students and eliminate funding for repetition of certain recreational courses. This has the further effect of rationing the resource (Taylor, 2011).

Table 2. Fall 2016 Sierra College Student Count by Age and Gender

<table>
<thead>
<tr>
<th></th>
<th>Student Count (N)</th>
<th>Student Count (%)</th>
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</thead>
<tbody>
<tr>
<td><strong>Sierra College Unduplicated Head Count</strong></td>
<td></td>
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<tr>
<td>17,826</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 and under</td>
<td>5,831</td>
<td>32.71%</td>
</tr>
<tr>
<td>20 to 24</td>
<td>6,157</td>
<td>34.54%</td>
</tr>
<tr>
<td>25 to 29</td>
<td>2,111</td>
<td>11.84%</td>
</tr>
<tr>
<td>30 to 49</td>
<td>3009</td>
<td>15.17%</td>
</tr>
<tr>
<td>50+</td>
<td>94</td>
<td>2.49%</td>
</tr>
<tr>
<td>Unknown/Decline to state</td>
<td>1</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

| **Gender**           |                  |                   |
|                      |                  |                   |
| Female               | 9,491            | 53.24%            |
| Male                 | 8,013            | 44.95%            |
| Unknown/Decline to state | 322         | 1.81%             |

The net effect of these policies was to limit access to students that come to the institution with skills that are too low to have a reasonable potential for success and yet, community colleges remain an important access point for many low income and minority students (Engle & Lynch, 2009).

Students who come to the community college system having no household knowledge of college or social capital that knowledge passes from generation to generation start their college careers at a disadvantage. These first-generation students are
generally less academically prepared, complete fewer credits, and are less likely to successfully complete coursework (Davis, 2010). This student group also tends to be less likely to successfully complete coursework (Davis, 2010). This student group also tends to exhibit a group of tendencies that are worthy of note. They are more likely to be female, Hispanic and to have been awarded a Pell Grant than the general student population (Research, Analysis and Accountability Unit, 2014). All of which points to a problem of disparate impact to which the system and its college are duty bound to respond. Still, the issues that press on the system are not all external or centered on students. There are issues related to funding that weigh heavily on how the system distributes its limited resources and which must be considered.

Community colleges are funded similarly to K-12 schools, inasmuch as the funding source is the state of California through Proposition 98 funds amongst others, but the funding is allocated in response to a formula that considers full time equivalent students (FTES) rather than average daily attendance (ADA) as the K-12 institutions are. but with strict caps on student totals as a remarkable difference. Also, the caps cannot keep up with demand. It is a necessary result that the system must find ways to ration the limited seats that are available (Beach, 2011; Legislative Analysts Office, 2005; Little Hoover Commission, 2012; Phelan, 2014; “Trends in College Spending Online | Delta Cost Project,” 2015). The troubles in community college spending became excruciatingly more intense when the economy turned sour in the country and in California (Little Hoover Commission, 2012). It is worthy of note that this is occurring in an economy that requires more jobs than colleges and universities are producing. It is projected that only 35% of the workforce of 2025 will have a college degree in an
economy that requires 41% of its worker to have degrees (Johnson, 2009). Research shows that currently 22% of adults between the ages of 25 and 64 have some college and no degree, but the literature points to the fact that the benefits of college redound to those who obtain a credential, not just attend (Baldwin, 2017). The logical next question then is, in an era when demand for community college classes is rising and funding and capacity are decreasing, what should the response of the system and its institutions be in making admissions determinations and who should and should not be granted admission?

The system must answer clearly the question stated plainly, who is not going to get in? The answer that the California community college system is offering at present is to manage enrollment. Managing enrollment takes two primary forms. On the one hand, colleges offer high demand courses in large classroom settings and on the other hand, colleges prioritize certain students to get into classes before others (Bahr et al., 2013). Colleges of the CCC system are reevaluating their enrollment management policies to determine how best to allocate space and resources to students, including making substantial changes to student registration priority policies (Davison & Hanna, n.d.; Little Hoover Commission, 2012).

Bahr notes that while there is abundant evidence of the deleterious effects of part time attendance and interruptions in attendance on student success and retention, there is little direct empirical work on the effect of registration priority on students’ success outcomes. Students who don’t get the classes they need stop out and drop out at far greater rates than those who are engaged actively in their education and moving toward their educational goals (Bahr et al., 2013; Karp, 2011). The lived experience of students
within these new enrollment management policies and the effects of these policies on the most vulnerable students is a field ready for careful study.

The Chancellor of the California community colleges through the Student Success Task Force along with the California state legislature has developed a response in the form of SB 1456 or the Seymour Campbell Student Success act of 2012, which is commonly referred to as the Student Success Act of 2012 (Student Success Task Force, 2012). What resulted are a set of four principles to guide the creation of registration priorities system wide:

The Community Colleges will adopt system-wide enrollment [registration] priorities that: (1) reflect the core mission of transfer, career technical education and basic skills development; (2) encourage students to identify their educational objective and follow a prescribed path most likely to lead to success; (3) ensure access and the opportunity for success for new students; and (4) incentivize students to make progress toward their educational goal (p. 33).

Bahr notes that the language is mandatory rather than suggestive as it has been in the past (Bahr et al., 2013).

The Task Force created 22 recommendations that will drive the success initiatives. Two of these are especially pertinent to the conversation regarding registration priority. Recommendation 2.2 says, “Require all incoming community college students to: (1) participate in diagnostic assessment and orientation and (2) develop an education plan.” And 3.1 reads, “the Community Colleges will adopt system-wide enrollment priorities that: (1) reflect the core mission of transfer, career technical education and basic skills development; (2) encourage students to identify their
educational objective and follow a prescribed path most likely to lead to success; (3) ensure access and the opportunity for success for new students; and (4) incentivize students to make progress toward their educational goal“ (Student Success Task Force, 2012).

The policy statement that motivates recommendation 2.1 is, “Community colleges will provide stronger support for students entering college to identify and meet their goals. Stronger support will be facilitated by centralized, integrated and student-friendly technology to better guide students in their educational planning process. The efforts of counseling faculty and other college staff will be more effectively targeted.” The policy statement that motivates recommendation 3.1 is, “Community colleges will incentivize those student behaviors that are associated with their eventual success.” Notable in this is the fact the motivating policies for the two recommendations that are under consideration and pertinent to priority registration are to create well prepared students and to incentivize students. It may be reasonable to assume that increased quality advisement and clear pathways for entering students is valuable for their success. It cannot merely be assumed that early registration as an incentive to good academic behavior will be effective to that end. The fact of this matter is, the relationship between the two initiatives and what their effects might be for low income and first-generation students are unconsidered at present. As Bahr notes, “research on the impact of various registration priority schemes on students’ outcomes is very limited” (Bahr et al., 2013). He continues that “to document students’ assigned registration priority in each term would make it possible to evaluate the efficacy of various registration priority schemes
and to analyze the consequences of differential registration priority on students’ academic progress and attainment” (Bahr et al., 2013).

Further research is needed to understand the relationship between non-academic support mechanisms and positive student outcomes. Non-academic support activities are frequently coupled with academic interventions. Presumably, this combination may create an interaction effect, and research may reveal ways for community colleges to capitalize on this. It is also unclear if different types of students require different supports, and research in this area could allow colleges to better match students with different interventions. It is important to keep in mind that efforts to implement non-academic supports may be moot if we do not understand how students perceive these efforts. Students create their own understandings of college, which influences their learning and their perceptions of attempts to improve their outcomes. If students do not view the information they are given as useful, for example, or if they do not find their social interactions meaningful, they are unlikely to capitalize on these mechanisms. A better understanding of student reactions to non-academic support activities and research linking student perceptions to their academic outcomes is therefore an area that is ripe for research (Karp, 2011).

This point connects the quantitative and qualitative components of the study as it seeks to “understand the relationship between non-academic support and positive student outcomes” and that hopes to uncover “student reactions to non-academic support activities” (Bahr et al., 2013). These student reactions will begin to shed light on the specific student preparation activities that students perceive as valuable to move them toward success.
The inherent stressors on our low income and first-generation students beg for a response specific to their need. The research points us to a variety of activities that illuminate the direction of the study. Engle and Tinto (2008) recommend participation in special programs that “scale down” institution to make the transition less traumatic. Other research points to the detrimental effects of late registration on persistence and success for low income and first-generation students (Mamiseishvili & Deggs, 2014). Finally, streamlining advisement to make it more personal, less complex and more intrusive can create more structure within the community college that helps to eliminate (1) some of the inherent distractions of work, family, commuting and (2) simple wasted coursework and time (Karp, 2011).

The theoretical grounding of the study begins with Tinto’s theory of student integration whose recommendations include improving academic preparation, providing additional financial aid, increasing transfer rates to universities, easing the transition to college, encouraging engagement on campus and promoting reentry of adult and working students (Engle & Tinto, 2008; Tinto, 1993, 1993, 2002, 2004). The theoretical foundation continues by considering students to be experts in their own experience and the impact of carrying theoretical, heuristic and compiled knowledge. (Harmon & King, 1985) This model is most directly grounded in a resource model of student success developed by Raymond Padilla, whose theory looks at the system of a school and develops a local model for success based on the experiences of successful students within the system (Padilla, 2009).
Statement of the Research Problem

Events of the years from 2008-2014 have brought dramatic changes to the landscape of the California community colleges (Little Hoover Commission, 2012). Drastic budget cutting at the state level resulting from general economic malaise combined with increasing student demand have combined to create an environment that is forcing the 114 California community colleges to reassess their priorities (Bahr et al., 2013). While there is little consistency in the way of actual policy across the community college system in California, fiscal troubles are quite consistent. Between the years of 2009 and 2012, the system has shouldered budget cutbacks of approximately $900 million. This translates to a decrease of 585,000 students from the 2008-09 to 2012-13 school years (Chancellor’s Office of California Community Colleges, n.d.).

The landscape of the California community colleges has changed dramatically in the last 5 years (Chen, G., 2009; Fain, n.d.; Jackson, 2013; Mullin, 2012). As open access institutions that are traditionally available to all types of students, community colleges have long been the places where all students can find a place to thrive in higher education. Community colleges are the most diverse of the higher education institutions and serve more students of color than their university counterparts (Hayward, Jones, McGuinness Jr, & Timar, 2004; Mullin, 2012). Access to Success (A2S) is a national initiative sponsored by the National Association of System Heads (“NASH: National Association of System Heads,” n.d.) and The Education Trust (The Education Trust, n.d.) focused on expanding access and success for students, especially those who are low-income or students of color. In their Access to Success report Jennifer Engle and Mary Lynch of the A2S system note that, while four-year graduates in the system are not as
economically and racially diverse as the high schools they serve that, “Indeed, the two-year institutions within A2S systems are serving as important access points to higher education for many low-income and minority students. These students, in fact, are actually overrepresented in A2S systems’ two-year colleges” (Engle & Lynch, 2009).

The community college, insofar as they reflect the needs, trends and cultures of the communities in which they are situated, have sought to pursue universal access and the tradition of community services (Sheldon, 2003). This creates within the community colleges a need to respond to the most diverse array of stressors, deficits, cultural issues and other weighty educational problems within any segment of higher education. The needs within the community college population are great and the resource is limited. Institutions struggle to find the most effective ways to serve their communities and often on budgets that are shrinking (Bahr et al., 2013).

The community colleges are in a season in which both cutting costs and expanding the reach of the resource are necessary. In this environment of maximizing the effectiveness of the resource, registration priorities have become one of the mechanisms for choosing who gets in and who does not. This transition necessitates a reassessment of the policies surrounding registration priorities. To that end, the California legislature, through Senate Bill 1143 called on the Board of Governors of the California community colleges to create the Student Success Task Force which subsequently developed a set of recommendations on how to improve student success (Michalowski, n.d.), including a uniform set of registration priorities for all colleges in the system. These policies, now codified in “Advancing Student Success in California Community Colleges”, set down four principles for colleges developing registration priorities. These principally were
namely to, “(1) reflect the core mission of transfer, career technical education and basic skills development; (2) encourage students to identify their educational objective and follow a prescribed path most likely to lead to success; (3) ensure access and the opportunity for success for new students; and (4) incentivize students to make progress toward their educational goal” (Student Success Task Force, 2012). From these principles came recommendations more specifically directive of registration priority.

To situate this study within the current body of research, it is necessary to consider the motivation behind the recommendations that come out of the Student Success Task Force. Recommendation 2.2 of Student Success Task Force is “Require all incoming community college students to: (1) participate in diagnostic assessment and orientation and (2) develop an education plan” (Student Success Task Force, 2012). These criteria for incoming student preparation are subsumed in the researcher’s term, “well prepared”. This set of student behaviors are the recommendation product under the larger goal defined by the policy statement:

Community colleges will provide stronger support for students entering college to identify and meet their goals. Stronger support will be facilitated by centralized, integrated and student-friendly technology to better guide students in their educational planning process. The efforts of counseling faculty and other college staff will be more effectively targeted(Student Success Task Force, 2012).

Considering this new policy direction, it is clear that in the minds of the task force, student support is synonymous with, in some way, their three components of assessment, orientation and educational planning.
Separately, recommendation 3.1, mandating registration priorities include high school seniors arises out of the policy statement which reads, “Community colleges will incentivize those student behaviors that are associated with their eventual success” (Student Success Task Force, 2012). These policy statements and the recommendations that arise from them reveal the disconnect that exists between these recommendations. Since the Student Success Taskforce was created and the recommendation handed down there have been two progress reports. In the second the Legislative Analyst’s Office notes in its assessment that:

As mentioned earlier, few colleges have opted to place registration holds for students who have not completed orientation, assessment, and education planning. Most have relied instead on registration priority as an incentive for students to complete these services. The recovering economy, however, has limited the effectiveness of priority registration as an incentive in the past few years (“California Community Colleges: Second Progress Report on the Student Success Act of 2012,” 2016).

This points to the fact that the effects of the recommendation to prioritize registration for high school seniors is yet in question and the subject of this study. What precisely is the experience of low income first-generation students who enter the community college well prepared, experienced and worked through barriers and succeed?
Purpose Statement

It was the purpose of this sequential explanatory mixed methods study to describe how precollege preparatory factors (application, assessment, educational planning and orientation) leading to a priority registration appointment contributed to the success of low income, first-generation entering high school senior students in a rural public community college.

In addition, it was the purpose this study to explain how students perceive the impact of those preparatory factors that support student success.

Research Questions

The study will collect both qualitative and quantitative data.

Questions
1. To what extent does priority registration impact student completion of transfer level English courses?
2. To what extent does priority registration impact student completion of transfer level math courses?
3. How do students in a community college perceive priority registration impacts their college success as measured by interview responses?
Significance of the Problem

Identifying whether there is a correlation between priority registration and student success as defined by success in transfer level gateway courses and illuminating the lived experience of students who are successful within this structure will create a more confident framework for 9-12 counselors and administrators to prepare students in their institutions who are headed to the community colleges. Student development will improve as this confidence grows (Karp, 2011). It will also create a framework for more specific policy making around the issues related to enrollment priorities for the system (Bahr et al., 2013; Jackson, 2013).

As the study seeks to discover the level of difference between students that enter college well prepared and earn a priority registration appointment and those that do not earn an appointment and register with the general population or even late, more light will be shed on the effects of good pre-college preparation and potentially of poor preparation as well (Smith, et al., 2002). Identifying the existence of dependence between preparation/priority registration and student success will create an environment in which appropriate, efficient student preparation becomes one of the central means of achieving the goal of student success.

The California legislature and Community Colleges have committed significant resources to the creation of a comprehensive set of recommendations to ameliorate and respond to deficits in performance for students such as that less than 54% of degree seeking students ever achieve a certificate, degree or transfer preparation (Student Success Task Force, 2012). These recommendations set a direction for action for the coming years with assessment criteria in the form of a student success scorecard.
Resource allocation models also shifted around these new priorities as funds connected to equity work and student success and support have begun to come to campuses replace the former matriculation funding model. New counseling and classified staff are being hired and the LAO notes that more than half of the funds are being used for counseling education planning (“California Community Colleges: Second Progress Report on the Student Success Act of 2012,” 2016).

This study seeks to determine whether there is significant dependence (using a chi square test of independence) between priority registration for entering high school seniors and success in the terms defined by the Student Success Scorecard of the California Community College Chancellor’s Office. The community colleges, while common members of a single system, are very college-centric in implementation policies where student preparation is concerned. Recent legislation mandates a specific set of preparation functions that make students eligible for priority registration, but little research has been done to verify which if any of these might be essential, which are superfluous or which combinations are most effective in creating successful students (Bahr et al., 2013). Furthermore, the lived experience of students who are succeeding under these priority schemes are only just beginning to take shape and elucidating them for the professional community to examine, consider and act upon will be a valuable resource for future planning. This study seeks to fill the gap left between the support recommendation 2.1 and the incentive recommendation 3.1. The research to date leaves this relationship unconsidered. Quoting Bahr again, “As noted earlier, research on the impact of various registration priority schemes on students’ outcomes is very limited” (p. 22). Bahr goes further to delineate the sole pair of studies undertaken in this area, one
from 2000 by Spurling related to students who were denied access to courses for a variety of reasons and the more recent developed an equation-based priority scheme to maximize completions (Bahr et al., 2013). This study will fill a prominent gap in the current scholarly literature at time when data driven decision making is at a premium (“Achieving the Dream: Community Colleges Count,” 2009). Bahr’s direction for further investigation to “evaluate the efficacy of various registration priority schemes and to analyze the consequences of differential priority registration on students’ academic progress and attainment” is nearly the precise purpose of this study (p. 22). This study seeks to do so by examining the perceptions of successful students that participated in the two interventions that are intended to prepare and incentivize and who also come with the added intrigue of being first-generation and impoverished. This mixed methods look into the lives of these students will uncover the motivations, thoughts and constructs that move them in their education careers and how they view the function of non-academic preparation and incentives in this process. The experience of these students is unique in that supports like priority registration for this demographic are newly legislated and the effects of them in specific schemes such as that employed at Sierra College on student success is, yet, unknown.

**Definitions**

1. Success - achieving one or more of the measures indicated such as academic progress, career technical education success, goal completion, persistence, and/or remediation success (California Community Colleges Chancellor’s Office, 2013a;
and California Community Colleges Chancellor’s Office, 2013b). This study will use completion of a transfer level math or English as its measure of success.

2. Persistence - students who achieved a measure of progress or momentum points by enrollment in the first three consecutive primary semester terms (California Community Colleges Chancellor’s Office, 2013a; and California Community Colleges Chancellor’s Office, 2013b).

3. Well Prepared – Students who have completed all 5 matriculation milestones in preparation for priority registration. These are application, placement test, orientation, student educational plan and financial aid application.

4. Priority Registration – registration in one of the 3 groups of students that register during the week prior to course registration.

5. Goal Completion: students who succeeded in completing an associate degree, certificate, or transfer outcome.

6. Low Income (LI) – students who come to college from families that earn less than 120% of federal poverty levels.

7. First-generation (FG) – Students whose parents with whom they lived did not earn a bachelor’s level degree.

8. Application – Completing the process of entering the community college through the online application portal, CCCApply.

9. Orientation -- A session either face to face or online describing student rights and responsibilities.
10. Assessment – A authorized tool for determining the appropriate level of course in English and math for a student entering college. Can be substituted for other measures

11. Student Educational Plan – A plan describing the sequence of courses that a student needs to fulfill their educational goal.

12. Financial Aid Application) – The Free Application for Federal Student Aid (FAFSA)

13. Remediation – The process of bringing students whose skill level places them in courses that are below university level.

14. Career Technical Education – Courses and educational programs that specialize in the skilled trades, applied sciences, modern technologies, and career preparation.

15. Scheme – A specific, organized procedure for implementing priority registration at a college.

**Delimitations**

The delimitations clarify the boundaries of the study. Delimitations specify how the researcher has narrowed the scope of the study. The researcher sets the boundaries of the study in terms of what or who is included.

The study is delimited to the approximately 2500 high school senior students who participated in priority registration over a period of 5 years as they prepare to enter Sierra College in central California.
Organization of the Study

This study is organized into five chapters and includes references used in the study’s development. Chapter two explores a review of the literature including the need for and history of educational reform, the history of service-learning and its outcomes, and theories that provide the framework for this study. Chapter three provides the methodology and design for this study including population, sample, and instrumentation. Chapter four presents the data from this study and provides the results. Chapter five discusses the findings, presents conclusions, and provides recommendations for future research. The references and appendices are included at the end of this study.
CHAPTER II: REVIEW OF THE LITERATURE

Background

The background to the issue of priority registration and its connection to success for low income and first-generation students is a storyline that is concerned first with access and the importance of access in the community colleges. The storyline continues by considering the economic difficulties that precipitate the current crisis and occasion many of the policy changes that are currently in play. Coincidental to these economic troubles that result in funding shortages and reduced capacity in the community colleges is a spike in demand for classes in these same institutions. Finally, we consider the response within the community generally to these stressors and specifically to enrollment management through priority registration and the preparation of students for it. The systemic response gives rise to preparatory factors that are used to better prepare students and incentivize behaviors for success. All of this will be laid upon the foundation of the theoretical groundwork of Vincent Tinto and his theory of student integration, Braxton, Hirschy and McClendon’s theory of student departure from commuter colleges, Expert Theory, and Padilla’s expertise model of student success.

The literature review in this chapter is intended to explain and to build a foundational understanding of the current state of this field of education. The chapter is divided into 10 sections that include (1) Background, (2) Access, (3) Funding Troubles, (4) Increased Demand, (5) Need for Graduates, (6) Socioeconomic Pressure, (7) Enrollment Management, (8) Systemic Response, (9) Theoretical Basis (10) Engagement of Low Income and First-Generation Students, and (11) Summary. Each of these is connected through the idea that students leave or succeed in college based upon deficits
or a lack thereof in their experience. Students leaving or succeeding is even more based upon the assets that they activate in their world to create the culture of success around themselves. This study seeks to extrapolate and examine these assets from the constellation of environmental and personal factors that are the complex system of the higher education life of a low income and first-generation student.

**Access**

The community colleges find their beginning at Joliet Junior College, near Chicago in 1901 as a means of providing higher education opportunity to students who would otherwise not attend college due to economic, mobility, and social barriers. It was a collaboration between the University of Chicago and Joliet High School and is in operation to this day (Boggs, 2010). Community colleges enroll 43% of all US undergraduate students.

In 1960 the Master Plan for Higher Education in California instituted the junior colleges to be a sector of the higher education landscape in the state. The plan specifically defines the role of the community colleges the following way:

Said public junior colleges shall offer instruction through but not limited to one or more of the following: (a) standard collegiate courses for transfer to higher institutions, (b) vocational-technical fields leading to employment, and (c) general, or liberal arts courses (Coons, 1960).

This mandate has endured to this day. In fact, it has intensified greatly. In 2009 it was estimated that enrollments in community colleges nationwide increased 16.9% over the previous two years by a total of 8 million students (Mullin & Phillippe, 2009). In addition
to this, another 5 million students were added to the roles in the non-credit, basic skills and short term workforce or avocational courses (EFFECTIVENESS, 2010). This qualifies as a bona fide surge in community enrollment which coincides with an economic downturn and the systemic cutbacks that accompany them (Beach, 2011; Chen, G., 2009; Shulock, N. & Moore, C., 2005).

The landscape of the California community colleges has changed dramatically in the last 5 years. As open access institutions that are traditionally open to all types of students, community colleges have long been the places where students can find a place to, at minimum, start, in virtually any field of study. These institutions have traditionally also been the places where a student can find certifications that lead to better employment opportunities. These are historically the last institutions of higher education at which a student can take courses solely for personal enrichment. Students traditionally excluded for a variety of reasons from higher education are welcome to the open-door community college. The community colleges, since they reflect the needs, trends and cultures of the communities in which they are situated, have truly been all things to all people. The community colleges accept students of all types and abilities. But this philosophy has limitations. Recently, community colleges in Arizona instituted policy that required a seventh grade level of ability for entry—and this was viewed as an affront to access in the state (Luzer, 2011). The net effect of this policy was to limit access to students that come to the institution with skills that are too low to have a reasonable potential for success.

The community colleges are generally more diverse than other sectors in higher education (Hayward et al., 2004; Mullin, 2012). In their Access to Success report Jennifer Engle and Mary Lynch of the Access to Success (A2S) system, studies and serves
Community colleges nationwide, note that, while four-year graduates in the system are not as economically and racially diverse as the high schools they serve that, “Indeed, the two-year institutions within A2S systems are serving as important access points to higher education for many low-income and minority students. These students, in fact, are actually overrepresented in A2S systems’ two-year colleges” (Engle & Lynch, 2009).

Community colleges nationwide educated 43% of all undergraduate students in 2007 (AACC, 2010a), including the greatest proportion of underrepresented students: 53% of Hispanic, 45% of Black, 45% of Asian/Pacific Islander, and 52% of Native American undergraduates. They did so with merely 20% of state tax appropriations (Mullin, 2010). In 2009 and compared to the university counterparts in the University of California and California State University, the California community colleges served 71% of all students enrolled in public institutions including 79% of African American students and 77% of Latino students in public higher education segments (Shulock, Offenstein, & Esch, 2011). It is an unassailable fact the community colleges in California are the broadest, most diverse institutions of higher education.

A summary of the system prepared for the White House Summit on Community Colleges says it thus:

Community colleges provide access to higher education to the most diverse student body in history. It is diversity in every respect: age, ethnicity, nationality, socioeconomic status, and degree of disability. Forty-seven percent of first-generation college students, 53% of Hispanic students, 45% of Black students, 52% of Native American students, and 45% of Asian/Pacific Islander students
attend community colleges. Although the average age of community college students is 28, 46% of them are age 21 or younger (Boggs, 2010).

In virtually every metric for diversity and inclusion, the community colleges are the higher education standard bearers.

**Funding Challenges**

While the open door model of community colleges gives them a critical role in the landscape of higher education, it also makes them especially susceptible to changes in economic conditions and market forces. These institutions are the only higher education option for many students. We will see in a subsequent section that students of color and low income and first-generation status are far more likely to start their college careers. Many of these would have been excluded from higher education and all of the associated benefits were it not for the community college (Belfield, C. R. & Bailey, T., 2011) and the broad mission of workforce development, transfer and community education (Bahr et al., 2013). Because of this truth, these students from underrepresented demographic groups are disproportionately impacted by access troubles in the community colleges.

Community college funding is drawn from the same sources as K-12 funding, with one stark difference. In the K-12 case, institutions are paid based upon the number of students in classes. More students translate directly into increased funding. Community colleges are funded similarly except that strict caps and limits on growth are put in place by the chancellor (Legislative Analyst's Office, 2005). In California, funding for community colleges flows from multiple sources, such as the state general fund, local property taxes, student fees, state lottery, the federal government, and other sources.

While there is little in the way of actual policy consistency across the community college system in California, fiscal troubles are quite consistent. Between the years of 2009 and 2012, the system has shouldered budget cutbacks of approximately $900 million. This translates to a decrease of 585,000 students from the 2008-09 to 2012-13 school years (Student Success Task Force, 2012). The California Seymour-Campbell Matriculation Act of 1986, which is the precursor to the new Student Support and Success Act (SSSP), required community colleges to provide matriculation services to students, including assessment, counseling, orientation, as does its scion, albeit in new ways. These already minimal services were gutted by a 52% budget cut in 2009-2010 (Student Success Task Force, 2012).

Bahr notes that “in fact, it would not be an overstatement to say that the ‘open door’ to postsecondary education provided by community college is at risk of closing” (2013, p. 2).

**Increased Demand for Seats**

While this diminishing of funding certainly has a series of detrimental effects on the system and likely on success, the problem is compounded by the fact that demand for classes within the system is increasing. The capacity of community colleges to continue
their open-access policies and fulfill these missions currently is being threatened by the confluence of drastic budget cuts and soaring student demand. Rhoades notes:

In a complicated “cascade effect,” higher tuition and enrollment limitations at four-year institutions have pushed middle-class and upper middle-class students toward community colleges. This, in turn, increases competition for seats in community college classrooms at a time when funding for community colleges is being slashed and fees are increasing. As community colleges draw more affluent students, opportunity is being rationed and lower-income students (many of whom are students of color) are being denied access to higher education (Rhoades, 2012).

This is also affirmed in Shulock and Moore’s Educational Policy article entitled, *Diminished Access to the Baccalaureate for Low-Income and Minority Students in California: The Impact of Budget and Capacity Constraints on the Transfer Function*, as they note that dramatic cuts to higher education budgets put together with enrollment pressures and fee increases are reducing access for students who are lower income and underrepresented minorities whose primary avenue of access to bachelors level education is through the community college transfer process (Shulock, N. & Moore, C., 2005).

In addition to this cascading of formerly university bound students finding themselves at the community college is the fact that community college demand generally runs cyclically and 180 degrees out of phase with the economy. That is that when the economy is good, demand for classes in the community colleges is low and vice versa. It is a natural effect of any economic downturn that when workers are out of work, jobs are being cut and industries are streamlining their workforces, that workers look to
upgrade or retool their skills to become more attractive to employers. Truly, the task of retooling the state’s workforce for a new era of technology industries is a daunting one. New technologies like robotics and artificial intelligence will need a workforce trained with skills that are only being imagined as the industries develop. Community colleges are most often the institutions most responsive to employment trends and training needs. Justin Reich, executive director of the Massachusetts Institute of Technology Teaching Systems Lab observed in a report from Elon University,

“Educators have always found new ways of training the next generation of students for the jobs of the future, and this generation will be no different. Our established systems of job training, primarily community colleges and state universities, will continue to play a crucial role, though catastrophically declining public support for these institutions will raise serious challenges (“Elon & Pew Research report on the future of jobs and jobs training,” 2017).”

Additionally, workers who have the extra time of unemployment will fill that time with training in new skills or career paths. This has the overall effect of increasing demand on Community College enrollment as these are the institutions primarily tasked with preparing the workforce. Capacity is down. Demand is up. The economic downturn and its associated financial and capacity constraints create an environment in which students are being pressed out of the community colleges (Beach, 2011; Chen, G., 2009).

Furthermore, as the next section illuminates, the United States economy will simply require more postsecondary training opportunities to prepare a workforce ready to lead in the global economy. Job sectors that do not require postsecondary degrees and certificates are projected to experience growth, but more slowly than those that do.
President Obama has called for millions more graduates to come from the community colleges. Additionally, as we will see in the succeeding section, postsecondary opportunity is a hallmark structure of healthy cultures.

**Need for Graduates**

Sociologists measure quality of life using a measurement called the Human Development Index, or HDI. This index is widely accepted by national leaders as a valid indicator of the population’s quality of life. HDI is described in the 2006 report from the United Nation, Human Development Report 2006 as the following:

> The HDI provides a composite measure of three dimensions of human development: living a long healthy life (measured by life expectancy), being educated (measured by adult literacy and enrollment at the primary, secondary and tertiary levels) and having a decent standard of living (measured by purchasing power, PPP, income) (Vereinte Nationen, 2006).

In this context, the importance of higher education as indicative of the wellbeing of a society or nation is equated to life expectancy and the ability to purchase the essentials of life. Education is a basic right in the modern world. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) says, “Education is a fundamental human right and essential for the exercise of all other human rights. It promotes individual freedom and empowerment and yields important development benefits” (“The Right to Education | Education | United Nations Educational, Scientific and Cultural Organization,” 2015). A society must produce college-educated people to maintain its general health and progress. President Obama, in his American Graduation Initiative, said
that his goal is to increase the American population who earn degrees, certificates and credentials. He announced in his speech in Macomb county Michigan that to increase the proportion of this country’s citizens succeeding at higher education will require five million new community college graduates by the year 2020 (Obama, B., 2009).

This is also a function of the needs of the current and future economy. The president’s council of economic advisors notes that occupations that are experiencing the fastest recent growth require more formal post-secondary schooling than occupations that have declined or are growing more slowly. That is to say that while the construction and manufacturing industries will see increases in growth in the next years, occupations that employ large numbers of workers with post-secondary education and training will grow even faster (Romer, 2010). The council notes further that flexibility in the workforce will be even more at a premium in the future. Its summary statement about this resilient, flexible future workforce says:

In 2003, for example, a quarter of American workers were in jobs that were not even listed among the Census Bureau’s Occupation codes in 1967, and technological change has only accelerated since then. Environmental-related occupations – which are expected to experience tremendous growth over the next decade – did not exist in comparable data prior to 2000. As we build a new foundation for economic growth in the 21st century, the nation’s workers will be better prepared for ever-changing opportunities if they have strong analytical and interpersonal skills. High-quality education and training is the best way to prepare the workers of today for the jobs of tomorrow (Romer, 2010).
Higher education must adapt to this increasingly rapidly changing job market or risk obsolescence. As aging baby boom workers retire and technology expands into new areas, the workforce will necessarily evolve even more rapidly. Higher education must evolve to keep pace with meeting the future needs of this job market.

A crisis is brewing in California that is the confluence of 2 forces that are hitting the state at once. The first is that the relatively well-educated baby boom cohort (born 1946-1964) is retiring from the workforce and second that groups that have historically low rates of college completion are replacing them in California’s workforce population. It is projected that only 35% of the workforce of 2025 will have a college degree in an economy that requires 41% of its worker to have degrees (Johnson, 2009). The baby boom generation, as much as it would love it to be the case, will not get younger and stay actively in the workforce. It falls then to colleges to improve themselves to increase attendance, persistence, graduation and transfer rates to prepare the new workforce for a job world yet unimagined. This study will illuminate the success stories of students in this historically less successful cohort in hopes of shining new light on policy and practice that will be effective in this endeavor.

Socioeconomic Pressures

Poverty/Low Income Status (LI)

We will use the definition of the California community colleges relative to low income status. Specifically, low income, for the purposes of this study refers to students who qualify for a Board of Governors (BOG) fee waiver (“Retrieved from
The chances of earning a college degree are largely dependent on socioeconomic status. Sixty-five percent of students from high income backgrounds (family income of $70,000 or greater) will earn some type of degree and 56% will earn a bachelor’s degree within a 6-year period. Contrast this with the fact that only 50% of students from low income households (earning $25,000 or less) will earn degree in the same six-year period. Of these, 26% will earn a bachelor’s degree, 14% an associate and another 10% a two year certificate (NCES, 2003).

Vincent Tinto posits a number of reasons for the success differences between high and low-income students, which include:

1. High and low-income students start at different types of institutions.
2. Low income youth are generally less well prepared than their high-income counterparts.
3. Additional barriers related to poverty that interrupt and disrupt low income students and cause stop out before graduation.
4. Low-income students do not have the resources to pay the bills incumbent to higher education (Tinto, 2004).

Sierra College serves students that are coming from the region that is arguably the poorest in the country. The central valley of California is considered by many to be the neediest of areas of the country. The collaegen a variety of metrics including average per capita income, poverty rates, reliance on public assistance, unemployment, transience, health insurance and Medicaid, it ranks at or near the level of the country’s traditional
poverty, the Appalachian Regional Commission and the Central Appalachian sub region. Economic pressure is a central theme of life for a large swath of the college entering students in the San Joaquin Valley of California (Cowan, 2006b). There is no shortage of impoverished students in the region in question and these likely find the community colleges as their only higher education option. Sierra College does well to prepare for students of this kind and to develop systems and supports to ensure their success. These students would, apart from the community colleges and an effective system to educate them, likely be relegated to generational poverty (Belfield, C. R. & Bailey, T., 2011; Boggs, 2010; Engle & Lynch, 2009).

**First-Generation (FG)**

One aspect of the question of first-generation student is what exactly the term itself means. Some researchers use the term to mean a student whose parents have never attended college (Horn & Nuñez, 2000; Nunez & Cuccaro-Alamin, 1998; Warburton, Bugarin, & Nuñez, 2001). While this is a common usage of the term, it opens up the question to a set of parsings that can be unhelpful. Research under this filter, requires another category of student whose parents have attended some, little or much college but without earning a degree. For the purposes of this study the definition of first-generation is any student whose parents or guardian with which he or she lived did not earn a degree at the bachelor’s level. This construct provides a level of simplicity that is helpful and eliminates the need for parsing across a spectrum of relative degrees of completion. It also follows the definition used by the federal TRIO programs (Department of Education; Office of Postsecondary Education, 34 CFR Parts 206, 642, 643, 644, 645, 646, 647, and 694; Final regulations.). Other researchers have discussed and author Jeff Davis spends
a chapter discussing the remarkable lack of clarity on this subject and advocates for the simplest definition using the reasoning that because admissions officers have no clear definition, they are less likely to number first-generation students appropriately and therefore not serve a population whose numbers are unnecessarily elusive to them (Davis, 2010). For the purposes of this study, a simple, widely held view used by all California Community College will be the standard. It is clear that Davis is correct that vagueness around this issue is altogether unnecessary and so the study adopts the definition of the Chancellor’s Office of the California Community Colleges.

In *The First-Generation Student Experience*, Jeff Davis sums the experience of the FG student thus:

First-generation college students have one main characteristic that separates them from students in other demographic categories and makes them recognizable to one another. Simply stated, first-generation college students are unfamiliar with the culture of the college and, to one degree or another, unfamiliar with what it means to be a college student. By unfamiliar with the “culture” of the college, first-generation college students are unfamiliar with what it means to be a college student. I mean primarily that first-generation students are new to the insider knowledge, the special language, and the subtle verbal and nonverbal signals that, after one has mastered them, make one a member of any in-group, community, or subculture (2010, p. 29).

There is much research that has been done regarding students who enter postsecondary education from households in which neither parent has attained any education beyond high school (Horn & Nuñez, 2000; Nunez & Cuccaro-Alamin, 1998;
Warburton et al., 2001). Students who come to the community college system having no household knowledge of college and the social capital that knowledge passes from generation to generation start their college careers at a disadvantage. These first-generation students are generally less academically prepared, complete fewer credits (Pascarella et al., 2003) and are less likely to successfully complete coursework (Choy, 2001; Davis, 2010). This is not a new phenomenon. There is a long history of concern over the plight and poor success of first-generation college students. Congress acted in 1965 to ameliorate the problem when it passed the Higher Education Act. The program authority and authorization of appropriations section opens thus:

The Secretary shall, in accordance with the provisions of this chapter, carry out a program of making grants and contracts designed to identify qualified individuals from disadvantaged backgrounds, to prepare them for a program of postsecondary education, to provide support services for such students who are pursuing programs of postsecondary education, to motivate and prepare students for doctoral programs, and to train individuals serving or preparing for service in programs and projects so designed (Higher Education Act of 1965).

Further in, the law gives authority for three programs that were to serve these “individuals from disadvantaged backgrounds”; Talent Search, Upward Bound and Student Support Services—the federal TRIO programs that have for years served low income and first-generation students (Office of Postsecondary Education, n.d.).

These first-generation students share a constellation of attributes that are worth describing so as to paint a picture of the group. First-generation students are more likely than the general community college student population to be female with 56% of FG
students being female compared to 54% for the general population. They are more likely
to be awarded a Pell grant, an indicator of economic need. Twenty-one percent of FG
students received Pell compared to 12% for non-FG and 16% for the general student
population. The group also contains a disproportionate ethnic makeup. For example,
Hispanics make up 61.3% of the first-generation group compared to 28% of non-first-
generation and 41.2% of the general population of the community colleges system wide.
And conversely, white students make up 17.8% of the FG population and 41.7% of the
non FG population and 32.3% of the general population (Research, Analysis and
Accountability Unit, 2014). All of which points to a problem of disparate impact within
the system. This disparate impact requires a response.

Tinto and Engle note that low income and first-generation students are more
likely than their most advantaged peers to:

- Be older
- Be female
- Have a disability
- Come from minority backgrounds
- Be non-native English speakers and born outside the US
- Have dependent children
- Be single parents
- Have earned a high school equivalency diploma
- Be financially independent from their parents
- Delay entry into college
- Attend college closer to home
- Live off campus
- Attend part time and,
- Work full time while enrolled (Engle & Tinto, 2008).

Any of these demographic factors would stand alone as a risk factor for a student group.
Research has shown that these factors are independently associated with lower rates of
degree attainment; greatly diminishing the chances of earning a bachelor’s degree.

Considered together, these factors become an often insurmountable barrier to success in
college at the two or four year level (Chen & Carroll, 2005; Choy, 2001; Olenchak, F. R. & Hebert T. P., 2002).

Additionally, Horn and Primo and Berkner et. al. have quantified the seven attributes bolded in the list above and considered them separately as specific risk factors for students. They found that low income and first-generation students are far more likely than their more advantaged peers to have these risk factors. Low income and First-generation students are far more likely to be dealing with a combination of these factors than are their more advantaged peers. Figure 1 below summarizes the breakdown of risk factors by LI and FG, LI or FG and Not LI or FG.

Figure 1. Breakdown of Risk for Low Income and First Generation Students

![Percentage of Persistence Risk Factors Among 2003-2004 Undergraduates](image)

Seventy-one percent of LI and FG students have at least 2 of these factors while only 30% of students who are neither LI nor FG will be dealing two or more of these factors. Research is abundantly clear that Low Income and First-Generation status serves as a proxy for increased risk. These students are at risk and our institutions must change
to accommodate them or risk losing talented students because of non-academic factors that can be ameliorated easily (Berkner, L., He, S. & Cataldi, E. F., 2003).

This problem is amplified even further at the community college level. Figure 2 below summarizes the breakdown of LI and FG students according to the institution type that they attend.

**Figure 2. Institution Type at Postsecondary Entry**

<table>
<thead>
<tr>
<th>Type of Institution Attended by Students Entering Postsecondary Education in 2003-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low income and first-generation</strong></td>
</tr>
<tr>
<td>Public Two-Year: 32%</td>
</tr>
<tr>
<td>Private Four-Year: 13%</td>
</tr>
<tr>
<td>Other: 6%</td>
</tr>
<tr>
<td>More Than One Institution: 4% to 35%</td>
</tr>
<tr>
<td><strong>Low income or first-generation</strong></td>
</tr>
<tr>
<td>Public Two-Year: 33%</td>
</tr>
<tr>
<td>Private Four-Year: 21%</td>
</tr>
<tr>
<td>Other: 19%</td>
</tr>
<tr>
<td>More Than One Institution: 10% to 45%</td>
</tr>
<tr>
<td><strong>Not low-income and not first-generation</strong></td>
</tr>
<tr>
<td>Public Two-Year: 33%</td>
</tr>
<tr>
<td>Private Four-Year: 31%</td>
</tr>
<tr>
<td>Other: 19%</td>
</tr>
<tr>
<td>More Than One Institution: 4% to 6%</td>
</tr>
</tbody>
</table>

Source: NPSAS 2004, US
Note: "Other" includes students attending private less-than-four-year institutions and public less-than-two-year institutions.
Note: Totals may not sum to 100 percent due to rounding.

LI and FG students are far more likely to be enrolled at a public two-year institution than are students who are not LI or FG, by 52% to 35%. This points to the fact that solutions for these students and the risk factors attending them are necessarily resolved at the public two-year institutions that they are most likely to be attending (Berkner, L., He, S. & Cataldi, E. F., 2003; Engle & Tinto, 2008; Gandara et al., 2006).

The situation is similar today even after two decades of efforts to solve the difficulties of supporting low income and first-generation students. The Postsecondary National Policy Institute collected the following snapshot of the first-generation student taken NCES data collected in the 2011-12 school year. The found that first generation
students were more likely to enroll at a two year or private for-profit school. Over 50% of students in for profit institutions are first generation. They are seven times more likely to earn a bachelor’s degree if they start at a four-year university. They were more likely to attend part time and work a job during school. 50% of first generation students earned a college degree within 6 years compared to 64% of their peers whose parents had some college experience. And this is amplified further when both first generation and low-income factors are considered. 11% of students that were low income and first generation will have a college degree within six years compared to nearly 55% of their more advantaged peers who were neither low income nor first generation (“First-Generation Students – PNPI,” 2016).

The final piece of the first-generation puzzle is that the combined effect of all the stressors that have been outlined above is that persistence and success are impacted decidedly negatively. In 2000, a transcript study based on the Postsecondary Education Transcript Study (PETS) collected data from the National Education Longitudinal Study (NELS:88) revealed that low income, first-generation students are more likely to have remedial course required of them, are three times more likely to have no declared major at upon entering postsecondary education, earn only 18 credits in their first year compared to 25 on average for their non FG colleagues and generally perform as well as their classmates whose parents earned a bachelor’s degree (Chen & Carroll, 2005).

Enrollment Management

The logical next question then is, in an era when demand for community college classes is rising and funding and capacity are decreasing, what should the response of the
system and its institutions be? This question has vexed community college decision makers for decades. It is clear that there is a complex system of forces at work. It is a tendency in our work to either look at only one small, not indicative or representative, slice and so over simplify the problem or consider more variables than we can reasonably control. Each of these research errors causes decision makers to retreat to anecdotal evidence or intuition; each of which is insufficient to drive confident decision making.

Anderson, Milner and Foley add the following:

In practice, we too often fall prey to two types of errors. First, we over-simplify the actual relationships and trends within data by either creating static snapshots that obscure the dynamics or showing only a small piece of the whole picture. At the other extreme, we create output that is so complex as to render it unusable by the individuals who rely on it as an aid in policy-making. Both situations can lead to significant errors in judgment and decision making and lead to the implementation of less-than-optimal policy (Anderson, D. K., Milner, B. J., & Foley, C. J., 2008).

This well-defined slice of the enrollment management pie is considerable and therefore this study will consider it in a way that will make it useful to decision makers in community colleges across the nation by examining the experience of students for whom the system is manageable and in which they have experienced success.

One initial response which has in view the sluggish economic recovery and high real unemployment is to retool the curriculum focus of the community colleges to fill a workforce development role. The state and community college system go through inherent cycles of prosperity and want. This shift moves the focus of the curriculum from
long term and baccalaureate based, to one that is short term and prepares students for relatively low paying careers and reduces capacity for bachelor’s degree seeking transfer students. This in turn narrows the mission of the institutions to the lower rungs of the socioeconomic strata without providing a route for advancement of these students. In the years since the downturn of 2008-2011, the state has seen revenue increase and funding has eased somewhat. Community college funding is constantly in cycles of upward and downward levels of prosperity and want. With history as teacher, it is wise for the system to prepare for future difficulties. Knowing the value of rationing processes is one such means of being prepared.

In this environment, the gap between the lower and middle classes in our country will increase so that lower socioeconomic students will find ever more difficulty moving up in economic strata. Gary Rhoades of the Center for Higher Education posits the following:

For those who do gain entry, community colleges are “rebooting” their curriculums to put more emphasis on narrow job training and “workforce development” and less on a broad liberal arts and sciences education necessary for continuing on for a Bachelor’s degree. By focusing on providing short-term certificates in response to the immediate needs of the corporate private sector rather than on educating students for transfer to a four-year school, community colleges are seriously narrowing their educational purpose (2012, p. 3).
Two Options for Managing Enrollment

Still the question remains, “Who is not going to get in?” And this is the question that Community Colleges are answering across the state and country today. They take a variety of tacks to solve this problem. Colleges answer this question by managing the courses they offer. High demand courses are offered in larger settings and expensive course offerings are simply limited.

Alternatively, enrollment is managed through policies that prioritize registration. Bahr summarizes these two strategic enrollment management options thus:

In fact, the funding structure and multiple missions of community colleges generally limit them to two primary SEM (Strategic Enrollment Management) options that may be employed on a large scale for substantial effect. These options include: (a) controlling the supply of postsecondary opportunity by reducing the number and adjusting the nature of course offerings and (b) controlling the demand for postsecondary opportunity by rationing access to limited course “seats” through student registration priority policies (Bahr et al., 2013, p. 8).

This study will focus on the second of Bahr’s options, controlling the demand for postsecondary opportunity by rationing access to limited course “seats” through student registration priority policies. Priority registration does precisely this. By offering seats first to students that meet specific criteria some of which are intended to make them better prepare, it designates seats to students that are considered to be more highly likely to succeed and thereby steward the limited resource of community college seats best. As Bahr noted in the quote above, this has the effect of controlling the supply. It also has
least impact on the teaching and learning process and stresses the physical resources least.

As one considers the fact that students of color, low socioeconomic and first-generation status are so dramatically overrepresented in the community colleges, it is clear that the issue of rationing of seats is one that must be broached carefully and not merely in a way that eliminates low performing students and disregards the long standing mission of the community colleges to provide access to students for whom higher education is otherwise unavailable (Belfield, C. R. & Bailey, T., 2011; Boggs, 2010; Engle & Lynch, 2009).

Cost cutting measures like reduction of high cost courses and offering high demand courses in larger settings will always be used out of prudence and the system’s fiscal responsibility to steward public funds appropriately. However, cost cutting measures are not sufficient to address the problem of determining which students are most worthy of seats in classes when those seats are limited. The system is not satisfied with these methods alone and has shifted focus to success and efficiency as the best answers to the questions of how to find more seats to serve new students. Scott Lay of the Community College League of California in 2011 in response to the budget difficulties of the state and the impact to the community colleges, stated in a public address at a gathering of categorical program staff and administrators that the budget problems the state faces could be solved if high school seniors entering our institutions were served better and exited our halls one semester earlier (Lay, 2011).

This is echoed in a report developed by researchers at American College Testing (ACT) who note that retaining students is far less expensive for the institution than
recruiting new students to replace ones lost to attrition. To this end the group developed a worksheet to calculate the dollar value related to reducing an institution’s first to second year dropout rate. They note that modest decrease of 10% in dropout rate from 30% to 27% in this rate results in savings of hundreds of thousands of dollars for even very small institutions (Levitz, Noel, & Richter, 1999). There is strong evidence and much research over decades that indicate the retention to successful completion is a benefit to institutions and even more so to the students who attend them. Student departure and retention is considered by researchers to be the single greatest challenge and problem facing higher education now, and if decisive action is not taken, increasingly so into the future (Braxton, J. M., Hirschy, A. S., & McClendon, S. A., 2004).

It seems the Student Success Task Force that was formed shortly after Mr. Lay’s comments had these things in mind as they began to develop the recommendations that would shape California community college policy for the near term and possibly for the long term. In response, the colleges of the CCC system are reevaluating their enrollment management policies to determine how best to allocate space and resources to students, including substantial changes to student registration priority policies (Davison & Hanna, 2009; Little Hoover Commission, 2012).

The other component of the response involves prioritizing enrollment to meet a prescribed set of institutional goals of the college. The effect is to create a rank order for which students will have first access to classes and which will not. Students prioritized lower will cascade into courses that may not fit into their educational plan or possibly out of the institution altogether (Rhoades, 2012).
There is little direct empirical work on the effect of registration priority on students’ success outcomes. There is evidence from other areas that indicates that part-time attendance and interruptions of attendance have markedly detrimental effects on student retention, persistence and success. Consequently, students who are pushed down the priority ladder have a greater chance of stopping out or dropping out. There is also the danger of students excluded from registration priority experiencing difficulty with financial aid as a result of taking insufficient units (Bahr et al., 2013). How at-risk students view the effectiveness of these enrollment initiatives is a question currently unanswered. Student perception of these new enrollment management policies, the preparatory factors they precipitate and the effects of these on the most vulnerable students is a field ripe to be studied. This study proposes to look at just this question through by explaining the experience of successful, first-generation and low-income students.

Systemic Response

There is a distinct emphasis in the current climate of the California community colleges placed on accountability and success (Complete College America, 2010, n.d.; Johnson & Sengupta, 2009). The conversation at the state level regarding registration priorities is a major focus of policy dialogue (Student Success Task Force, 2012). The conversation culminates in the work of the Student Success Task Force, which is a result of the Student Success and Support Act or SB 1456. The task force created a set of four principles to guide the creation of registration priorities system wide:
The Community Colleges will adopt system-wide enrollment [registration] priorities that: (1) reflect the core mission of transfer, career technical education and basic skills development; (2) encourage students to identify their educational objective and follow a prescribed path most likely to lead to success; (3) ensure access and the opportunity for success for new students; and (4) incentivize students to make progress toward their educational goal (p. 33).

Bahr notes that the language is mandatory rather than suggestive as it has been in the past (Bahr et al., 2013).

The Task Force created 22 recommendations that will drive the success initiatives. Two of these are especially pertinent to the conversation regarding registration priority. Recommendation 2.2 says:

Require all incoming community college students to: (1) participate in diagnostic assessment and orientation and (2) develop an education plan.” And 3.1 reads, the Community Colleges will adopt system-wide enrollment priorities that: (1) reflect the core mission of transfer, career technical education and basic skills development; (2) encourage students to identify their educational objective and follow a prescribed path most likely to lead to success; (3) ensure access and the opportunity for success for new students; and (4) incentivize students to make progress toward their educational goal (Student Success Task Force, 2012).

The policy statement that motivates recommendation 2.1 is:

Community colleges will provide stronger support for students entering college to identify and meet their goals. Stronger support will be facilitated by centralized, integrated and student-friendly technology to better guide students in their
educational planning process. The efforts of counseling faculty and other college staff will be more effectively targeted.

The policy statement that motivates recommendation 3.1 is, “Community colleges will incentivize those student behaviors that are associated with their eventual success” (Student Success Task Force, 2012). Notable in this is the fact that the motivating policies for the two recommendations that are under consideration and pertinent to priority registration are to create well prepared students and to incentivize students. It may be reasonable to assume that increased quality advisement and clear pathways for entering students is valuable for their success. It may be reasonable to assume that early registration, as an incentive to good academic behavior, will be effective to that end. However, the relationship between the two initiatives and what the effects might be for low income and first-generation students is unconsidered at present. As Bahr notes, “research on the impact of various registration priority schemes on students’ outcomes is very limited” (Bahr et al., 2013) and continues “to document students’ assigned registration priority in each term would make it possible to evaluate the efficacy of various registration priority schemes and to analyze the consequences of differential registration priority on students’ academic progress and attainment” (Bahr et al., 2013). This is echoed by Melinda Mechur Karp of the Community College Research Center at Columbia University when she writes:

Further research is needed to understand the relationship between non-academic support mechanisms and positive student outcomes. Non-academic support activities are frequently coupled with academic interventions. Presumably, this combination may create an interaction effect, and research may reveal ways for
community colleges to capitalize on this. It is also unclear if different types of students require different supports, and research in this area could allow colleges to better match students with different interventions.

It is important to keep in mind that efforts to implement non-academic supports may be moot if we do not understand how students perceive these efforts. Students create their own understandings of college, which influences their learning and their perceptions of attempts to improve their outcomes. If students do not view the information they are given as useful, for example, or if they do not find their social interactions meaningful, they are unlikely to capitalize on these mechanisms. A better understanding of student reactions to non-academic support activities and research linking student perceptions to their academic outcomes is therefore an area that is ripe for research (2011, p. 3).

This point connects the quantitative and qualitative components of the study as it seeks to “understand the relationship between non-academic support and positive student outcomes” and hopes to uncover “student reactions to non-academic support activities” (Bahr et al., 2013; Riley Bahr, Hom, & Perry, 2004).

Preparatory Factors
In this new context of improved preparation processes and incentives for presumed success behaviors and under the recognition that the resource of community colleges is limited, enrollment must be managed. It is true that due to enrollment limitations there are more prospective students desiring to be educated than there are available seats. Because of enrollment caps, mandated prerequisite course and enrollment restrictions in the community colleges, there are simply not enough seats for
all students who want them and allowing students in who are not likely to be successful is an unwise use of the public resource that cannot be afforded by the community colleges. Because of this set of circumstances, community colleges have developed ways to prioritize entry to the institution. As Bahr notes, because these interventions are so new, there is scarce little research available considering the effectiveness of the new schema (Bahr et al., 2013). It is also clear that for low income and first generation students that the risk factors are more intense than for fully resourced students (Berkner, L., He, S. & Cataldi, E. F., 2003). This study follows Padilla in shifting the conversation to the assets that successful employ rather than focusing on the deficits that unsuccessful student suffer from (Padilla, 2009). For most institutions students who participate in preparatory activities that are likely to increase success are given greater access to classes through priority registration. This serves as an incentive to move students toward these behaviors. Colleges devise a variety of schemes that include a variety of activities, but the most common are students who have done assessments to ensure appropriate placement into courses, and have valid student educational plans. This meets with the recommendations of the Student Success Task Force to assess entering students, provide clear pathways through student educational plans and incentives success behavior (Student Success Task Force, 2012). These supports constitute the preparatory factors the population of this study will undergo.

Author Riley Bahr describes the Students Success Task Force recommendations relative to priority registration and the variety of campus specific outworking of them as schemes. He notes that the taskforce recommended the following:

Though the Task Force provided few operational definitions, the registration priority scheme recommended for adoption provides specific advantages to: (a)
continuing students who are in good academic standing and making progress toward a credential, transfer to a 4-year institution, or a demonstrable “career advancement objective”; (b) first-time students who participate in matriculation; and (c) students who enroll in requisite remedial coursework in their 1st year of attendance. In turn, the scheme specifically disadvantages students who: (a) do not declare a program of study by the end of their third semester or do not follow their educational plan, (b) accumulate more than 100 course credits; or (c) are placed on academic probation or “progress probation” for two consecutive terms.

These criteria, as they become policy at the 114 community college campuses, are the basis for the variety of schemes that will be in effect. These criteria leave significant

In Sierra Community College District, Administrative Policy 5055 mandates that graduating seniors, “must have completed orientation, assessment, counseling/advising and a student education plan” (Board of Trustees, 2017). These preparatory factors are but one scheme amongst many, but the effectiveness of the variety of schema is yet to be determined (Bahr et al., 2013). Lived experience perceptions of students that succeed within the scheme that is correlated with success according to the student success task force will help to determine the effectiveness of the plan.

Theoretical Basis

Tinto’s Theory of Student Integration

Any consideration of student persistence written with the last 30 years cites Vincent Tinto’s theory of student integration. The theory considers the series of interactions between a school’s academic and social systems and its students. In 1975, Tinto posited:

The process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the
college during which a person’s experiences in those systems (as measured by his normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout (Tinto, V, 1975, p. 94).

This is the fundamental theory that has driven student success thinking and planning for the past four decades. Researchers describe Tinto’s seminal student integration work as the most prominent conceptual basis of much of the research on persistence and graduation (Bailey, 2005).

**Students as Experts**

Padilla consider the theoretical approach that students who are successful in any educational endeavor are experts. Students who are successful will have navigated the path through the gaining of theoretical knowledge, collecting the heuristic knowledge related to a specific institution or system and synthesized these into a system of compiled knowledge that is sufficient to move through and past barriers inherent in the system or institution (Harmon & King, 1985; Padilla, 2009). This compiled knowledge is described by Padilla et. al. as the “body of knowledge and associated actions to overcome barriers to degree attainment” (Padilla, R.V., Trevino, J., Gonzalez, K., & Trevino, J., 1997, p. 131).

The fact that this is a key consideration points to the fact that there are generally two perspectives regarding student persistence and graduation. The first represented by Tinto and one that focuses first the deficits that students have, or more precisely what they do not bring, to their college experience that keep them from succeeding. The second is a model that seeks to tease out the assets that successful students bring to their
education that give them the ability to persevere and persist to higher education success. The asset focus of this study is based on the Expertise Model of Student Success of Raymond Padilla and is described the next section.

**Padilla’s Expertise Model of Student Success**

The theoretical grounding of the study begins with Tinto’s theory of student integration whose recommendations include improving academic preparation, providing additional financial aid, increasing transfer rates to universities, easing the transition to college, encouraging engagement on campus and promoting reentry of adult and working students (Engle & Tinto, 2008; Tinto, 1993, 2002, 2004). The theoretical foundation continues with students as experts and the impact of carrying theoretical, heuristic and compiled knowledge (Harmon & King, 1985). And is most directly grounded in a resource model of student success developed by Raymond Padilla, whose theory looks at the system of a school and develops a local model for success based on the experiences of successful students within the system (Padilla, 2009). Padilla’s theory is unique in that it focuses on asset knowledge necessary or student success over against the deficit models that dominated student success theories for many years. Padilla’s resource model theory of student success is the theory that grounds this study.

Padilla’s model is one that looks at the experience of students of a particular background or demographic and identifies the influence of three kinds of knowledge on such students’ outcomes. The three are theoretical or formal knowledge passed to students in program orientations and the like, the second is heuristic knowledge, which is learned experientially and culturally and the third is compiled knowledge which is the combined knowledge learned from each of theoretical and heuristic knowledge bases.
Padilla concluded that institutions should do more to identify, honor and provide the acquisition of heuristic and compiled knowledge in order to develop local models of student success (Canales, 2010).

The theoretical considerations begin as most studies in the last 30 years have done with Vincent Tinto’s theory of student integration which is the most cited work in student retention during these three decades (Bailey, 2005). Tinto’s model is one that identifies negatively impacting structures and processes in our institutions and seeks to plan to ameliorate them. For this study, the researcher views successful students as experts with assets and resources necessary to take theoretical knowledge, synthesize it with heuristic knowledge specific to the institution into a compiled body of knowledge out of which students can act to their benefit and for their success (Harmon & King, 1985; Padilla, 2009; Padilla, R.V. et al., 1997). This focus on the resources of students is what drives the researcher to adopt Padilla’s Expertise Model of Student Success. This model provides a context for studying student behavior from the perspective of not merely identifying the barriers that students experience, but further to identify the knowledge and actions that are necessary to overcome those barriers and obstacles (Canales, 2010; Padilla, 2009; Padilla, R.V. et al., 1997). The model also provides the qualitative data collection tool that the researcher will employ with focus groups of successful, low income, first-generation students.

The sub-sections that follow will outline the theoretical underpinnings of the Expertise Model of Student Success and apply them and it to the research questions at hand. There are four major assumptions from which the model works. The first is an acknowledgment that we are not able to determine with precision why one student can
enter an institution and follow a program of study successfully to graduation or transfer while another of similar background and preparation does not. The second is that from the student perspective, the campus is a series of barriers to his or her academic progress and graduation. The third is that students who do succeed at navigating the inherent barriers of an institution are experts at being students. Four and final assumption involves what Padilla refers to as conation, which refers to the actions and will to act that a student possesses, putting knowledge into action to effect success behaviors in a successful student. Students that enact behaviors consistent with their heuristic knowledge of the institutional barriers will succeed beyond those that know and remain passive. (Canales, 2010; Padilla, 2009)

Assumption One: The Campus Experience

The theory assumes that we can know relatively little about the details of the student experience to be able to causes of success or failure for individual students until after the effects are evident. This forensic analysis is valuable, but cannot serve to help a student who has failed, go back and redo the things done wrong. Padilla notes that, at first blush, this assumption seems to render further consideration of the campus experience moot in light of our confessed ignorance. But the theoretical model goes beyond this in two ways. First, while we cannot know all of what happens with a student while they are with us regarding the barriers they face and how they move beyond them, we know a significant amount about students when they enter. We have assessment data, prior academic records, courses of study, family income, etc. This theory is concerned with what is happening in the period when students are in our institution and dealing with
educational, cultural and social issues in real time. To help in this consideration, Padilla borrow a concept from the physical sciences. He conceives of the institution as a black box. Students are inputs to the box and exit as either successful graduates or transfers, or they exit as dropouts or stop outs. No physical scientist would be deterred by the fact that they cannot see what is happening in the black box. They know that they can infer the activity inside the box by testing. Like the way that physical scientists determine the nature of invisible atoms, by smashing other atoms into them and recording the results, the Expertise Theory of Student Success seeks to probe the experience of the student within the box in ways that will reveal the nature of the student experience. Figure 3 below depicts this process graphically:

Figure 3. Black Box Conceptualization of the Student Experience Adapted from Padilla (2001)
Assumption Two: Barriers

From the student perspective, the campus is a series of barriers to his or her academic progress and graduation or transfer. Padilla draws from a study by Louis Attinasi which considered the experience of Mexican-American students from rural areas at a large public university. In this study, Attinasi identified a variety of barriers that included a barrier of scope. For these students, the institution was simply too large to manage. It was necessary to “shrink” the institution for these students to a manageable size. (Attinasi, 1989; Engle, J. & Tinto, V., 2008) Making the institution geographically manageable was a barrier that these students faced and navigated within the institution. This is a simple example of a barrier that expert students face and navigate. Padilla represents these barriers with the vertical lines within the black box in Figure 3.

Assumption Three: Successful Students are Expert Students

Students who succeed in an institution are experts in being students. Padilla adapts the work of Harmon and King (1985) to the higher education setting. “Student expertise consists of the total knowledge possessed by the student at graduation (i.e. compiled knowledge). Compiled knowledge has 2 components: heuristic (informal) and academic (formal) knowledge” (Padilla, 2009, p. 24). Formal knowledge is gained in classrooms and through theories and is independent of the campus setting. Heuristic, or informal knowledge, is gained from relationships with other students and family members and is dependent on the campus setting. It comes by word of mouth and “rules of thumb” (2009, p. 25). It generally, is not provided by the institutions in any intentional
ways, but is often necessary for successful navigation of campus barriers. Figure 4 depicts the process of combining of knowledge type in a student.

Figure 4. Varieties of Knowledge Adapted from Harmon and King (1985)

Harmon and King stated,

The level horizontal arrow describes a dimension that indicates how much compiled knowledge an individual has acquired. By compiled knowledge we mean information that is organized, indexed, and stored in such a way that it is easily accessed. Compiled knowledge is readily usable for problem solving. … The compiling process occurs in two complementary ways. First, topics may be studied formally, as in a school or when we attend lectures and read textbooks. … A second way that knowledge can be compiled is by means of experience or by learning from a mentor. (1985, pp. 30–31)
Padilla (1991) drew from Harmon and King’s work to further explain the applications of the three types of knowledge (theoretical, heuristic, and compiled) and the implications for student success in a college campus.

**Assumption Four: Conation**

Knowledge without action is ineffective. Conation is defined as, “The part of mental life having to do with striving, including desire and volition.” (Dictionary.com) Padilla writes, “Conation refers to action or the will to act. Heuristic knowledge is necessary but not sufficient to overcome barriers to success. To overcome barriers the students also must take effective action. The set of effective actions determines a student’s behavioral repertoire for success. (2009, p. 26)” Figure 5 depicts the general model of Padilla’s theory:

Figure 5. EMSS as a General Model of Student Success

(Padilla, 2001)

Padilla’s focus on resources and knowledge necessary to overcome barriers makes it a suitable model from which to consider the success factors of low-income and first-generation students in a rural community college setting. Considering the assets of
successful students provides insight into how colleges provide access to appropriate knowledge to prepare students for success before entering the institution.

Padilla’s model also provides the unfolding matrix data collection process for recording the focus group data. In this process, students who fit a demographic are asked to respond to a set of prompts regarding barriers within the institution and subsequently the knowledge and action necessary to overcome those barriers. It is an effective method for collecting the qualitative data necessary to describe the experience of the student group under examination (Padilla, 2009; Padilla, R.V. et al., 1997).

**Engagement of Low Income and First-Generation Students**

The inherent stressors on our low income and first-generation students beg for a response specific to their need. The research points us to a variety of activities that illuminate the direction of the study. Engle and Tinto (2008) recommend participation in special programs that “scale down” institution to make the transition less traumatic. Other research points to the detrimental effects of late registration on persistence and success for low income and first-generation students (Mamiseishvili & Deggs, 2014). And finally streamlining advisement to make it more personal, less complex and more intrusive can create more structure within the community college that helps to eliminate some of the inherent distractions of work, family, commuting and simple wasted coursework and time (Karp, 2011). While research considering the effects of enrollment management on low income and first-generation students is quite limited (Bahr et al.,
2013), if available at all, there is much research describing the experience of these unique students that one can generalize to speak into the issue of enrollment management.

**Summary**

Consideration of the idea of enrollment management as it relates to low income and first-generation community college students reveals a set of conclusions that the researcher and reader are wise to keep in mind as any study of the topic is undertaken. These fall roughly into three categories. These are history and mission, external factors and internal factors. Additionally, the literature demands the researcher consider the impact of special populations of students that could be impacted disproportionately by poorly planned or ill-considered enrollment management schemes. And finally, the researcher is wise to consider the theoretical background to the question at hand. Each of these categories is summarized and concluded in the sections that follow.

**History and Mission**

The first is history and mission. The literature is quite clear that the mission of the community colleges is to educate the broadest swath of society with an open access approach. Created to provide a link between high school and college for students underprepared either educationally or financially (Boggs, 2010; Coons, 1960), these colleges now constitute the largest higher education segment, by far, enrolling 43% of all undergraduate students in the United States (Mullin, 2010, 2012; Mullin & Phillippe, 2009). The community colleges have a long, tightly held mission of providing opportunities in higher education to those who would otherwise be left with scarce few or no higher education options, many of whom are from traditionally underrepresented
demographic groups (Bahr et al., 2013; Belfield, C. R. & Bailey, T., 2011; Chen & Carroll, 2005; Shulock et al., 2011). Pulling from the research of Harmon and King (1985) on artificial intelligence and expertise, Padilla shifted his attention to the resources (knowledge and actions) of successful students to develop his Expertise Model of Student Success (Padilla, R.V. et al., 1997), which this study will use as its basis for considering the topic.

External Factors
The second broad category to illuminate is in regard to external environment. Community colleges operate within their cultural milieu and certainly act to change the culture and society and yet there are factors that are largely outside the control of community college administrators and decision makers with which the institutions must deal. These include economic downturns and funding troubles incumbent to them (Beach, 2011; Little Hoover Commission, 2012; Phelan, 2014; “Trends in College Spending Online | Delta Cost Project,” 2015), such as the fact that there is an increased demand for a very limited number of seats in our institutions (Rhoades, 2012; Shulock, N. & Moore, C., 2005) and that the country simply needs more college graduates (Obama, B., 2009; Romer, 2010).

Internal Factors
Community colleges deal with the external pressure, and in order to maintain the mission, they create a variety of responses specific to each local context. This process is the strategic enrollment management process. This process can take several forms. One is the restructuring of the course offerings. Colleges respond to rationing needs by eliminating expensive courses and increasing the size of high demand courses or move
them to the less expensive online format. Another means of managing enrollment is to ration access to courses by prioritizing enrollment and registration (Bahr et al., 2013). This method seeks to retain students rather than recruit which is far less expensive for the institution (Braxton, J. M. et al., 2004; Lay, 2011; Levitz et al., 1999). Research also indicates that the effect of prioritizing enrollment is a topic that is ripe for study (Karp, 2011, 2011; Rhoades, 2012). These policy changes are also a prominent component of the new Student Success and Support Program mandated by the California legislature (Little Hoover Commission, 2012; Student Success Task Force, 2012).

**Special Populations**

There is considerable research regarding the plight of low income and first-generation students. These are students whose parents have not attained a baccalaureate degree and who fall below 150% of the federal poverty level. LI and FG students are generally less well prepared and must navigate additional barriers more frequently than their more advantaged peers (Tinto, 2004). These students are also far more likely to start their higher education careers at a community college, which mitigates toward preparing these institutions to be the place where focus on remediation and support lies (Berkner, L., He, S. & Cataldi, E. F., 2003) The region in which the study is situated is arguably the most impoverished in the nation (Cowan, 2006a) and many of these impoverished students would have little in the way of opportunity in higher education were it not for the community colleges (Belfield, C. R. & Bailey, T., 2011; Boggs, 2010; Engle, 2007). The research also documents clearly the fact that LI and FG students lag far behind their most advantaged peers in virtually every success measure (Choy, 2001; Davis, 2010; Pascarella et al., 2003; Research, Analysis and Accountability Unit, 2014).
It is necessary for these students to overcome the added stress and friction of being far more likely than their advantaged peers to have dependent children as single parents, to have earned a high school equivalency diploma, to be financially independent of their parents, to delay entry to college, and to work full time during college (Chen & Carroll, 2005; Choy, 2001; Olenchak, F. R. & Hebert T. P., 2002). This study follows Padilla’s impulse to shift from looking at the deficits of these students to considering those who are successful as experts and building policy from their experience. He writes, “The assumption is that students who are successful are students who are experts at being students. They use their expertise to overcome the barriers to success that confront them and also to meet the academic knowledge requirements for graduation” (1997, p. 24)

**Theoretical Considerations**

The theoretical considerations begin as most studies in the last 30 years have done with Vincent Tinto’s theory of student integration which is the most cited work in student retention during these three decades (Bailey, 2005). Tinto’s model is one that identifies negatively impacting structures and processes in our institutions and seeks to plan to ameliorate them. For this study, the researcher views successful students as experts with assets and resources necessary to take theoretical knowledge, synthesize it with heuristic knowledge specific to the institution into a compiled body of knowledge out of which students can act to their benefit and for their success (Harmon & King, 1985; Padilla, 2009; Padilla, R.V. et al., 1997). This focus on the resources of students is what drives the researcher to adopt Padilla’s Resource Model of Student Success. This model provides a context for studying student behavior from the perspective of not merely identifying the barriers that students experience, but further to identify the knowledge and
actions that are necessary to overcome those barriers and obstacles (Canales, 2010; Padilla, 2009; Padilla, R.V. et al., 1997). The model also provides the qualitative data collection tool that the researcher will employ with focus groups of successful, low income, first-generation students.

**Synthesis Matrix**

A synthesis matrix was utilized to organize the themes included in this dissertation. The matrix is essentially an Excel spreadsheet that contains each of the works considered in the literature review. The spreadsheet contains over 200 writings potentially pertinent to the topic. The topics and themes that became the subsections of the literature review constitute the columns while each of the works considered occupies a row. The matrix simply assigns a topic to each work as appropriate to create a matrix that helps the researcher see the topics and themes more graphically and helps to uncover themes or topics that ought to be included in the review as research variables.
CHAPTER III: METHODOLOGY

Overview

This study sought to ascertain the relationship between priority registration and success for low income and first-generation high school seniors. The study is a mixed method study in which the quantitative correlation between priority registration and success as defined by the Student Support and Success Program is used to illuminate the qualitative lived experience of low income and first-generation student relative to the priority registration. This chapter includes the purpose of the study, research questions, research design, data collection and analysis processes. The research design includes detailed descriptions of the population, sample, and instrumentation for both the quantitative and qualitative portions of the study.

Purpose Statement

It was the purpose of this sequential explanatory mixed methods (John W. Creswell, 2003) study to describe how precollege preparatory factors (application, assessment, educational planning and orientation) leading to a priority registration appointment contributed to the success of low income, first-generation entering high school senior students in a rural public community college.

In addition, it was the purpose this study to explain the how students perceive the impact of those preparatory factors that support student success.
Research Questions

The study will collect both qualitative and quantitative data. This study sought to determine whether priority registration impacts student success using quantitative data from the student success scorecard and qualitative interview data from successful low-income, first-generation, college-bound students who participated in priority registration. The study extends the work of Dr. Angela Tos related to service learning. The questions parallel her 2015 design. (Tos, A, 2015)

Questions

1. To what extent does priority registration impact student completion of transfer level English courses?
2. To what extent does priority registration impact student completion of transfer level math courses?
3. How do students in a community college perceive priority registration impacts their college success as measured by interview responses?

Research Design

Mixed Methods

A mixed method research design will be used for this study to identify and describe precollege preparatory factors that lead to priority registration appointments contributed to the knowledge and actions of well-prepared successful success students. In
his book Understanding Mixed-Methods Research, Creswell notes “As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone” (J. W. Creswell, 1998). Creswell’s “better understanding” is the desired end of this research study.

The forms of data can be mixed in one of three ways. The two can be merged, they can be connected or they can be embedded. Merging requires both to speak into the result separately. In the connecting case, the one type informs the other and the two come together for a result. In the embedding case, the two are combined to inform a result (J. W. Creswell, 1998). In this study we will connect the data types in a sequential explanatory design. In this design, a researcher first collects and analyzes the quantitative (numeric) data. The qualitative (text) data are collected and analyzed second in the sequence and help explain, or elaborate on, the quantitative results obtained in the first phase (Ivankova, 2006, p. 3). The data will be connected in the following way; the quantitative data will identify the relationship between priority registration and success in the terms defined by the Student Success Scorecard and these relationships will inform the qualitative resulting in a clearer picture of the themes that are prominent in the lived experience of successful students in the sample. The qualitative portion will seek to illuminate the assets of successful students in the sample by determining which if any of the preparatory factors that define them as well prepared are perceived by the student to be effective toward their success. Specifically, the quantitative portion of the study will be used to determine the extent to which student success in terms of the Student Success
Scorecard measures (persistence through three consecutive terms, academic progress through 30 units, success in remedial coursework, and goal completion through degree, certificate or transfer) is impacted by priority registration. Invankova continues:

“the mixed-methods sequential explanatory design, is highly popular among researchers and implies collecting and analyzing first quantitative and then qualitative data in two consecutive phases within one study. Its characteristics are well described in the literature and the design has found application in both social and behavioral sciences research” (2006, p. 4).

The qualitative study will gather interview data to collect the stories shedding light on the lived experience of the participants. The study employs a QUAN-Qual approach in which the questions for study in the qualitative portion will be defined by the quantitative component. Roberts notes that “combining “what” with a possible “why” adds power and richness to your explanation of the data” (Roberts, 2010). The quantitative component provides the “what” of the study, while the qualitative component illuminates the “why”. More specifically, the questions that are explored in the qualitative component will be developed from the relationships that are uncovered in the quantitative. In this study, priority registration will act as proxy for a specific scheme of precollege preparation that includes five specific preparatory factors. Students who earn and use this priority registration appointment are considered well prepared. For example, if the relationships between well preparedness (i.e. students who have achieved all five of the preparatory factors of application, assessment, orientation, student educational plan and financial aid application) and success is weak for the population, the qualitative portion will need to take a different direction than if the relationship between
well preparedness and success is strong. If it is strong, the researcher will focus the interviews on the participants’ lived experience within the framework of the preparation process. If weak, the researcher will focus the qualitative study on a set of barriers and success behaviors that come from the experience of the participants. Additionally, the qualitative portion seeks to illuminate the assets that are available and useful to successful students relative to their precollege preparation. In this way, the methods are mixed to maximize the clarity of the themes that are teased out of the qualitative data getting as closely as possible to the true essence of the experience of the population.

**Quantitative**

The quantitative component will utilize a Chi Square test of independence to examine the relationship between priority registration and success as defined by the Student Success Act. Priority registration refers to students receiving their classes for future terms during the week prior to registration for the general population. Traditionally, this incentive is reserved for special populations of students. Recently, it is used as a means of managing enrollment and so it includes entering high school seniors who complete a series of preparation events. Success is defined as achieving one or more of the measures indicated such as academic progress, career technical education success, goal completion, persistence, and/or remediation success (California Community College Chancellor’s Office, 2013a, 2013b). Variables can be proven to be independent of one another or could be revealed to be dependent. In this study’s case, we will look for dependence, which would indicate that priority registration and success are connected. Independence would be that the variables are not connected, but that they conform to the expected outcome, that they are random. This is would constitute the null hypothesis.
When a Chi Square value is calculated between, for example, priority registration and successful completion of transfer level English (research question one), a data table similar the following example. The Chi Square value and degrees of freedom will be used to calculate a p-value for the relationship. strongly positive (p-value near 1.0), strongly negative (p-value near -1.0) or uncorrelated (p-value near zero). Each of these cases would obviously require its own interpretation. The researcher must be mindful of the fact that dependence does not necessarily imply whether variables influenced one another, only that they are connected (Filipowich, n.d.). The analyses will be done using a Chi-squared test of independence for both research questions one and two and utilizing SPSS.

**Qualitative Focus Groups**

This explanatory sequential design typically involves two phases: (1) an initial quantitative instrument phase, followed by (2) a qualitative data collection phase, in which the qualitative phase builds directly on the results from the quantitative phase. In this way, the quantitative results are explained in more detail through the qualitative data. In this study the qualitative data was used to support and explain the quantitative data through the experiences and stories of students.

The qualitative component will utilize interviews the purpose of which is to shed more light on the relationship that is revealed by the quantitative portion of the study by collecting the stories from students in the correlation. These students’ stories of success will elucidate their perception of the processes of student development through their own lived experience. Should the quantitative portion of the study reveal that priority registration and well preparedness that triggers it has a strong impact on persistence, but
not on academic progress or completion, the questions for the qualitative interview portion will explore this difference. For example, it will be important to question regarding data in which the impact of priority registration is strong more carefully and deeply than quantitative data that is not. This component will utilize focus group sessions with five-eight participants and individual interviews with another three participants. The combination of these two techniques increases the validity of the data by providing inherent triangulation and by providing opportunity to refine and focus the questions between the two interviews.

The focus group process will follow Padilla’s unfolding matrix design in order to gather the data within a social context of participants that share the criteria of success according to the student success scorecard and priority registration. Padilla notes the value of the focus group data gathering technique. He writes: “One of the advantages of interviewing small groups is that interviewees tend to self-correct as information is provided by other individuals. Through dialogue with each other or with the session moderator, the interviewees have an opportunity to clarify what they mean. Group interviews have a built-in cross-check on the quality of the data gathered (2009, p. 68). The individual interviews are even more focused and draw on data from the focus groups to direct them.

**Qualitative Interviews**

The qualitative component of the study will be comprised of interviews with successful low income, first-generation students from the population. Successful students will be those that are successful according to successful completion of transfer level math and English. Interviews are helpful for explaining and illuminating the understandings
of the participants in a particular phenomenon. The interview process assumes that the perceptions of those interviewed are valuable and useful for understanding the topic under consideration (Patton, 2002). Patton notes further, Qualitative interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be made explicit. We interview to find out what is in and on someone else’s mind, to gather their stories” (2002, p. 341). Interviews are also advantageous for the purpose of allowing participants to share their experiences when they cannot be observed directly. It allows participants to describe personal perceptions and details in their own words (John W Creswell, 2014). Interviews are also advantageous insomuch as they are flexible and can be adjusted to increase the depth and usefulness of the data collected (John W Creswell, 2014; McMillan & Schumacher, 2010; Roberts, 2010). The qualitative data will be collected after the quantitative and so will also be useful for explaining the reasons for the findings from the perspective of the participants in the study.

The researcher worked with the research department of the institution to obtain a list of students that fit the criteria of being low income, first-generation and successful that received and used a priority registration appointment. A letter of permission to conduct the study was received from the institution before collecting data. This list included only contact information with all personal information coded and secured. The list was, always, kept in a password protected computer with entry information known only to the researcher. The researcher then placed the students into a container and drew out names at random to solicit interviews. The students were contacted by mail, email and also by phone through a college student worker to develop the list of prospective participants. When the list got to approximately 50 students the student worker began to
contact students randomly from the list with a specific invitation to participate in a focus group session. An evening session was offered and an afternoon session was offered. The student worker was instructed to schedule 15 students for each session with the expectation that a minimum of eight would show up and participate. Each student that agreed to participate was offered a nominal gift card valued at less than $10 for lunch in the college snack bar and some school supplies as a thank you packet for their time. Each participant will be placed into a random drawing for a larger gift to be determined at a later time. This formula is recommended by Dr. Ken Gonzalez of CSU San Marcos according to his Achieving the Dream focus group facilitator training process. Each focus group interview was conducted according to Padilla’s (2009) unfolding matrix design. This design includes a process for collecting the data, cleaning the data from the video record and transcript. A full description of the process is included in Appendix A.

At the end of the focus group interviews, each participant was offered the opportunity to participate in an individual interview session to further the depth of the data collected. All participants that agreed were placed into a container and names were randomly selected. Three individual interviews followed with these participants. This constituted a form of criterion purposive sampling according to Patton (2002).

**Researcher as Research Tool**

Lincoln and Guba provide 14 rationales for using naturalistic inquiry in qualitative research. One of these is the necessity of the researcher as researcher as research tool. They write “Conducting a study in a natural setting demands use of a human instrument” (1985, pp. 201–202). The researcher works in the field of community college student services and has interacted with many students who fit the
profile of those in the sample. A history of work with this population sets the stage of immersion in the issues surrounding this population. The history includes more than 10 years of work with the federal Trio programs, which serve low income and first-generation students as a fundamental component of their design. The latter half of these years includes direct student services experience in the California community colleges with responsibility to design and evaluate programs aimed at student success. This immersion has also included classroom faculty responsibilities which has provided a rich environment in which to observe, appreciate and analyze the resourcefulness of students in the sample population as well as students within the larger student population. This decade plus of immersion sets the stage for the researcher to take up the topic at hand.

Population

Populations are comprised of groups or individuals that share characteristics such as hair color or eye color that or conform to specific criteria such as applying to community college (J. W. Creswell, 1998; McMillan & Schumacher, 2010; Roberts, 2010; Williams, 2004). In this study’s case, the shared characteristic is enrollment in a California Community College. Researchers use populations in studies to form conclusions which can be generalized to all groups who share the same criteria or characteristics (McMillan & Schumacher, 2010; Roberts, 2010). Population refers to a group that researchers are interested in studying. The population of this study was California community college students. In the spring of 2015, the California community college system enrolled 1,555,512 students (“California Community Colleges Chancellor’s Office - Data Mart,” 2014). Fifty-three point one four percent of the
students were female, 45.82% were male, and 1.04% was an unknown/decline to state
gender. Table 3 below outlines the population demographic data.

Table 3. Spring 2015 California Community College Student Count

<table>
<thead>
<tr>
<th>Category</th>
<th>Student Count (N)</th>
<th>Student Count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of California Total</td>
<td>1,555,512</td>
<td>100.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>98,336</td>
<td>6.32%</td>
</tr>
<tr>
<td>American-Indian/Alaskan Native</td>
<td>7,015</td>
<td>0.45%</td>
</tr>
<tr>
<td>Asian</td>
<td>172,716</td>
<td>11.10%</td>
</tr>
<tr>
<td>Filipino</td>
<td>44,378</td>
<td>2.85%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>661,102</td>
<td>42.50%</td>
</tr>
<tr>
<td>Multi-Ethnicity</td>
<td>58,121</td>
<td>3.74%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>6,762</td>
<td>0.43%</td>
</tr>
<tr>
<td>Unknown/Decline to State</td>
<td>67,051</td>
<td>4.31%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>440,031</td>
<td>28.29%</td>
</tr>
<tr>
<td>Low Income (Pell)</td>
<td>502,547</td>
<td>32.3%</td>
</tr>
<tr>
<td>First Generation</td>
<td>267,938</td>
<td>17.2%</td>
</tr>
<tr>
<td>19 and under</td>
<td>347,086</td>
<td>22.31%</td>
</tr>
<tr>
<td>20 to 24</td>
<td>584,175</td>
<td>35.24%</td>
</tr>
<tr>
<td>25 to 29</td>
<td>214,175</td>
<td>13.77%</td>
</tr>
<tr>
<td>30 to 49</td>
<td>196,787</td>
<td>12.65%</td>
</tr>
<tr>
<td>50+</td>
<td>138,412</td>
<td>8.90%</td>
</tr>
<tr>
<td>Unknown/Decline to state</td>
<td>283</td>
<td>.02%</td>
</tr>
<tr>
<td>Female</td>
<td>826,649</td>
<td>53.14%</td>
</tr>
<tr>
<td>Male</td>
<td>712,717</td>
<td>45.82%</td>
</tr>
<tr>
<td>Unknown/Decline to state</td>
<td>16,146</td>
<td>1.04%</td>
</tr>
</tbody>
</table>

(“California Community Colleges Chancellor’s Office - Data Mart,” 2014)

A target population is the group of sampling units from which the sample is
selected (John W Creswell, 2014) The target population for this study is Sierra College
students. Further, the target population represents the sampling frame. The sampling
frame for the study is all high school seniors who reside in the geographic service area of
Sierra College, attend one of the 18 feeder campuses and who utilized an appointment for
priority registration. In the 2013-2014 school year this was a total of 535 students. In
spring 2016, Sierra enrolled 17,797 students. 4807 or 27 percent of these are in the age
demographic that could contain the study sampling frame. One can also see that Sierra College has levels of low income and first-generation students at rates significantly higher than the state average. Sierra’s low-income rate is 50% compared to the state at 32.3%. Sierra’s first-generation student rate is 31% compared to the state which is 17.2%.

Table 4 below summarizes the demographic breakdown of Sierra College. The study population includes low income, first generation students in California Community Colleges. The precise number of students in the population is not clear until the data is drawn, however the number is at most 267,938, which is the number of first generation students. Likely the number will be significantly lower.

Table 4. Spring 2016 Sierra College Student Count

<table>
<thead>
<tr>
<th>ETHNICITY</th>
<th>STUDENT CNT (N)</th>
<th>STUDENT CNT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra College Unduplicated Head Count</td>
<td>17,826 corpse</td>
<td>100.0% corpse</td>
</tr>
<tr>
<td>African-American</td>
<td>476</td>
<td>2.67%</td>
</tr>
<tr>
<td>American-Indian/Alaskan Native</td>
<td>99</td>
<td>0.56%</td>
</tr>
<tr>
<td>Asian</td>
<td>835</td>
<td>4.68%</td>
</tr>
<tr>
<td>Filipino</td>
<td>246</td>
<td>1.38%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4729</td>
<td>26.53%</td>
</tr>
<tr>
<td>Multi-Ethnicity</td>
<td>982</td>
<td>5.51%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>59</td>
<td>0.33%</td>
</tr>
<tr>
<td>Unknown/Decline to State</td>
<td>213</td>
<td>1.19%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>10,187</td>
<td>57.15%</td>
</tr>
</tbody>
</table>

(“California Community Colleges Chancellor’s Office - Data Mart,” 2016)
When the California community college system created the Accountability and Reporting for the Community Colleges (ARCC), it recognized the need to group colleges according to student and community diversity in preparation for evaluation of college performance (California Community College Chancellor’s Office, 2013a; Hom, W, 2008a, 2008b; Ommeren, Liddicoat, & Hom, 2008). The analysis also involved an extensive literature review, regression modeling to ensure that the environmental factors had an empirical relationship to the success indicators and cluster analysis first to statistically identify peer groups. Groups were created based upon a selection of the most appropriate variables determined by bivariate correlations and hierarchical regression (California Community College Chancellor’s Office, 2013a; Hom, W, 2008a, 2008b; Ommeren et al., 2008). Individual colleges use peer groups developed through cluster analysis for comparing themselves with statistically similar colleges. Regression models were used to identify uncontrollable factors, referred to as environmental factors that forecast a college’s completion rates. Multivariate cluster analysis was used on identified set of environmental factors to identify colleges that most closely resemble each other. The model utilized a technique called hierarchical clustering which uses large numbers of iterations to increase the accuracy of the cluster. Colleges that were most closely related to one another constituted the final peer groups (California Community College Chancellor’s Office, 2013a). Peer grouping within the California community college system created seven peer groups of college within the system. The groups are listed in Table 5 below. These groups were created specifically so that “…colleges can use peer groups for comparing themselves on this indicator (completion) with similar colleges for evaluative purposes” (California Community College Chancellor’s Office, 2013a, p. 1).
Dr. Angela Tos calls on this method to validate the generalization of service learning data collected at the same institution (Tos, A, 2015). This researcher utilizes a similar approach. This method of statistical peer grouping was designed by the community college system as a means of generalizing performance measures across groups of colleges (California Community College Chancellor’s Office, 2013a). Findings of a sample taken from the student population at Sierra College can be similarly generalized to, at a minimum, the 24 colleges within peer group three. These 24 institutions cover virtually all the state geographically and demographically. These colleges serve the inland empire, Los Angeles basin, central valley, south coast, bay area and Sacramento valley. For each of these colleges the performance indicators are generalized enough that these otherwise disparate institutions can be expected to present similar performance standards. This type of grouping process was also a recommendation of a validation study by van Ommeren, Liddicoat and Hom. They wrote, “Even if a college administration has little interest in a statistical model of institutional performance, it may find the indices useful for forming peer groups that facilitate the search for best practices among similar colleges” (van Ommeren et al., 2008, p. 475).

The precise purpose of this statistical clustering is to be able to compare results at one college more directly with those at another by creating group statistical groups of similar colleges. Willard Hom, of the California Community College Chancellor’s office, notes:

…to determine which institution is a ‘similar school’ in the postsecondary environment, an analyst can undertake an extensive analysis to categorize or
classify a specific population into groups so that each group contains institutions that closely resemble one another.

Researchers often label such an analysis as peer grouping. Researchers use peer grouping to ‘level the playing field’ or to avoid the problem of ‘comparing apples to oranges.’ In essence, peer grouping is a method of arranging data so that people can compare institutions while ‘controlling’ for specific, measured factors (often referred to as ‘confounders’) that would otherwise lead to unfair and invalid comparisons of performance.

Peer grouping through statistical clustering is a process intended to generalize results across institutions.

Even if a researcher focused on a target population of 500 or so students, it is impossible to study all sampling frame students directly. Instead of trying to treat or study all of the target population, the researcher selects a representative sample of the target population (2008b, p. 48)
Sample

The sample is a group of participants in a study selected from the population from which the researcher intends to generalize (John W Creswell, 2014). This study utilizes criterion purposive sampling. Each participant will be qualified under the criteria of having utilized a priority registration appointment, being low-income and first-generation and having succeeded in college according to the measures provided by the Student Success Scorecard of the California Community Colleges. For quantitative research, the notion of sample is very strictly defined; for qualitative research, less so (Mason, M., 2010). In qualitative research saturation is the criterion for determining an appropriate sample size. The sample size for the quantitative portion of the study is less than 1155.
The sample size for the qualitative portion is 20 participants. When the researcher has reached a point at which new themes or codes are no longer surfacing, the study has reached saturation. A variety of factors work together to determine when this point is reached. Charmaz (2006) suggests that the aims of the study are the ultimate drivers of the project design, and therefore the sample size. She suggests that a small study with "modest claims" (p.114) will achieve saturation quicker than one that spans disciplines and is very broad. For example, a study aiming to describe drug addiction in a specific group will achieve saturation faster than one that considers addiction in general (Mason, M., 2010). This study focuses on a specific sample and seeks to illuminate a relatively narrow slice of the potentially complex experience of the population. Mason goes further commenting on a study by Thomson to note that a ProQuest search of fifty research articles, that only 56% of the studies containing the search term “grounded theory” used a sample size of larger than 20 (2010). This study will employ three single participant interviews as well as two focus group interview sessions of approximately 10 students each and therefore fits easily within Mason’s recommendation for achieving saturation.

**Qualifying Criteria**

The student sample will be chosen from the population of all entering students who utilize a priority registration appointment. Using a purposive criterion sampling system. Patton describes the logic of this approach thus, “The logic of criterion sampling is to review and study all cases that meet some predetermined criterion of importance” (2002, p. 176).

At the beginning of the third semester, student success will be determined by examining which students succeeded on transfer level math and English. Low income
and first-generation status is collected anonymously from the initial application and financial aid data. Students who filter into the sample group will be invited to participate in the study and given all disclosures regarding study details.

As mentioned previously, the sampling frame is n=300-600. The population of potential students who fit the criteria for the study includes approximately three of the five cohorts that have received priority registration appointments as high school seniors. The other two have not yet reached a point at which they should be expected to have succeeded because they have not been in college long enough to earn the minimum 60 units for degree or transfer.

**Instrumentation**

Validity and reliability are key indicators of the quality of a measuring instrument and thus are described here. Validity of an instrument refers to how well it measures what it says it will measure and does so with reasonable accuracy (Patten, 2012; Roberts, 2010). The quantitative portion of the study will utilize archival student success scorecard data. Archival data are any data that are collected prior to the beginning of the research study. The study will utilize data collected for normal California Community College management information systems purposes. The Student Success Scorecard and its use of the success indicators of persistence through three consecutive terms; academic progress through 30 units; goal completion through degree, certificate and transfer rates; remediation through completion of a college level class for which remediation was needed; and the impact of Career Technical Education through completion of degree,
certificate, or transfer (Student Success Task Force, 2012) is widely recognized as valid measurements (Leinbach & Jenkins, 2008; Moore & Shulock, 2010; Student Success Task Force, 2012). These indicators are analogous to the milestones and momentum points developed by the Bill and Melinda Gates foundation (Bill & Melinda Gates Foundation, 2010) which are equally recognized as valid.

Reliability is determined when a test consistently yields the same results. Simply put, a test must consistently measure and yield the same results from one test to the next (Patten, 2012; Patton, 2002). The Community College Research Center conducted a study involving over 87,000 community college students in Washington state. Leinbach and Jenkins confirm the validity and reliability of these success criteria very convincingly (2008).

This qualitative interview study employed direct contact between investigators and actors, used emergent strategies rather than specific a priori specifications and developed data categories from examination of the data. The researched served as the primary instrument in the study. Lincoln and Guba (1985) proposed seven characteristics that make the human uniquely qualified as the instrument of choice for naturalistic inquiry. These include:

1. Responsiveness (ability to observe and change to environmental signals)
2. Adaptability (ability to adjust to changes)
3. Holistic emphasis (ability to understand entire context)
4. Knowledge base expansion (ability to make use of multiple domains of knowledge)
5. Processual Immediacy (ability to process data immediately);
6. Opportunity for clarity and summation (ability to provide summary and feedback instantly); and
7. Opportunity to explore atypical or idiosyncratic responses (ability to test validity for greater understanding).

There are a number of additional components to the instrumentation of the study. Quantitatively, success is measured using the five indicators from the Student Success and Support Program. These are persistence through three consecutive semesters, academic progress through the 30-unit milestone, goal completion through degree, certificate or transfer, and successful completion of remedial coursework. These measures are the exact ones determined by the chancellor’s office of the California Community Colleges and deemed valid (Leinbach & Jenkins, 2008; Moore & Shulock, 2010; Student Success Task Force, 2012). These measures are also recognized as valid inasmuch as they point to milestones and points of momentum that are significant in the student development process (Completion by Design, 2013; Jenkins, 2011). These measures are also affirmed by Chancellor Brice Harris’ office in their efforts to justify their use in measuring the colleges. These efforts to justify validity and reliability are contained in Methodology for college profile metrics and Scorecard: An accountability framework for the California community colleges (2013).

Qualitatively, the data instrument is focus group sessions and in-depth interviews. The focus group sessions were used to inform the more in-depth interviews. Focus groups are a recognized method for data collection (Krueger, R. A. & Casey, M. A., 2000; Patton, 2002). The researcher created an interview guide that described the process of the focus groupings and interviews. (Appendix A) The focus groups were informed by the
work of Ray Padilla and his colleagues (Padilla, 2009; Padilla, R.V. et al., 1997). While this study does not attempt to create a local model for student success, the unfolding matrix method provides an excellent method for conducting the sessions. The method requires the researcher serve as facilitator with a scribe recording in writing the process in real time. The session is recorded on video so that the data can be cleaned after the fact to confirm the intent of the participant when the articulation is questionable. The researcher and the scribe are trained in the use of the unfolding matrix method as part of the Achieving the Dream national community college improvement network (“Achieving the Dream: Community Colleges Count,” 2009). The unfolding matrix begins with asking the participants to describe barriers to their success in a given area of the college experience. When these barriers are clear, the group is asked to move to solutions to these barriers and the knowledge and actions that are necessary to overcome the barriers. Finally, the participants are asked to consider what is currently working in their institution and lives to overcome barriers. This focus on the resources for overcoming is the key to the process in that it does not simply seek to explicate what is wrong, but looks to tease out of the experts (students) what the resources for success are (Padilla, 2009; Padilla, R.V. et al., 1997). The interviews were designed afterward drawing on the themes that came out of the focus groups. In this study, the correlated variables have that correlation illuminated by the focus group and interviews to reveal the resources for overcoming variables that successful students possess.
Data Collection

Lincoln and Guba (1985) suggest that for qualitative research to be trustworthy, three sources of data are necessary. This provides an opportunity for triangulation, and gives the researcher, as the primary instrument of research, a tool for checking bias and debriefing the focus groups sessions and interviews, by checking researcher responses for consistency across a range of contexts.

In this study, the quantitative component is the first data source under consideration. The researcher will run a series of chi-square tests of impendence and point biserial correlation tests to check for relationship between priority registration for high school seniors and a number of success indicators from the California Community College Chancellor’s Office Student Success Scorecard. The researcher will check for dependence between priority registration and persistence through three consecutive terms; academic progress through 30 units; goal completion through degree, certificate and transfer rates; remediation through completion of a college level class for which remediation was needed; and the impact of Career Technical Education through completion of degree, certificate, or transfer. These are the five areas on the Student Success Scorecard. If one or more of these correlations is found to be weak or negative, the questions for the focus groups and interviews were changed to focus on areas that are correlated as the qualitative data should illuminate participants’ experience with components of the college experience that are statistically correlated to success rather than looking at success and working to determine what brought that success about without any specific direction. This provides a certainty to the data in that we are not attempting to determine the impact of the activities may or may not be correlated to
success as defined. These activities are not assumed to be causal, but there is power in illuminating the experience of successful students who have participated in activities that have a proven correlation. This methodology adds a level of strength to the “why” of the qualitative data and its ability to explain the “what” of the quantitative.

The second of the three sources of data is focus group session data. From the phenomenological perspective, focus groups are a commonly accepted method for collecting qualitative data. Patton (2002) suggested that focus groups could be used when a researcher has the need to study a homogeneous subgroup of a population. Our sample of, low income, first-generation students is just that. Patton continues, “Focus group interviews involve conducting open-ended interviews with groups of five to eight people on specially targeted or focused issues” (Patton, 2002). The use of focus groups for collecting qualitative data has advantages and disadvantages. According to Patton, advantages to focus groups include: an efficient method for collecting qualitative data, increases sample size of interview groups, a method of checks and balances, and is an enjoyable process for participants. Focus groups also capture somewhat the social context of participants’ experience, thereby increasing the authenticity of the data. Focus groups also have weaknesses—such as when responding to a set of questions within the suggested time limit (i.e. one hour), the number of questions that can be asked is more limited to allow participants time to respond. Patton recommends the researcher limit the number of major questions to 10 for any focus group session.

The researcher utilized a general interview guide, which was informed by the unfolding matrix taxonomies outlined by Padilla (2009). It can be found in Appendix B. This methodology provided some structure to the interview process and at the same time
enough flexibility to make adjustments as the interviews progressed. An interview guide was also utilized and the results of the preliminary data from the focus groups to conduct the individual personal interviews. Doing so not only allowed for triangulation of the findings from the data sets but also ensured that questions used for collection of these various data sets were continuously refined and refocused by the emergent findings from initial analysis of these data sets. As mentioned previously, the initial quantitative component provides assurance that the experience of the participants teases out details of success factors that are shown to be correlated in some way.

The final data source is interview session data for three participants.

Data Analysis

The research questions point to the extent to which priority registration and student success for low-income and first-generation students, persistence, academic progress, goal completion, and remediation education are related. Each of these are quantitative data that has long been established by multiple institutions and sources as being a valid measurement of academic achievement (Leinbach & Jenkins, 2008; Moore & Shulock, 2010; Patten, 2012; Scott & Perry, 2009; Series, 2012). The data was carefully analyzed to determine whether an association exists between priority registration and student achievement by looking for higher rates of persistence, academic progress, goal completion, remediation, and career technical education in the Priority registration group as compared to the control group. A variety of tests including, chi-square test of independence, which compares the observed counts of variables with the
expected counts of the same (“9.1 - Chi-Square Test of Independence | STAT 500,” n.d., p. 500), and point biserial correlation test analyses were conducted to determine the strength of the association of priority registration on each of the variables (the characteristics of student achievement as identified by the Student Success Scorecard) for the low income, first-generation participants. The study will utilize quantitative data as well as qualitative data. The data is then able to be triangulated. Triangulation is a powerful technique that facilitates validation of data through cross verification from two or more sources. Triangulation strengthens the researcher’s confidence in the validity and reliability of the data. Patton advocates the use of triangulation and states that triangulation strengthens a study by combining methods (Patton, 2002).

The research questions focused on factors which contributed to the success of low income and first-generation students. The first two of the questions seek to discover the relationship between priority registration and success as defined by success in transfer level math and English. The third question seeks to describe the impact of priority registration in the perception of the participants who are successful ‘after utilizing it. Priority registration and the preparation process or preparatory factors for priority registration, which by board policy in Sierra Community College District is a series of matriculation events taking place over a period of approximately 12 months (AP5055EnrollmentandRegistrationPriorities.pdf. (n.d.). Retrieved from http://www.whccd.edu/district/about/board_trustees/policies/documents/AP5055EnrollmentandRegistrationPriorities.pdf).

To answer these questions, focus groups and interviews were conducted. This provided the study with greater breadth and depth and provided the rich and descriptive
detail that the researcher sought in order to explain how priority registration is a contributing factor to student success (Patton, 2002; Roberts, 2010). Each of the interviews were transcribed by a third party to provide another level of protection against bias within the transcription process and reviewed extensively before any analysis was attempted to familiarize the researcher with the content. It is important that the researcher become familiar with the interviews and thus strengthen the researchers connection to the interview as a whole before beginning the analysis (John W Creswell, 2014; McMillan & Schumacher, 2010; Patten, 2012; Williams, 2004). Once the researcher was deeply familiar with the interviews, each interview was analyzed individually using codes. A code represents or symbolizes a significant content, topic, or meaning (Patton, 2002; Saldaña, 2013). The responses were reviewed extensively to determine codes and then analyzed for emergent themes. A sample of the coding process was also submitted to a third party familiar with the process to check for bias or data that was simply overlooked or dismissed inappropriately. A danger of qualitative research is that the research will fail to discover an aspect of the participants’ lived experience that is important and significant in answering the research questions.

It is critical that the researcher take steps to ensure that the data in a study is validated as well as possible. Triangulation is a powerful technique that facilitates validation of data through cross verification from two or more sources. In particular, it refers to the application and combination of several research methods in the study of the same phenomenon. In this case triangulation will be facilitated using quantitative data, focus group data and individual interview data.
The purpose of this study was to determine the association of priority registration and student success. Although a mixed-methods study, there was a strong quantitative component with many variables included (Creswell, 2014; McMillan & Schumacher, 2010; Patten, 2012; Williams, 2004). These quantitative statistical relationships were measured using point biserial and chi-square tests. The point biserial correlation was used on the case in which the data did not yield categorical and the chi-square test of independence was used in the categorical variable case to determine the presence or absence of a significant relationship between nominal variables. The nominal variables in this case include priority registration and persistence, as one example. (McMillan & Schumacher, 2010; Williams, 2004).

**Limitations**

Limitations are found in every study. The study was limited to low income, first-generation students’ perspectives on success to completion at a predominantly Hispanic student community college in central California, where successful completion is defined achieving one or more of the measures indicated such as academic progress, career technical education success, goal completion, persistence, and/or remediation success. A further limitation pertained to the data collection, which was limited to two focus groups of seven to 11 students. These groups were conducted over a ninety minute time period each (Krueger & Casey, 2009; Patton, 2002). Furthermore, the participants were purposefully selected from low income, first-generation students enrolled in Sierra College during the years between 2011 and 2016 who are successful toward completion.
The study also included three in-depth interviews of approximately one hour per student from the same population group. This approach yields data that is trustworthy or “worth paying attention to” (Lincoln & Guba, 1985, p. 290).

There are also potential limitations in the study related to the sample. The study used a nonprobability, convenience sample (McMillan & Schumacher, 2010). 300-600 students who received the priority registration intervention; students were not randomly assigned to the groups. While this is a potential limitation, the effects of non-random assignment are likely mitigated by the fact the participants are qualified as successful, low income, first-generation students and probably not an issue of concern.

An additional limitation of the study was that students in the sample were qualified by their success as many as three years ago. Interviews were conducted to illuminate barriers and knowledge necessary for success in community college. Since there was a gap of two years between the intervention or set of processes of student development and the survey, student memory may be clouded by events that have taken place in their lives in the ensuing period. As well, participants by their very nature may be enrolled and succeeding in four-year institutions and therefore transferred their success knowledge to their new institution, thereby misrepresenting their success in community college.

The researcher is relying on interview respondents for the qualitative data in this study. One limitation of the study is the truthfulness of the subject responses. There is no way to validate the honesty level of the responses. These students are considered to be experts in their own success.
Finally, researcher bias may present as a limitation of this study. The researcher works at a community college in a role responsible for student success. This could cause bias in the methodology of the study as the researcher views student success in the community college through the lens of his experience as an employee whose job performance is, in part, evaluated based upon the success of the student population that the college serves and from which the population is taken. The researcher also wrote the interview questions potentially introducing bias in the process. This limitation is mitigated somewhat by the fact that the questions for the interviews are derived from the focus group sessions in which the data comes forward in the social context of the participants and is therefore likely more authentic than questions that derive from the experience of the researcher.

Summary

This chapter sought to explain how this mixed-methods study was carried out to determine whether priority registration is a suitable mechanism for improving student success for low income, first-generation high school students in a rural California community college. This chapter included the purpose of the study, the methodology that was utilized to meet the purpose, and the specific research questions that guide the study. The chapter included a description of the Qualitative Interview approach of the study. In addition, this chapter provided an overview of the research design including the population, sample, instrumentation, data collection, data analysis, and the limitations of the study.
CHAPTER IV – RESEARCH, DATA COLLECTION AND FINDINGS

Introduction

As stated in chapter one, this study sought to determine the suitability of using priority registration to meet the educational needs of students in the current climate that exists in the California community college system. This chapter presents the data and findings of this study. To accomplish this, the chapter begins with a review of the purpose statement, research questions, methodology, data collection procedures, population, and sample. The data and findings for each of the three research questions are presented in this chapter. Research questions one and two are quantitative; the data and findings for these questions are displayed in both table and narrative format. Research question three is qualitative and the data and findings are also reported in table and narrative format.

Purpose

It was the purpose of this sequential explanatory mixed methods (John W. Creswell, 2003) study to describe how precollege preparatory factors (application, assessment, educational planning and orientation) leading to a priority registration appointment contributed to the success of low income, first-generation entering high school senior students in a rural public community college.

In addition, it was the purpose this study to explain the how students perceive the impact of those preparatory factors that support student success.
Research Questions

1. To what extent does priority registration impact student completion of transfer level English courses?
2. To what extent does priority registration impact student completion of transfer level math courses?
3. How do students in a community college perceive priority registration impacts their college success as measured by interview responses?

Methodology

The study utilized a mixed-method sequential explanatory design which has found strong application in both social and behavioral sciences (Ivankova, 2006). This design uses quantitative data to determine the relationship between two variables. This is the “what” of the study. The qualitative portion seeks to collect the personal experiences of students relative to the study variables. This is the “why” of the study (Roberts, 2010).

The first step in the mixed-method sequential explanatory design included collecting quantitative data. The quantitative portion utilized a chi square text of independence to examine the relationship between priority registration and success in transfer level English and math. Chi Square testing is useful in cases where data is categorical and relevant by frequency of occurrence (Williams, 2004).

Priority registration refers to students receiving their classes for future terms during the week prior to registration for the general population. Traditionally, this incentive is reserved for special populations of students. More recently, it is used as a
means of managing enrollment and so it includes entering high school seniors who complete a series of preparation events. Success is defined as achieving one or more of the measures indicated; in this case a grade of A, B, C or Pass in transfer level English and math. These variables can be proven to be dependent or independent of one another. These cases each require interpretation and dependence does not necessarily imply that variables influenced one another (Filipowich, n.d.)

The dependent variables of successful completion of transfer level English and math were compared between the 83 entering freshmen who utilized a priority registration appointment and student who entered under other circumstances during the same fall 2015 term. Once the cohorts were identified, completion data was pulled by Sierra College’s institutional researcher and forwarded to the researcher without personally identifiable information included.

The second step of the sequential explanatory mixed-methods design was the collection of qualitative data. This was accomplished using qualitative focus groups and individual interviews. This component will utilize focus group sessions with five-eight participants and individual interviews with another three participants. The combination of these two techniques increases the validity of the data by providing inherent triangulation and by providing opportunity to refine and focus the questions between the two interviews.

As noted previously in chapter three, the focus group process will follow Padilla’s unfolding matrix design to gather the data within a social context of participants that share the criteria of success in transfer level English and math and priority registration. Padilla notes the value of the focus group data gathering technique. He writes: “One of
the advantages of interviewing small groups is that interviewees tend to self-correct as
information is provided by other individuals. Through dialogue with each other or with
the session moderator, the interviewees have an opportunity to clarify what they mean.
Group interviews have a built-in cross-check on the quality of the data gathered (Krueger
& Casey, 2009). This self-correction was evident in the consensus drawing when a
barrier was identified, participants are asked to come to consensus regarding the
percentage of students that are affected by the barrier. Additionally, the process of
confirming each participant response by summarizing and recording on paper in real time
during the focus group interview through the independent third-party scribing process
helps to ensure the purity of the data and prevent researcher bias. This is an internal
triangulation process and provides another level of protection from researcher bias.

All processes of recruitment comported with requirements of Sierra College
institutional research department. To identify the participants for the focus groups and
individual interviews, an invitation of recruitment was sent out to sample population
students at Sierra College by the college researcher to all target population students.
Students were directed to respond to a google phone number or email address setup by
the researcher. Responding students were place into focus group or individual interviews
in random order. When a large enough number of participants accumulated, new
responders were placed on a waiting list. Focus groups were held in a meeting room at
Sierra College – Rocklin Campus as were individual interviews. The researcher recorded
the individual interviews and created transcriptions of them. Transcripts from individual
interviews were read through by the researcher to familiarize himself with the content
before beginning the coding process. Focus group data was all collected and archived according to Ray Padilla’s unfolding matric design (Padilla, R.V. et al., 1997)

The researcher conducted two focus group interviews of six and eight participants each and three individual interviews. Each individual interview was conducted according to researcher designed interview protocol and constituted the criterion purposive sampling (Patton, 2002). The focus group and individual interview protocols are contained in Appendix B.

**Population/Sample**

The population of a study represents all the individuals in a group that researchers are interested in studying. Researchers study populations that share a common characteristics or exhibit common phenomena (McMillan & Schumacher, 2010; Roberts, 2010). The population of this study is California Community College Students. At 1.6 million students in the spring semester of 2016, this is obviously a very large population to attempt to study. To alleviate this complication, a target population is selected by the researcher to represent the large inaccessible population. A target population contains traits similar to the population, but is more easily accessed. The target population for this study is Sierra College Students. In the Spring of 2016 this constituted 17,826 students. The sample is comprised of students that are low income and first-generation who utilized a priority registration appointment. This constituted 2609 students in total. Tables 6 and 7 contain the demographic breakdown of the entire community college system in California and the demographic breakdown of Sierra College respectively.
Table 6. Demography of the California Community Colleges - Spring 2016

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Student Count (N)</th>
<th>Student Count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of California Total</td>
<td>1,555,512</td>
<td>100.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>98,336</td>
<td>6.32%</td>
</tr>
<tr>
<td>American-Indian/Alaskan Native</td>
<td>7,015</td>
<td>0.45%</td>
</tr>
<tr>
<td>Asian</td>
<td>172,716</td>
<td>11.10%</td>
</tr>
<tr>
<td>Filipino</td>
<td>44,378</td>
<td>2.85%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>661,102</td>
<td>42.50%</td>
</tr>
<tr>
<td>Multi-Ethnicity</td>
<td>58,121</td>
<td>3.74%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>6,762</td>
<td>0.43%</td>
</tr>
<tr>
<td>Unknown/Decline to State</td>
<td>67,051</td>
<td>4.31%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>440,031</td>
<td>28.29%</td>
</tr>
<tr>
<td>Low Income (Pell)</td>
<td>502,547</td>
<td>32.3%</td>
</tr>
<tr>
<td>First Generation</td>
<td>267,938</td>
<td>17.2%</td>
</tr>
<tr>
<td>19 and under</td>
<td>347,086</td>
<td>22.31%</td>
</tr>
<tr>
<td>20 to 24</td>
<td>584,175</td>
<td>35.24%</td>
</tr>
<tr>
<td>25 to 29</td>
<td>214,175</td>
<td>13.77%</td>
</tr>
<tr>
<td>30 to 49</td>
<td>196,787</td>
<td>12.65%</td>
</tr>
<tr>
<td>50+</td>
<td>138,412</td>
<td>8.90%</td>
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<tr>
<td>Unknown/Decline to State</td>
<td>283</td>
<td>.02%</td>
</tr>
<tr>
<td>Female</td>
<td>826,649</td>
<td>53.14%</td>
</tr>
<tr>
<td>Male</td>
<td>712,717</td>
<td>45.82%</td>
</tr>
<tr>
<td>Unknown/Decline to state</td>
<td>16,146</td>
<td>1.04%</td>
</tr>
</tbody>
</table>

Table 7. Demographic Makeup of the Sierra College - Spring 2016

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Student Count (N)</th>
<th>Student Count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra College Total</td>
<td>17,826</td>
<td>100.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>476</td>
<td>2.67%</td>
</tr>
<tr>
<td>American-Indian/Alaskan Native</td>
<td>99</td>
<td>0.56%</td>
</tr>
<tr>
<td>Asian</td>
<td>835</td>
<td>4.68%</td>
</tr>
<tr>
<td>Filipino</td>
<td>246</td>
<td>1.38%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4,729</td>
<td>26.53%</td>
</tr>
<tr>
<td>Multi-Ethnicity</td>
<td>982</td>
<td>5.51%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>59</td>
<td>0.33%</td>
</tr>
<tr>
<td>Unknown/Decline to State</td>
<td>213</td>
<td>1.19%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>10,187</td>
<td>57.15%</td>
</tr>
</tbody>
</table>
Low Income (Pell)  8,913  50.0%
First Generation  5,526  31.0%

19 and under  5,826  32.17%
20 to 24  6,157  34.54%
25 to 29  2,111  11.84%
30 to 49  2,704  15.17%
50+  1,023  5.74%
Unknown/Decline to state  283  0.54%

Female  9,491  53.24%
Male  8,013  44.95%
Unknown/Decline to state  322  1.81%

Presentation of the Data

Research Question One

To what extent does priority registration impact student completion of transfer level English courses?

We begin this data presentation with the chi square test for independence between priority registration and success in transfer level English. Table eight below contains the raw data that was inputted into the chi square calculator.
Table 8. Fall 2015 Entering Priority Registration Students – Transfer English

<table>
<thead>
<tr>
<th>Completion</th>
<th>Completed transfer English</th>
<th>Transfer English not completed</th>
<th>% of Completed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Cohort (no PR)</td>
<td>1776</td>
<td>750</td>
<td>70.3%</td>
<td>2526</td>
</tr>
<tr>
<td>Priority Reg Cohort</td>
<td>59</td>
<td>24</td>
<td>71.1%</td>
<td>83</td>
</tr>
<tr>
<td>Total</td>
<td>1835</td>
<td>774</td>
<td>70.3%</td>
<td>2609</td>
</tr>
</tbody>
</table>

**Key Findings.**
A chi square test of independence was conducted. Students who utilized a priority registration appointment constituted the sample under consideration. Those that did not utilize priority registration constituted the comparison cohort. Table 9 below contains the raw data for the fall 2015 cohort of entering priority registration students and entering students that did not participate in priority registration and the rates at which they past a transfer level English course. There were 83 students who entered utilizing a priority registration appointment. Of these, 59 completed transfer level English and 24 did not complete transfer level English for a completion percentage of 71.1%. In the comparison cohort there were a total of 2526 students. Of these, 1776 completed transfer level English and 750 did not for a completion percentage of 70.3%. Students were virtually equally likely to complete transfer level English in each group. Table nine below contains the chi square test for independence data for priority registration and success in transfer level English.

The association between students utilizing priority registration and successful completion of transfer English was not significant. ($X^2 = 0.02$ P= 0. 8790) Students who
participated in priority registration were virtually equally likely to those that did not utilize priority registration to complete transfer level math courses. The chi square test data is contained in Table 9 below. The table shows that there are 1 degree of freedom in test environment, the Chi square statistic is 0.0232 showing that there is no significant difference between expected outcome and actual outcomes. Greater differences between expected and actual data produce a larger Chi-square value. The larger the Chi-square value, the greater the probability that there really is a significant difference. The test reveals that there is no significant difference between expected and observed outcomes. One is equally likely to pull a successful at random from either the test or comparison cohorts.

**Table 9.** Priority Registration and Transfer English Completion: Chi-Square Test for Independence

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>Test Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>1</td>
<td>0.0232</td>
<td>.87903</td>
</tr>
</tbody>
</table>

**Research Question Two**

To what extent does priority registration impact student completion of transfer level math courses?

We continue this data presentation with the chi square test for independence between priority registration and success in transfer level math. Table 10 below contains the raw data that was inputted into the chi square calculator.
Key Findings.

A chi square test of independence was conducted. Students who utilized a priority registration appointment constituted the experimental treatment portion of the sample. Those that did not utilize priority registration constituted the comparison cohort. Table 10 below contains the raw data for the fall 2015 cohort of entering priority registration students that and entering students that did not participate in priority registration and the rates at which they passed a transfer level math course. There were 83 students who entered utilizing a priority registration appointment. Of these 59 had not completed transfer level math and 24 did complete transfer level math for a completion percentage of 28.9%. In the comparison cohort there were a total of 2526 students. Of these, 730 completed transfer level math and 1796 did not for a completion percentage of 28.9%. Students were equally likely to complete transfer level mathematics in the two groups. This accounts for the Chi Square statistic of zero.

Table 10. Fall 2015 Cohort of Entering Priority Registration Students – Transfer Math Completion

<table>
<thead>
<tr>
<th></th>
<th>Completed transfer Math</th>
<th>Transfer Math not completed</th>
<th>% of Completed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Cohort (no PR)</td>
<td>730</td>
<td>1796</td>
<td>28.9%</td>
<td>2526</td>
</tr>
<tr>
<td>Priority Reg Cohort</td>
<td>24</td>
<td>59</td>
<td>28.9%</td>
<td>83</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>754</strong></td>
<td><strong>1855</strong></td>
<td><strong>28.9%</strong></td>
<td><strong>2609</strong></td>
</tr>
</tbody>
</table>

The association between students utilizing priority registration and successful completion of transfer math was not significant. ($X^2 = 0. P= 0.997$) Students who participated in priority registration were equally likely to those that did not utilize priority registration to
complete transfer level math courses. The chi square test data is contained in Table 11 below.

**Table 11.** Priority Registration and Transfer Math Completion: Chi-Square Test for Independence

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>Test Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>1</td>
<td>0</td>
<td>.997</td>
</tr>
</tbody>
</table>

**Research Question Three**

How do students in a community college perceive priority registration impacts their college success as measured by interview responses?

**Focus Group Data**

Focus group interviews were conducted at Sierra College to ascertain some of the common barriers for students and to determine from student experience how priority registration effects those barriers. The groups were conducted according to Padilla’s unfolding matrix design (Padilla, R.V. et al., 1997). The plan for the groups is contained in Appendix A. The script for the focus group begins with the researcher introducing himself and explaining the black box theory of institutional success. This is, in short, that students enter the institution and encounter barriers while in the institution that they must overcome to exit the institution successfully. The focus groups intend to identify some of these barriers and consider what can be done to ameliorate them. In this case, the researcher is concerned with the effects that priority registration has on some barriers
common to students. Participants are asked to come to consensus regarding the percentage of students in the college generally that experience each barrier. For the purposes of this research we focus on the barriers that the group agrees effect more than 40% of the student population or more and are arose as barriers in both groups or by multiple students in a group. This gave the researcher the ability to focus only on barriers that the group agrees are common to the most significant portion of the student population. The data regarding barriers and how much of the population is affected is contained in Appendix C. The matrix in the appendix is color coded to connect the themes across the two focus groups. The barrier themes that emerged from the focus groups follow. These themes are the most prominent amongst approximately 14 that were recorded in the interviews.

**Barrier Theme One. - The registration process is inherently and overly confusing and difficult.**

This theme was prominent in both focus groups. It included language such as the system being broken, confusing, and that there is a generally insufficient number of general education courses to meet student need. Focus group one assessed the impact of this barrier to be across 85% of the student population. Focus group two assessed it to effect 100%.

“Part of it is challenges… trying to navigate through computer system telling me my account is on hold and going over to this place financial aid, they telling me, ‘no there is no hold.’ People are telling me you have financial aid money to pick up and them telling me, ‘oh no. We’re done disbursing everything. You missed yours.’ Just stuff like that…”
This sort of general uncertainty regarding the processes surrounding registration were common amongst the participants.

**Barrier Theme Two – Inconsistent counseling and vague articulation of courses.** Students in both groups noted that inconsistency in direction given by counseling staff, difficulty confirming that their courses were the correct ones to progress them through their education plans, counselors helping them to recognize when they were approaching completion of the program and uncertainty of transferability of courses to their destination institutions caused barriers. The consensus effect of these barriers ranged from 75 to 40 percent of the student population and came up in responses from seven students in the two groups.

“**I think one of them would be just making sure you are getting into the right classes. It makes me nervous. My counselor’s telling me I need this class, but do I really need this class?**”

**Barrier Theme Three – Financial issues.**

This barrier came up from one student in focus group one and two students in focus group two. The theme included general financial stability, distraction from school to earn money and scarcity of affordable housing. It was assessed by consensus to be an issue for 90, 50 and 40 percent of the student population respectively. “**It’s really hard for like, if you have all these living expenses for like food and kids to provide for and work, go to class, make enough money to support everything and still get good grades, you know?**”
Barrier Theme Four – Difficulty with Faculty

This barrier came up in focus group one from two participants. The theme included faculty struggling with teaching methods that are effective and getting to the best faculty in any particular subject area. It was assessed by consensus to effect 75 and 60 percent of the student population. One participant noted, “Getting the right professor is 100% -- whether you stay with your major or continue through and finish.”

Individual Interview Data

The individual interviews were coded using NVivo. Several themes arose that are notable. The data organized into three main nodes corresponding to the central questions from the interview template. These are the participants’ general experience with priority registration at Sierra College, how priority registration addresses specific barriers to student success and the impact of priority registration on participants’ educational experience. Each of these main coding nodes had several child nodes each. The general picture of the flow of coding is pictured in the mind map in Figure 6 below. A comprehensive list of all references from all nodes is contained in Appendix D.
Additionally, NVivo created a matrix of each of the nodes and the number of references in each interview to those nodes. The node matrix helps the researcher to ascertain at a glance which topics are most referenced in the data. The node matrix in Table 12 below shows each parent and child node and the number of references to each. One can see at a glance that quality of faculty with 13 total references, is by far the most prominent topic in the data. Second to this is a combination of the two nodes under the parent node of impact, avoiding registration difficulties and improved chances. These seem directly related to the researcher because improving chances to get into appropriate courses is a subset of avoiding registration difficulties and together comprise 11 total references. These nodes will be addressed in a separate subsection below.

**Table 12. Node Reference Matrix for Individual Interview Data**

<table>
<thead>
<tr>
<th>Node</th>
<th>Individual 1</th>
<th>Individual 2</th>
<th>Individual 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Barriers (parent)</td>
<td>5</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>2: Lack of knowledge</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3: Quality of Faculty</td>
<td>2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>4: Time Management</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
There were factors that were clearly more prominent amongst the group of factors listed. The presentation of the data will continue with a general overview of all the individual interview data and then shift to a more in-depth treatment of the specific factors that were most prominent in the data.

Under the node of priority registration experience generally, participants almost unanimously express a positive experience. Responses began with statements like, “It’s really great.”, “It’s cool”, or “It’s definitely helped.” One participant answered this question saying, “I don’t know what I’d do without it. It was like waiting to open a present, to be honest.” Participants perceived their experience to be positive. This is bolstered by the fact that focus group participants also expressed generally a positive feeling toward their priority registration experience. When discussing the barriers to student success that the groups perceived, in most but not all cases the group saw some way in which priority registration was a help to move through the barrier. For example, when considering the barrier of losing motivation, participants said that priority registration was one of the factors that keeps them in school. However, regarding the
barrier of confusing transfer articulation, they simply agreed that there was no effect from priority registration at all. So, in summary, the experience with priority registration is positive in the view of the participants and this is true from both the focus group and individual interview data.

Under the node of Barriers, there were three child nodes coded. These were lack of knowledge of the systems of the college, difficulties with time management, and quality of faculty. Quality faculty is by far the most prominent of these nodes with 13 references overall. The other two child nodes under this parent had four references total.

For the last of the parent nodes, Impact of Priority Registration, there were four child nodes: avoids registration difficulties, connected services, improved chances, and positive impact. Avoiding registration difficulties and improved chances are closely related and comprise nine of the 13 references coded. Participants noted that priority registration made them better able to get into the classes they needed for their educational plans. One noted, “Like I said before, I have less worry about getting into the right classes and it gives me a better chance of getting what I need to be successful.” Another said, “The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess.” These are representative of the comments from participants in this child node. The second of these also cross refers to the barrier of quality faculty. The overarching perception of the individuals interviewed is summed up in this comment from a participant regarding their experience with priority registration, “I don’t have a problem getting a class, basically.” It is clear
that in the experience of these participants that priority registration helps students get classes they need and to overcome other barriers.

The two most prominent themes in the individual interview data were quality of faculty and avoiding registration difficulty/improved chances. Because these are by far the most frequently and strong references in the data, they deserve deeper consideration and to be seen in the larger context. The quality faculty reference comprised 13 total references. Table 13 contains each reference quote from the data of the interview.

Table 13. Individual References to Quality Faculty by Interview

<table>
<thead>
<tr>
<th>Individual 1</th>
<th>1</th>
<th>Well again, with one teacher the one earlier this month is like I looked at him and said, “Can you please read it on the board because I can I can understand?” And he just didn’t even acknowledge that he just kept explaining it and verbally and hoping that they understood that.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Well there is getting to best faculty. With Priority Registration, you have time to look over the teacher that are offering the courses you are taking and pretty evaluate which ones are good and which ones are not and you can choose yourself which ones you are taking not just kind of guess at it because that’s what available.</td>
</tr>
<tr>
<td>Individual 2</td>
<td>3</td>
<td>Definitely the time management and the faculty</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Difficulty with teaching methods</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess</td>
</tr>
</tbody>
</table>
|              | 6 | They have a few meters. So, they have level of difficulty, and then they have a few things that you can choose like, lots of homework, test heavy, skip class you won’t pass, and then they let you rate the professor overall on easiness, and then write a comment up to a
certain amount of characters about what your experience was with the teacher.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>If a teacher has a low rating, I won’t even consider that teacher. I won’t even look at the teacher. Out of all the teachers, I’ll search for the one with the best rating, and go with that teacher. Look at the comments and choose that teacher.</td>
</tr>
<tr>
<td>8</td>
<td>Yeah, but I hear the classes there are much easier, so a lot of people, instead of doing math and science here, will go over there and pass with those teachers instead.</td>
</tr>
<tr>
<td>9</td>
<td>I know, but I know the classes are way easier, and teachers there are pretty like ... everyone wants to get teachers there instead.</td>
</tr>
<tr>
<td>Individual 3</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

Individual one makes two notes, one a general example of perceived poor faculty behavior and the other a comment regarding how priority registration helps them to overcome low quality faculty. Individual two lists difficulty with teaching methods as a barrier, echoes individual one almost exactly (references two and five) that priority registration is a help to overcome that barrier and then describes how they find the best faculty through rate my professor and even by going to other institutions for specific courses. Individual three notes that one should always “take the teacher, not the class” and gives an example of having taken a teacher who gave a lower grade to work under the better faculty. The depth of this issue with these participants is clear.
We continue likewise with the child nodes of avoiding registration difficulty and improved chances (for registration success). Table 14 contains all the references to these nodes broken out by interview.

**Table 14. Individual References to Quality Faculty by Interview**

<table>
<thead>
<tr>
<th>Individual</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual 1</td>
<td>1 Like I said before I have less worry about getting into the right classes and it gives me a better chance of getting what I need to be successful.</td>
</tr>
<tr>
<td>Individual 2</td>
<td>2 I definitely know it feels when it’s full, and it’s terrible, because you’re on a wait list, and then you only have 48 hours from when ... if you’re on the class to actually put yourself in the class from the wait list.</td>
</tr>
<tr>
<td></td>
<td>3 I literally couldn’t take chemistry this semester, because I looked at the teacher. There was no way I was going to do good with that teacher, so I had to choose a different class to go with.</td>
</tr>
<tr>
<td></td>
<td>4 I did try to do it at ARC, but it just wouldn’t work with the class schedule I have now.</td>
</tr>
<tr>
<td></td>
<td>5 The first people who can sign up for classes, so it’s really nice, because I always get my first pick, my first choices in all classrooms that I have to have like, search group and everything.</td>
</tr>
<tr>
<td></td>
<td>6 I don’t have a problem getting a class, basically</td>
</tr>
<tr>
<td></td>
<td>7 The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess</td>
</tr>
<tr>
<td></td>
<td>8 I have been in the position where I mix up my classes, and so I passed my priority registration, got it, but then I wasn’t supposed to take that class. Then, when I tried to take another class, it was full.</td>
</tr>
<tr>
<td>Individual 3</td>
<td>9 I that because I had priority registration, and had a set time, and it’s not a set time, it’s just a opening of a window. I guess that theoretically it’s not like it’s not open for anybody else, but to me it was an appointment and it made me focus for that time.</td>
</tr>
</tbody>
</table>
What is clear here is that participants see priority registration as an advantage that helps them avoid some of the inherent problems that students commonly encounter with the registration process. It seems clear as well that when students talk about getting to be first, they are referring to which faculty are teaching a class that they need and when the course is offered. This is summed up in the comment from individual 2, “I literally couldn’t take chemistry this semester, because I looked at the teacher. There was no way I was going to do good with that teacher, so I had to choose a different class to go with.” This student went so far as to attempt to add the class at a nearby institution (reference 4), but was unable to find one that fit their schedule. It is also notable that a significant number of these references are cross referenced in the quality faculty node, deepening the strength of that node.

To check for researcher bias, a sample of the coding process was also submitted to a third-party familiar with the process to check data that was simply overlooked or dismissed inappropriately. A common danger of qualitative research is that the research will fail to discover an aspect of the participants’ lived experience that is important and significant in answering the research questions. The inter-rater reliability was at a level of 95% agreement between the researcher and third-party coder for the sample in question. This is a high level of agreement between rater and confirms confidence in the coding process within the research. A copy of the independently coded sample is contained in Appendix E.

Finally, under this presentation of the data is the combining of the focus group data with the individual interview data. The four barrier themes from the focus groups are, 1) The registration process is inherently and overly confusing and difficult, 2)
Inconsistent counseling and vague articulation of courses, 3) Financial Issues and 4) Difficulty with faculty. Barriers one and four are strongly supported in the individual interview data. Barriers two and three are non-existent in the individual interview data. The participants perceive priority registration to be a benefit to them and especially in terms of finding the best faculty and avoiding problems with the inherently difficulty registration process. The data shows students clearly perceive priority registration to be a benefit to their success with navigating the processes of the college.

Summary

This chapter included a review of the study’s purpose, research questions, methodology, population and sample, and a presentation of the data collected. The presentation of data collected began with the quantitative data where a chi square test of independence was run to determine the relationship between the variables of priority registration and success in transfer level English and math courses.

The quantitative data revealed that the variables of priority registration and success in transfer level math and English courses were independent of one another. Said another way, students who entered Sierra College under a priority registration appointment were no more likely to be successful in transfer level math and English courses than those that came in without a priority registration appointment. This independence will require further investigation and consideration in chapter 5.

The qualitative data was collected through focus group interviews and individual interviews. The focus group interviews revealed four general barriers to student success. These include: 1) The registration process is inherently and overly confusing and
difficult, 2) Inconsistent counseling and vague articulation of courses, 3) Financial issues and 4) Difficulty with Faculty. Barrier themes one and four were strongly supported in the individual interview data while barrier themes two and three were absent from the individual interview data. By far the most prominent of the themes coming out of the qualitative data is that of the importance of quality faculty. Students overwhelmingly suggest that quality faculty are the most important factor in their success in college coursework. They suggest as well that priority registration is effective for them in finding and scheduling courses with the best faculty on campus and as an aid to avoid other difficulties related to registration. These findings will point to several conclusions that will be addressed in chapter five.
CHAPTER FIVE: SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Purpose

It was the purpose of this sequential explanatory mixed methods (John W. Creswell, 2003) study to describe how precollege preparatory factors (application, assessment, educational planning and orientation) leading to a priority registration appointment contributed to the success of low income, first-generation entering high school senior students in a rural public community college. In addition, it was the purpose this study to explain the how students perceive the impact of those preparatory factors that support student success. The study sampled low-income and first-generation students from a central California community college to analyze the nature of the relationship of priority registration to success in transfer level English and math.

The study also sought to illuminate the lived experience of the low income and first-generation students that utilized a priority registration appointment.

Research Questions

The study collected both qualitative and quantitative data. This study sought to determine whether priority registration impacts student success using quantitative data from the student success scorecard and qualitative interview data from successful low-income, first-generation, college-bound students who participated in priority registration. The
study extends the work of Dr. Angela Tos related to service learning. The questions parallel her 2015 design. (Tos, A, 2015)

Questions

1. To what extent does priority registration impact student completion of transfer level English courses?
2. To what extent does priority registration impact student completion of transfer level math courses?
3. How do students in a community college perceive priority registration impacts their college success as measured by interview responses?

Research Design

Mixed Methods

A mixed method research design was used for this study to identify and describe precollege preparatory factors that lead to priority registration appointments contributed to the knowledge and actions of well-prepared successful success students. Specifically, the study utilized a sequential explanatory design. The quantitative data was collected and the qualitative data followed in the sequence to explain the quantitative findings. In his book, Understanding Mixed-Methods Research, Creswell notes “As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research
problems than either approach alone” (J. W. Creswell, 1998). Creswell’s “better understanding” is the desired end of this research study.

**Population and Sample**

The population of this study was California community college students. A target population is the group of sampling units from which the sample is selected (John W Creswell, 2014) The target population for this study is Sierra College students. The study population includes low income, first generation students in Sierra college that utilize a priority registration appointment for registration.

**Major Findings**

**Quantitative Data Findings**

The quantitative findings were the result of chi-square tests for independence in research questions one and two. In research question one the test was performed on low income, first generation students that utilized a priority registration appointment for registration and success in transfer level English. The test revealed that these students were virtually equally likely to be successful in transfer level English as were students in the comparison cohort of students that did not utilize a priority registration appointment.

Research question one compared low income, first generation students who utilized priority registration and their success in transfer level math. The test revealed
that these students were virtually equally likely to be successful in transfer level math as were students in the comparison cohort who registered without a priority registration appointment. There is no discernible difference in success rates between students who utilized priority registration and those that did not in the cases of either transfer level English or math.

**Qualitative Data Findings**

The qualitative data was collected using focus group interviews and individual interviews. The focus group interviews utilized Padilla’s unfolding matrix design (Padilla, R.V. et al., 1997, 1997). The most prominent barriers for students that were revealed in the focus group interviews were as follows:

1. The registration process is inherently and overly confusing and difficult
2. Counseling is inconsistent and articulation of courses vague.
3. Student experience financial issues.
4. Students experience difficulty with their faculty members.

The individual interview data was coded using NVivo. There were three parent nodes of impact of priority registration, barriers addressed by priority registration and the overall experience of priority registration. The breakdown of child nodes under each follows here.

Under the parent node of impact, there were 14 child nodes in the following areas:

1. Avoids registration difficulties (Four references.)
2. Connected services (Two references)
3. Improved chances to get classes and best faculty (Seven references)
4. General positive impact. (One reference)
Under the parent node of barriers addressed by priority registration, there were three child nodes in the following areas:

1. Lack of knowledge (One reference)
2. Quality of faculty (13 references)
3. Time management (Three references)

Under the parent node of priority registration experience there were five child nodes in the following areas:

1. First opportunity to get classes and faculty (Four references)
2. Ability to focus on other important education matters. (Two references)
3. Able to be better organized (Five references)
4. The experience was positive (Six references)
5. A positive experience even without priority registration. (One reference)

The greatest crossover between the two types of qualitative data are in the areas of avoiding registration difficulty or improved chances to get classes and quality faculty. It is clear that while there is no effect from priority registration on success since students succeeded at virtually identical rates in the test and comparison cohorts that students view their experience with priority registration to be almost unanimously positive. They articulate strongly that access to the best classes and faculty and reduction of registration problems are the main benefits of priority registration.
Unexpected Findings

It was unexpected that the chi-square test for independence would yield a virtual independence between the variables. Students earn and maintain a priority registration appointment by completing matriculation activities that are assumed to create and encourage successful behaviors. This does not appear to be the case. There is no difference in likelihood of success in the group that completed an orientation, assessment, and student educational plan to earn a priority registration appointment than there is the comparison cohort. One would expect for there to be some effect to be seen from the extra investment of resources and activity.

From the perspective of how we invest in preparatory activities with students, there is reasonable cause to question the efficacy of the practice for the student success. It is further unexpected that students perceive strongly that the tool is useful for their success. There was not a single participant in the focus groups or individual interviews who expressed indifference about priority registration. It might be expected that students would express indifference toward a practice that had little to no impact on their success, but students express virtual unanimity of affirmation for priority registration. This leaves the researcher to consider what effects of priority registration create the strong response of affirmation.

Conclusions

Priority registration is not a new function in the California Community Colleges. The system’s colleges have been allowed to prioritize registration for decades. The Board
of Governors commissioned a study in 1994 of the practice in its then 107 colleges (Walters, 1994). Community college classes are a limited resource that must be rationed in some way. The limitations stem from a variety of places. There are limitations based on the physical layout of our facilities. Classrooms are built with the teaching process in mind and cannot simply be enlarged to accommodate more students without impacting the learning process. Faculty can operate at some average efficiency level, but that an upper limit. Each faculty member has a measured weekly student contact hour factor or WSCH. The average that the state uses for funding purposes is 525 (cite attendance accounting). It is considerable to raise this to require that faculty serve a higher number of students with the same budget resources, but the effect of this is still limited. After factoring in physical and human resources, there are still simply not enough seats in all classes to accommodate all the students that hope to fill them. Open access requires that ration seats at some point. There are a variety of rationing methods that are available to policy makers and college leaders to dole out the seats that are available. One could simply raise the price of tuition to make the group of people that can afford to attend smaller. Alternatively, a system of quotas based on race, ethnicity or gender could be utilized to give out the seats that are available. There are also other systems that are considerable. For the California Community College system, one important process for rationing the resource is to give some students early and therefore better access to the resource through a system of registration priorities. Chapter one of this study records that the Student Success Task Force report posited that, “Altering enrollment prioritization is an efficient way of encouraging successful student behaviors and ensuring that we are intelligently rationing classes to provide more students with the opportunity to
succeed” (Student Success Task Force, 2012). The stated reasoning behind the implementation of priority registration is twofold. First, it is to encourage successful student behaviors. Second, it is to intelligently ration classes to provide more student with opportunity. Does priority registration achieve these purposes? It seems that the answer is yes… And maybe. This researcher noted in chapter one of this study that

“Notable in this is the fact the motivating policies for the two recommendations that are under consideration and pertinent to priority registration are to create well prepared students and to incentivize students. It may be reasonable to assume that increased quality advisement and clear pathways for entering students is valuable for their success. It cannot merely be assumed that early registration as an incentive to good academic behavior will be effective to that end.”

The following four conclusions summarize the findings of the study.

**Conclusion One** – There is no discernable success impact for students that utilize priority registration.

Research questions one and two of this study reveal that there is no success effect connected with priority registration. Based upon the quantitative data collected this researcher concludes that success is equally likely for students who either do or do not utilize priority registration. One can conclude that priority registration in itself is not effective as a means of producing success behaviors. About the encouragement of successful student behavior, at least a partial answer can be ascertained from considering
research questions one and two of this study. These questions ran a chi-square test for independence for priority registration and success in transfer level math and English. The test revealed that low income and first-generation students who utilized priority registration were no more likely to be successful in transfer level math and English than students who did not use a priority registration appointment. The Student Success Task Force further says that, “Community colleges will incentivize those student behaviors that are associated with their eventual success.” (Completion by Design, 2013; Student Success Task Force, 2012)

**Conclusion Two** – Priority Registration is an effective means of rationing the limited resources of community college available seats.

Considering the second half of the Task Force motivation, does priority registration intelligently ration the resource of a community college education? The answer here may be yes—or at least maybe. Priority registration has no discernable positive effect on student success. It also has no negative effect. While this might seem an overall negative, it may not be so. If the precursor activities necessary to earn an early registration appointment like orientation, assessment and student education planning are sound and valuable in a student’s life, using a summary filter like priority registration to give preference to some students may be wise even if there is no success motivation in it. In First in Line: Student Registration Priority in Community Colleges, Peter Riley Bahr, of the University of Michigan Center for Study of Higher and Postsecondary Education, notes,
“In fact, there is evidence from other bodies of work indicates that students’ academic performance and chances of completing a degree tend to decline when they attend part-time or have interruptions in their academic history, both between high school graduation and college attendance and during college attendance. Thus, students who are assigned a lower registration priority and, consequently, are unable to begin college in a timely manner, or are forced to attend part-time or to ‘stop out’ of college due to the unavailability of needed courses, may suffer long-term consequences even if they eventually return to college full-time. Put simply, during times of impaction, registration priority policies will have a significant impact on students’ outcomes.” (Bahr et al., 2013)

So, based on the literature and qualitative data collected, it is concluded that priority registration has a significant positive role in determining which students ought to have early access to courses.

**Conclusion Three** – Priority registration is an important strategy for students to navigate the systems and processes of the college environment.

It is here that the findings of research question three become important. Even if there is no confirmable connection between priority registration and success in transfer level math and English, it also cannot be ignored that the practice holds a prominent and positive place in the experience of students. Inasmuch as students are experts at being students (Harmon & King, 1985; Padilla, 2009), this aspect of their experience in college is important. For this study, the researcher views successful students as experts with
assets and resources necessary to take theoretical knowledge, synthesize it with heuristic knowledge specific to the institution into a compiled body of knowledge out of which students can act to their benefit and for their success (Harmon & King, 1985; Padilla, 2009; Padilla, R.V. et al., 1997). The question remains of how these students see priority registration to be a benefit to their progress in navigating the college registration process and classroom success?

The answer to this question is revealed in the qualitative data that describes how students see priority registration helping them move through and past what they perceive to be significant barriers to their success. Focus group and individual interview data is clear that students see faculty difficulties and confusing registration processes as barriers to their success in the institution.

Students see priority registration as a useful adjutant in their efforts toward success in college. They consider it to be an avenue over and around their perceived barriers of difficult faculty and confusing registration processes. While there is no perceivable effect from priority registration on success in transfer level math and English, students perceive that there is marked effect on their success in navigating past barriers within the institution. Overcoming the barrier of faculty difficulty was described by one student this way, “Getting the right professor is 100% -- whether you stay with your major or continue through and finish.” And another student commenting on the general experience with priority registration said, “I don’t know what I’d do without it. It was like waiting to open a present, to be honest.” Qualitative data clearly points to the conclusion that students perceive a significant positive impact from priority registration as a help in navigating the complex system of the community college. It is concluded
that students who have participated in priority registration will have an easier time navigating the complex system of the community college.

**Conclusion Four** – Priority registration synergizes the acquisition of compiled knowledge in community college students.

It seems clear that students perceive priority registration to be a powerful motivator and help in their lives to help them navigate an inherently confusing system. This function of priority registration seems to be best explained by the Expert Theory that underpins Padilla’s Theory of Student Success. Priority registration synergizes the heuristic knowledge obtained through interaction with the institutions and actors within it to help with barriers of faculty and registration process difficulties. This process is captured in figure seven below.

**Figure 7. Knowledge Compilation in Expert Theory**
As an example, a student gains theoretical knowledge from documents such as the course catalog, published schedule of courses and course syllabi. Heuristic knowledge is gained from student colleagues regarding faculty that fit various criteria that are important to students, such as how important homework is or whether tests are created primarily from lecture notes, reading material or from some other curriculum sources. This function is captured in a comment from individual participant one who said, “I literally couldn’t take chemistry this semester, because I looked at the teacher. There was no way I was going to do good with that teacher, so I had to choose a different class to go with.” This student knew from prior experience (heuristic knowledge) gained from classmates, Rate My Professor and other sources that she should look for another faculty to take this particular class from. Priority registration catalyzed the student’s compiled knowledge and increased decision-making capacity. The literature and qualitative data lead to the conclusion that priority registration helps students knowledge necessary for their success. Theoretical, or the official printed information of the institution that students acquire from the catalog, syllabi, policies and the like, is compiled with the heuristic knowledge or common knowledge that is gained from friends and family. These two categories of information into compiled knowledge more efficiently when priority registration affords the time and space.

**Implications for Action**

In the era of the completion agenda, student success must be verifiable. Critics will surely claim that success practices like priority registration must prove to increase success and completion or be laid aside as an antiquated remnant of a time in the distant
past when access was a community college’s main priority. They will say that when a success practice does not produce success at a rate any higher than chance for a population, that the practice has not fulfilled its mandate. This is a fair criticism which must be addressed if colleges hope to be viable places for future students to train for careers and life.

**Implication One** – The CC system must plan and implement a process of applying priority registration to students that work through the matriculation milestones necessary for scheduling and successful entry to the institution.

If this study is any indication, it will be necessary to reevaluate the value of priority registration as a success practice. Priority registration is, by itself, independent of student success in transfer level math and English. The value of the practice might be in the preparative activities that make a student eligible for it. Replicating this study across the system with colleges of differing sizes and demographics will reveal if the results are local or general and if the practice is one to retain or reconsider. Considering the effect of any of the individual practices that make students eligible will be valuable. For the specific situation represented in this study those activities include application, assessment, orientation and education planning. Any of these may be valuable on their own, but this is not yet studied. There is no question that students perceive value in priority registration and see it as a benefit to their successful navigation of the institution.

**Implication Two** – Priority registration must be applied to students that engage with the student development process effectively to help them synergize compiled knowledge and simplify a genuinely complex system for the students that utilize it.
The study has a relatively narrow focus in that it only considers a dependence between the practice of prioritizing registration and success in transfer math and English. The strength and clarity of the qualitative data from the participants’ perspective gives indication that the practice of prioritizing registration is useful for students in how they navigate our institutions. Students are clear that the practice is valuable for their educational needs and helps them to conquer some identified barriers like faculty difficulties and confusing registration processes. In this way, priority registration seems to synergize the compiled knowledge of students to make the institution more accessible to them. They can gain access to faculty that they have learned heuristically are better suited to their success. They can access class sections at times that disrupt other aspects of their lives the least. They can complete their schedules to attain full time status better and qualify for financial aid with fewer barriers. These examples are just a few that illustrate how the institution shrinks for students who enjoy the benefit of priority registration.

Since the quantitative data leaves no other conclusion other than that there is no direct success impact from priority registration, the system must not use the practice with the expectation that students utilizing will automatically be performing better. The practice must be considered in light of the larger system. It is wise for the system to consider the prerequisite components required for priority registration and assess the effectiveness of those. It is in these that the knowledge compilation is truly taking place. How, when and why these processes are taking place is the more fundamental one for the community college to consider.
Implication Three – Priority registration should be used to connect low income and first-generation students to the institution in order to shrink the institution and enable them to better navigate the system of the community college.

The research of Tinto and Engle illuminated a list of circumstances that are true of low income and first-generation students at rates significantly higher than their better resourced counterparts. That list includes:

- Be older
- Be female
- Have a disability
- Come from minority backgrounds
- Be non-native English speakers and born outside the US
- Have dependent children
- Be single parents
- Have earned a high school equivalency diploma
- Be financially independent from their parents
- Delay entry into college
- Attend college closer to home
- Live off campus
- Attend part time and,
- **Work full time while enrolled** (2008)

It is again noteworthy that the bolded items in the list are specific risk factors that are more common in low income and first-generation students. In fact, Seventy-one percent of LI and FG students have at least 2 of these factors while only 30% of students who are neither LI nor FG will be dealing 2 or more of these factors. (Berkner, L., He, S. & Cataldi, E. F., 2003; Horn, L., Pemo, M. D., & Malizio, A., n.d.) The qualitative data from the focus groups structured according to Padilla’s unfolding matrix method as well as the individual interview data point to priority registration as at least a partial solution to some of these risk factors. A practice that shrinks barriers like these and makes a large, hard to manage institution manageable is one that deserves a place in the toolkit of colleges that
are serious about student success. Priority registration implemented well and applied to students with greatest need and who participate in activities that research shows to be effective toward their success actualizes Tinto’s vision of shrinking the institution and bringing it into a manageable context and to make it more accessible to disadvantaged students. The collected data from this study along with the literature point to the fact that our low-income and first-generation students are well served by inclusion in the processes connected with priority registration.

**Implication Four** – Colleges should use data regarding the matriculation touchpoints that students experience as barriers and apply the priority registration window for students to chart clear paths to completion and success for all.

The final area that deserves a strong recommendation for future action comes from the two primary areas of barriers revealed in the experience of the participants in this study. It is undeniable that the confusing nature of processes that are required of a student matriculating in our institutions is real. As community colleges look to the future and consider the areas that will yield the most fruit in student success and completion, they must keep their focus set on creating pathways into and through the institution that students can enter and remain on more easily. This does not refer to making our courses easier. Rigor must always remain a top priority for colleges. However, the processes that students go through to find classes appropriate to degrees that are useful to them should be no more complicated than necessary. It is shame on our institutions that confusion over how to navigate would be a barrier to any student intent on college success. At the same time, it must be maintained that what is taught in our
classrooms must be useful to our students for their success in our world. This fact points
our consideration of quality teaching as our last implication for future action.

The institution of the community college is inherently confusing to our students. The
data collected pointed strongly toward barriers that students experience as they work
through our institutions. Successful students become experts in how to navigate these
barriers. It is also incumbent on community colleges to assess how clear the pathways to
success in our institutions are and how they can be clarified and streamlined for our
students.

**Implication Five** – Teaching matters, therefore colleges must work with faculty
to analyze section fill rates during priority registration as an indicator of faculty
excellence and to help faculty increase their effectiveness with all students.

Finally, it is a clear implication based on the literature and qualitative data
collected that to the community college student, the quality of their faculty is an
important factor to their success. Colleges must continue to recruit, hire and train
pedagogically sound faculty. It seems plain, but must be said, that teaching matters to
student success. Students describe priority registration as a tool to help them overcome
what they perceive to be poor teaching practice. Conversely, they will go to great lengths
to find good teaching, even in the case of one participant of this study, considering
driving to an institution nearby to avoid marginal teachers in her own institution and to
find good teaching in another. It cannot be said strongly enough that good curriculum is
only as good as the faculty that teach in our classrooms. Community colleges must
continue to focus on expertise in faculty hiring, but must also consider, even emphasize,
pedagogical acumen. When a faculty member has demonstrably lower fill rates during the priority registration window, colleges must work with these faculty to sharpen their pedagogical prowess and improve the student experience in their classes. Colleges should include in their hiring criteria and contract language regarding pedagogical expertise alongside subject matter expertise and accountability for student success.

Table 15 below compiles the progression of thought from the data findings of the study through the conclusions that those findings produce to the implications for action recommendations that follow each conclusion. Data findings give rise to conclusions about what the data means. Conclusions point to action implications that will improve the profession based on the data collected in the study.

### Table 15. Data Findings, Conclusions and Implications for Action

<table>
<thead>
<tr>
<th></th>
<th>Data Findings</th>
<th>Conclusions</th>
<th>Implications and Recommendations for Action</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Quant&lt;br&gt;Chi Square independence between priority registration and transfer math and English success.</td>
<td>There is no discernable success impact for students that utilize priority registration.</td>
<td>Reconsider use of priority registration as a success practice</td>
</tr>
<tr>
<td>2</td>
<td>Qual&lt;br&gt;• Avoids registration difficulties&lt;br&gt;• Connected services&lt;br&gt;• Improved chances to get classes and best faculty&lt;br&gt;• General positive impact.</td>
<td>Priority Registration is an effective means of rationing the limited resources of community college available seats</td>
<td>Synergizing compiled knowledge is the strength of priority registration</td>
</tr>
<tr>
<td>3</td>
<td>Qual&lt;br&gt;• The registration process is inherently and overly confusing and difficult</td>
<td>Students see priority registration as a useful help in navigating the</td>
<td>Low income and first-generation students are helped by the shrinking of the</td>
</tr>
</tbody>
</table>
|  | • Counseling is inconsistent and articulation of courses vague.  
• Student experience financial issues.  
• Students experience difficulty with their faculty members. | systems and processes of the college environment. | institution that priority registration provides. |
|---|---|---|
|  | • Quality of faculty  
• First opportunity to get classes and faculty  
• Students experience difficulty with their faculty members. | Above | Teaching matters! |
|  | 4. Qual  
• Lack of knowledge  
• Quality of faculty  
• Time management  
• First opportunity to get classes and faculty  
• Ability to focus on other important education matters.  
• Able to be better organized  
• The experience was positive  
• A positive experience even without priority registration. | Priority registration synergizes the acquisition of compiled knowledge in community college students | Colleges should consider carefully how clear the pathways to success and completion are for their students. |

In the practice of prioritizing registration that there is a complex system of causes and effects at work. This study revealed no discernible effect of priority registration on student success in transfer level math or English. This points to a limitation of the practice as one that is useful for success in these courses. The study also reveals that students perceive great benefit to their college experience in the practice. This points the institution of the community college to use the practice as one that helps students to overcome barriers to their success in the institution generally, if not specifically in transfer level math and English.
Recommendations for Further Research.

This mixed-methods study produced a mixed set of findings. These findings demonstrate that more research into the topic of the effectiveness of priority registration as a practice in community colleges is needed. Recommendations for further research include:

1. Run similar multiple measures data analysis to compare a variety of priority registration schemes to compare them against student success. For example, are different preparatory factors more or less likely to produce better success results?

2. Replicate the study at a variety of colleges of different size and demographic makeup, to evaluate the graduation and success rates across all community college campuses.

3. Replicate the study to examine the issues through an equity lens. Conduct a phenomenological study to explore the lived experiences of low income and minority students to discover the benefits of priority registration on their retention in college.

4. Replicate the study to include all priority registration students institution wide to determine the effectiveness of the practice as a success measure in other areas of the college.

5. Compare priority registration across a variety of learning areas within the college. E.g. Compare Arts and Letters students to Math and Science rates of success.
6. Duplicate the study to test a variety of public metrics such as ratings on Rate My Professor for independence with student success. Add qualitative data to capture the student experience around these public, crowd-sourced evaluation tools.

7. Replicate the study comparing priority registration with time to completion. For example, come might expect the length of time that a student takes to earn their degree or certificate to shorten after devoting significant time and energy to their precollege preparation.

**Concluding Remarks and Reflections**

Community colleges are truly democracy’s colleges. They stand alone in higher education as the last access institution. They are not, however, pure access institutions insofar as they cannot provide total access to all students. This is true because there is simply not enough of the resource to provide every potential student their desired courses. It is fair to say that it is essential that there be a mechanism to ration the resource to maximize efficiency and effectiveness. Colleges must balance stewardship of public funding with a good desire to provide education opportunity to the widest possible swath of the community. Because the community colleges provide a higher education opportunity to students that have few or no other options for college and bring with them inherent barriers to overcome in their college experience.

These facts mitigate to the need for supporting these students in ways that are less needed at other levels of higher education. Priority registration is a practice that provides students with the kind of support that is necessary to help them avoid stopping or
dropping out. Public institutions have an obligation to provide the best opportunity for all our students’ success. The completion agenda era requires colleges provide supports to students. Priority registration is one that is especially effective and useful in that it is not connected to demography or ethnic or cultural groups, but rather is available to all students who participate in activities that are good for them and show promise toward success for students. It is a practice that will encourage students to be involved in the college in ways that benefit them.

Our students, even the least well prepared in traditional, educational ways bring with them survival and coping skills that for community colleges to fulfill their mission in society, we must find ways to merge the remarkable skillsets of least educationally prepared into an educational rubric of success. This requires that we look differently at student support in the modern community college. It also requires that in the institution of the community college, that we look courageously at teaching and learning and especially with populations that are traditionally underrepresented in higher education.

This study has taken me from my vantage point of empathic concern for low income, first generation students to one of informed confidence about how to direct our institutions toward serving this population best. These students often bring the strongest personal resources of any of our students having learned resilience through hardship and want. When students that are under resourced in our normal ways of judging, but extraordinary in other, less obvious ways cross the threshold of our institutions, we do well to see them as assets to the culture to be developed and nurtured. We do even better when we make our institutions places where students from these backgrounds can grow and develop into areas and skills that fit a more traditional educational set of success
measures. We can find a synergized set of skills that will propel our institutions and the communities we serve to the next phase in our development.

The community college have always been the most responsive institutions in higher education. This is a proud fact. This study has served to deepen the researcher’s enjoyment and appreciation of these fine institutions. All students have barriers. Those in this study have barriers that are arguably no different from similar students in other institutions. The ways in which these students conquer their barriers against the odds is a cause for encouragement and resource for planning and visioning for community college leaders across California and America.
References

9.1 - Chi-Square Test of Independence | STAT 500. (n.d.). Retrieved November 6, 2016, from
https://onlinecourses.science.psu.edu/stat500/node/56

https://edtrust.org/issue/access/


Information: Institutional Research Supporting Enrollment Management. New Directions
for Institutional Research, 137, 71–82.

Attinasi, L. C. (1989). Getting In: Mexican Americans’ Perceptions of University Attendance and
the Implications for Freshman Year Persistence. The Journal of Higher Education, 60(3),

Bahr, P. R., Gross, J. L., Slay, K. E., & Christensen, R. D. (2013). First in line: Student registration
priority in community colleges. Educational Policy, 0895904813492381.

community colleges. Retrieved from https://folio.iupui.edu/handle/10244/268

Baldwin, C. (2017). The completion agenda in community colleges: what it is, why it matters, and
where it’s going. Lanham, Maryland: ACCT/Rowman & Littlefield.

States. Sterling: Stylus Publishing.


Horn, L., & Nuñez, A.-M. (2000). Mapping the road to college first-generation students’ math track, planning strategies, and context of support. DIANE Publishing. Retrieved from https://books.google.com/books?hl=en&lr=&id=POO02mYNc2QC&oi=fnd&pg=PR3&dq=%22of+Educational+Research+and%22+students+whose+parents+have%22+%22benefit+from+their+parents%E2%80%99+experiences%22+report+compares+the+hig
h+school%22+%22taking,+beginning+in+the+eighth+grade.%22+%22after+controlling+for+measures+of%22+&ots=APRjDckQYi&sig=yNCqOu6v8lKY3AVK2edDmp9p2M


Romer, C. (2010). *Preparing the Workers of Today for the Jobs of Tomorrow*. DIANE Publishing. Retrieved from https://books.google.com/books?hl=en&lr=&id= PriJouCXlqIC&oi=fnd&pg=PA25&dq=2industries+would+create+job+opportunities+at+all+skill+levels,+workers+will%22+%22flexible+scheduling,+appropriate+curricula,+and+financial+aid+designed+to+meet+the+2%22+%22will+be+better+prepared+for+ever-changing+opportunities+if+they+have+strong+analytical%22+%26+ots= wCuT80eYi9&sig=tP4afRk_LVDMYO8W9aMetXTStG!

http://research.sdccd.edu/docs/Student%20Outcomes/ARCC/Final%20Report/ARCC%20Final%20Report%202009.pdf


APPENDIX A

Focus Group Interviews Protocol
Qualitative Survey Analysis of Student Barriers, Priority Registration, Knowledge of Potential Solutions, and Potential Actions

Facilitator: Joel C. “Jody” Ruble

# of Participants: 

Campus: 

Assistant/Scribe: 

Gender: M: F:

Date: 

Session: 

Participants will be asked to arrive 10 minutes early; Room must be set up at least 30 minutes before; Rapport will be established with participants as they arrive; Each participant will be welcomed by the researcher; Each participant will receive a copy of the Information Sheet which collects group demographic information;

Script Stages

Stage One: Greeting and Introduction 5 minutes

Purpose: Welcome participants and set the stage for the session

Things to include in welcome:

• Introduction of researcher
• The participant’s role in research
• Purpose of focus group

Things to consider in setting the stage:

• Information Sheet: Review and discuss information sheet with participants;
• Anonymity: Highlight definition of anonymity and look for understanding by participants;
• Recording: Highlight the presence of an audio or video tape and its purpose in qualitative design (accuracy, data charting, unspoken questions);

Sample script: These sessions are being taped in order to gain the fullest information from the comments you make. The tapes will be transcribed and listened to or read only in a secure environment. Your comments will be transcribed only as information and will be used only as those made by participant 1, participant 2, etc. Again, this information will be used only by the researcher and may be accessible by the researcher.

• Assistants: Highlight and introduce the assistant, describe role of the assistant and assure confidentiality by assistant.

Stage Two: Theoretical Framework 5 minutes

• Purpose: introduce framework for data collection
• Facilitator should have poster board for matrix and paper board for framework ready and empty before each session.

• Things to include in introduction of framework:
  o Provide brief overview of theoretical and heuristic knowledge;
  o Use Padilla’s Black Box Diagram to describe the process experienced by students attending college;
  o Establish students as experts in navigating the college process;
  o Describe context of Barriers;
  o Define successful students using Black Box Diagram, mention that for this study it is students whose parents did not graduate from college and that fit a specific set of income requirements. first-generation students during the Fall 2006 who reenrolled in the Fall 2007;
  o Emphasize importance of the day is to identify the barriers students faced during their first years at the College, what knowledge students have to overcome the barriers, what actions students take to overcome these barriers, and finally what recommendations students have to facilitate student success during the first years of College

Stage Three: Establish the Tone 3 minutes (combined 13 minutes)
Purpose: establishing a safe environment
• Comfort: students should feel free to speak openly and freely
• Use of I and Us: students can speak on their own experiences, they can also speak on experiences that they have noticed of students around them
• Helping the College: emphasize and reinforce that all the students are providing a precious and priceless commodity – their experiences become the data (Ex: we do not have right or wrong answers.)

Stage Four: Questions 45 minutes
Purpose: Focus group session using tentative questions
• Introduction: All students face challenges and obstacles while going through the college system. As a student who began college in the fall 2006 who reenrolled in the fall 2007, you are now considered an expert student who has successfully navigated the challenges and obstacles encountered during your first year in college.

• Questions:
  1. Think back to your first year at Sierra College and the year prior while you were preparing for registration. What are the barriers that you encountered during your first year at the College? What challenges and obstacles did you face during this time?
  2. What percentage of first-time-in-college students, like yourselves, do you believe faced these same barriers?
  3. What did you know or learn through the priority registration process to overcome these barriers?
4. What did you do to overcome these barriers? What actions were necessary?
5. What recommendations would you make to the College on how they can eliminate or reduce these barriers for new and/or future students?

Stage Five: Wrap up 7 minutes
Purpose: Review results with participants and express appreciation
- Things to include:
  o Review barriers, knowledge, actions, and recommendations
  o Look for support for results
  o Emphasize the importance of their input
  o Dismiss participants with a big THANK YOU
Tentative Interview Plan

Qualitative Survey Analysis of Potential Barriers, Priority Registration, Knowledge of Potential Solutions, and Potential Actions

Facilitator: Joel C. “Jody” Ruble

# of Participants: 1

Assistant: None

Research Question 3: To what extent do students in a community college perceive priority registration impacts their college success as measured by interview responses?

Sample Script:

The purpose of the study is to determine the effectiveness of service-learning as a tool for educational reform. Your participation is completely voluntary and will greatly strengthen the study. If at any time you feel uncomfortable or would like to end the interview or not respond to a question, please let me know. Your information will be kept confidential and your name will be changed to protect your identity. I would like to record this interview for scribing purposes and so that I can access it later. Do I have your permission to continue with this interview and record it?

Have the interviewee sign the consent form.

I have provided a copy of the questions that I will ask for your reference; however, I may also ask some follow up questions for clarity. The duration of this interview will take approximately 15 to 30 minutes.

Do you have any questions for me before we begin?

Let’s begin. (Start recording device)

Questions:

1. How was your experience with priority registration as a high school senior and the preparation for it during your senior year?
2. Can you expand on some of the barriers by providing examples? In specific, your focus group discussed (family problems) as a barrier.
3. How would you describe the impact that priority registration has had on your educational experience?
4. Why do you believe this?
5. Can you give an example, if there is any, of how priority registration helped you to move past a barrier like the ones we discussed in the focus groups?
6. Do you have any questions for me?

Closing Script:
Thank you very much for your time today and your willingness to allow me the opportunity to interview you for my doctoral dissertation. If you would like a copy of my research at the conclusion of my study, I will be happy to provide that for you. Please accept this small token of my appreciation for your participation.
<table>
<thead>
<tr>
<th>Common Challenges</th>
<th>%</th>
<th>Knowledge</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3 - Time management Not enough time.</td>
<td>90</td>
<td>P1/P3 - Fafsa scholarships EOP's care</td>
<td>P1 - Better professors research.</td>
</tr>
<tr>
<td>P3 - Financial stability.</td>
<td>90</td>
<td></td>
<td>P6 - More time for correction.</td>
</tr>
<tr>
<td>P5 - Lack of knowledge of the system. Well broken system</td>
<td>85</td>
<td>P5 - Know the people to call. Resources.</td>
<td>P6 - Set alarms Personal appointments.</td>
</tr>
<tr>
<td>P3 - Faculty difficulty with teaching methods</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4 - Lab/Science requirement Accessibility for limited sight.</td>
<td>65</td>
<td>P3 - Steps on how to use application/fafsa.</td>
<td>P2 - First choice of classes.</td>
</tr>
<tr>
<td>P1 - Getting to the best faculty Rate my professor tool</td>
<td>60</td>
<td></td>
<td>P3 - Knowing classes to take.</td>
</tr>
<tr>
<td>P4 - Confirmation of correct courses.</td>
<td>45</td>
<td>P4 - Workshops for time management on website.</td>
<td>P3 - Working around your schedule.</td>
</tr>
<tr>
<td>P2 - Counselors recognizing near success. (X2)</td>
<td>40</td>
<td>P1 - Course planner catalog.</td>
<td>P1 - Appropriate class times.</td>
</tr>
</tbody>
</table>
### Focus Group Two

<table>
<thead>
<tr>
<th>Common Challenges</th>
<th>%</th>
<th>Knowledge</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 - Confusing registration process (1st time).</td>
<td>100</td>
<td>One on one mentor - Who you know?</td>
<td>P1 - No effect. Don't even know they are P.R. (Advertise)</td>
</tr>
<tr>
<td>Anxiety (husband, kids, family)</td>
<td>90</td>
<td>Spread classes out Back up plan for classes - counselors</td>
<td>P2 - It helps. Structure around family.</td>
</tr>
<tr>
<td>P4 - Inconsistent counselors. (X3)</td>
<td>75</td>
<td>Good support system Good mentor</td>
<td>P4 - Provides extra time to correct problems.</td>
</tr>
<tr>
<td>P8 - Transfer articulation.</td>
<td>75</td>
<td>Know someone - mentor, colleague</td>
<td>P8 - No effect.</td>
</tr>
<tr>
<td>P2 - Availability of G.E. classes/schedules (X2) -</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P6 - Not seeing big picture (future benefits).</td>
<td>60</td>
<td>Luck - Know people Financial education &amp; wisdom</td>
<td>P2 - Smaller set of classes. Helps with G.E.</td>
</tr>
<tr>
<td>P2 - Program changes &amp; focus (direction).</td>
<td>52</td>
<td>Get involved in a club, support system, real-life connections</td>
<td></td>
</tr>
<tr>
<td>P3 - Scarcity of affordable housing &amp; transportation</td>
<td>50</td>
<td>Research certificate</td>
<td>P3 - Would be nice. Helps students to move out/schedule.</td>
</tr>
<tr>
<td>P7 - Focus on making money. (Lost in the sauce)</td>
<td>40</td>
<td>Incentives to staying in job, know your worth, don't settle for minimum wage</td>
<td>P7 - Incentive.</td>
</tr>
</tbody>
</table>
APPENDIX C
Child Nodes References

**Positive Despite No PR**

*Internals\Individual Interview 3 cleaned - § 1 reference coded [ 2.82% Coverage]*

Reference 1 - 2.82% Coverage

I don’t know how I ... I registered for school and started it in three days. I just went pff pff pff and picked classes, and I still ended up in good classes in spite of myself.

**Focus**

*Internals\Individual Interview 3 cleaned - § 2 references coded [ 6.17% Coverage]*

Reference 1 - 4.46% Coverage

I that because I had priority registration, and I had a set time, and it’s not a set time, it’s just a opening of your window. I guess that theoretically it’s not like it’s, it’s not even open for anybody else, but to me it was an appointment and it made me focus for that time.

Reference 2 - 1.72% Coverage

So, it helped focus me, if I’ve got a window, I could be in trouble, you know? I can ... Squirrel. You know?

**First Opportunity**

*Internals\Individual Interview 2 cleaned - § 2 references coded [ 3.10% Coverage]*

Reference 1 - 2.46% Coverage

The first people who can sign up for classes, so it’s really nice, because I always get my first pick, my first choices in all classrooms that I have to have like, search group and everything.

Reference 2 - 0.64% Coverage

I don’t have a problem getting a class, basically

*Internals\Individual Interview 3 cleaned - § 1 reference coded [ 1.40% Coverage]*

Reference 1 - 1.40% Coverage

You take the class ... You take the teacher, not the class. I learned that very early.

**Organization**

*Internals\Individual Interview 2 cleaned - § 1 reference coded [ 1.16% Coverage]*

Reference 1 - 1.16% Coverage

People don’t get the luxury of doing that. That helped a lot. Be able to be organized more.
I looked forward to it. I really did set the alarm. I really did plan it out. I really did do the little grid, and if I take this ...

I did the whole planning thing. I guess maybe it was part of the experience to start with it.

I was very sure of who I wanted to take for what in almost every case. I had definite plans.

I that because I had priority registration, and I had a set time, and it’s not a set time, it’s just a opening of your window. I guess that theoretically it’s not like it’s, it’s not even open for anybody else, but to me it was an appointment and it made me focus for that time.

It’s really great.

It’s cool

It’s definitely helped it.

I don’t know what I’d do without it. It was like waiting to open a present, to be honest. Truly.

I realized what a bonus I really was getting.

It’s definitely improved it.
Connected Services

and for one it does doesn’t just offer priority registration they offer free tutoring. So it’s like a whole support system that comes with priority registration.

Avoids Reg Difficulties

Because of rate my professor and priority registration I’ve had a lot of great professors.

Improved Chances

Like I said before I have less worry about getting into the right classes and it gives me a better chance of getting what I need to be successful.
I don’t have a problem getting a class, basically

The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess

I have been in the position where I mix up my classes, and so I passed my priority registration, got it, but then I wasn’t supposed to take that class. Then, when I tried to take another class, it was full.

There’s not a lot of teachers that do ... For high level science, there’s maybe one teacher. If we’re lucky, two. And if we’re lucky, that teacher, out of the two, one of them will be good.

Well, like in my first year I didn’t know what I was doing so I was just kind of guessing at it

Definitely the time management and the faculty

Time management just because there’s a lot of time that you have to dedicate, especially with higher level science classes. Five hours in the class, and then double that outside to do all the homework and all that stuff.

I would say time management just because having priority reg, gives me the advantage to like ... I would write down all the possibilities of what I could take, and then I would put my work schedule and work hours with it, and then I would put, every other hour I would need for other things maybe. I would work that out and cross out which class or which times I would have best.
Quality of Faculty

Internals\Individual Interview 1 cleaned - § 2 references coded [ 14.15% Coverage]

Reference 1 - 6.50% Coverage
Well again, with one teacher the one earlier this month is like I looked at him and said, “Can you please read it on the board because I can I can understand?” And he just didn’t even acknowledge that he just kept explaining it and verbally and hoping that they understood that.

Reference 2 - 7.65% Coverage
Well there getting to best faculty. With Priority Registration, you have time to look over the teacher that are offering the courses you are taking and pretty evaluate which ones are good and which ones are not and you can choose yourself which ones you are taking not just kind of guess at it because that’s what available.

Internals\Individual Interview 2 cleaned - § 7 references coded [ 15.32% Coverage]

Reference 1 - 0.63% Coverage
Definitely the time management and the faculty

Reference 2 - 0.45% Coverage
Difficulty with teaching methods

Reference 3 - 2.88% Coverage
The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess

Reference 4 - 4.43% Coverage
They have a few meters. So, they have level of difficulty, and then they have a few things that you can choose like, lots of homework, test heavy, skip class you won’t pass, and then they let you rate the professor overall on easiness, and then write a comment up to a certain amount of characters about what your experience was with the teacher.

Reference 5 - 3.09% Coverage
If a teacher has a low rating, I won’t even consider that teacher. I won’t even look at the teacher. Out of all the teachers, I’ll search for the one with the best rating, and go with that teacher. Look at the comments and choose that teacher.

Reference 6 - 2.15% Coverage
Yeah, but I hear the classes there are much easier, so a lot of people, instead of doing math and science here, will go over there and pass with those teachers instead.

Reference 7 - 1.69% Coverage
I know, but I know the classes are way easier, and teachers there are pretty like ...
everyone wants to get teachers there instead.

Reference 1 - 1.40% Coverage
You take the class ... You take the teacher, not the class. I learned that very early.

Reference 2 - 1.46% Coverage
I was very sure of who I wanted to take for what in almost every case. I had definite plans.

Reference 3 - 1.64% Coverage
As often as I know who, I also know exactly who I don’t want to take. So. I’m very much a people person.

Reference 4 - 2.64% Coverage
And [name] one of my most favorite people, and I hate accounting, and I got, 65’s my highest grade, and I had the best time in her class, even though I sucked at it.
APPENDIX D
Independent Coding Comparison

Researcher:

(Start here) Just make a change here. Just a few questions for you then.

Indiv 2:

Okay.

Researcher:

Thank you for your help.

Indiv 2:

No problem.

Researcher:

I appreciate it very much. Thank you for volunteering as tribute.

Researcher:

We'll start this way. Just for confirmation, you came in with a priority registration appointment, yeah? How did you get it?

Indiv 2:

EOPS.

Researcher:

Through EOPS?

Indiv 2:

Yeah.

Researcher:

Okay. Can you describe your experience then with priority registration through EOPS?

Indiv 2:

It’s really great. The program helps a lot, and one of the perks is the priority registration portion of it. I get to know ... We’re actually, along with the DSPS, the first. And I guess the football players. The first people who can sign up for classes, so it’s really nice, because I always get my first pick, my first choices
in all classrooms that I have to have like, search group and everything. I don't have a problem getting a class, basically. It's cool.

Researcher:

Can you expand on any of the barriers that we mentioned that might have hit close to you more than others?

Indiv 2:

Definitely the time management and the faculty. Difficulty with teaching methods. Those are the two ones.

Researcher:

How would you expand on them?

Indiv 2:

Time management just because there's a lot of time that you have to dedicate, especially with higher level science classes. Five hours in the class, and then double that outside to do all the homework and all that stuff.

Indiv 2:

The faculty difficulty, with priority registration, at least I get to search out the professors and find out more about them and do my research at least, and get to know them and see which one would be best for my needs, I guess.

Researcher:

How do you research professors? How do you-

Indiv 2:

Rate my professor - website

Researcher:

Yeah, is that really ... That's the main way?

Indiv 2:

It's a thing, yeah. Rate my professor. They even have an app for it now on the app store.

Researcher:
That's so funny. I know it's there. I wonder if you have any other sources as well? Is that the main place where you...

Indiv 2:

Pretty much, unless you ask friends who have taken the course previously or know the teacher. Other than that, no. It's just rate my professor.

Researcher:

Okay. That's good. What kinds of things can you learn at rate my professor, just out of curiosity. What are you using to judge the quality of the faculty member that you're going to choose?

Indiv 2:

They have a few metrics. So, they have level of difficulty, and then they have a few things that you can choose like, lots of homework, test heavy, skip class you won't pass, and then they let you rate the professor overall on easiness, and then write a comment up to a certain amount of characters about what your experience was with the teacher.

Indiv 2:

You can give them a super low rating. It's kind of funny, because they have a hotness meter too, if the professor's hot or not. I know. I thought it was like, if they're hot like, if they're a really good professor. I was like, oh this one's hot. He's a good professor, you know? Then, they're like, "No. That's their attractiveness."

Indiv 2:

I was like, "No."

Indiv 2:

I know.

Indiv 2:

In my mind, I was thinking hotness like, this professor's hot. Everyone wants this professor kind of thing. I was like, I need to get this one.

Researcher:

A hot commodity.

Indiv 2:
Yeah, like that. And then my friends are like, "Yeah, and he's super cute." I was like, "What?" They're like, "It's the hotness." I was like, "Isn't that for something else?" They're like, "No, it's for attractiveness." I was like, "What?" It's kind of funny, right? I guess it'll make you pay attention more. I don't know.

Researcher:

Maybe.

Indiv 2:

Try harder.

Researcher:

I don't know. You said that wasn't the first reasons for using rate my professor.

Indiv 2:

No.

Researcher:

Yeah, just for a second. We're going to be just a couple of minutes.

Indiv 3:

No problem.

Indiv 2:

If a teacher has a low rating, I won't even consider that teacher. I won't even look at the teacher. Out of all the teachers, I'll search for the one with the best rating, and go with that teacher. Look at the comments and choose that teacher.

Researcher:

Low rating, won't choose.

Indiv 2:

Nope.

Researcher:

How would you describe the impact that priority registration has had on your educational experience?
Indiv 2:

It’s definitely helped it. I have been in the position where I mix up my classes, and so I passed my priority registration, got it, but then I wasn’t supposed to take that class. Then, when I tried to take another class, it was full. I definitely know it feels when it’s full, and it’s terrible, because you’re on a wait list, and then you only have 48 hours from when ... if you’re on the class to actually put yourself in the class from the wait list.

Researcher:

Just for my own clarity, you get an e-mail from the...?

Indiv 2:

School. That’s it. You don’t get anything else.

Researcher:

... school site that says, “You have permission to register now.”

Indiv 2:

Within 48 hours.

Researcher:

And 48 hours later, that goes away?

Indiv 2:

Yeah, you get dropped if you don’t do it. It’s helped a lot, because I get to ... Since I have like ... I’m a biological science major, so math and science classes are super hard. The teachers are super ... what’s that one word? It’s like, not a lot of them... Scared.

Indiv 2:

There’s not a lot of teachers that do ... For high level science, there’s maybe one teacher. If we’re lucky, two. And if we’re lucky, that teacher, out of the two, one of them will be good.

Indiv 2:

I literally couldn’t take chemistry this semester, because I looked at the teacher. There was no way I was going to do good with that teacher, so I had to choose a different class to go with.
I did try to do it at ARC, but it just wouldn’t work with the class schedule I have now.

Researcher:

How far is American river?

Indiv 2:

30 minutes from my house?

Researcher:

Okay.

Indiv 2:

Yeah, but I hear the classes there are much easier, so a lot of people, instead of doing math and science here, will go over there and pass with those teachers instead.

Researcher:

I see. Is it the same district? You guys aren't in the same? It's not important.

Indiv 2:

I know, but I know the classes are way easier, and teachers there are pretty like ... everyone wants to get teachers there instead.

Researcher:

All right. Let's see. Let's see. Let's see.

Researcher:

Maybe I would ask then. You mentioned that it's definitely helped. You had problems with the mixed up class, full when you tried to get it later, That sort of thing. I'll hold onto the next.

Researcher:

My next question is, why do you believe this? I think that's tied up in the answer that you just gave to me. Can you give me an example, if you have one, of how priority registration helped you move past a barrier like any of these ones?

Indiv 2:
I would say time management just because having priority reg. gives me the advantage to like ... I would write down all the possibilities of what I could take, and then I would put my work schedule and work hours with it, and then I would put, every other hour I would need for other things maybe. I would work that out and cross out which class or which times I would have best.

**Indiv 2:**

People don't get the luxury of doing that. That helped a lot. Be able to be organized more.

**Researcher:**

That's cool. Thank you for that. Do you have any questions you might want to ask of me?

**Indiv 2:**

No. I'm good.

**Researcher:**

You've been very helpful.

**Indiv 2:**

Yeah, thank you.

**Researcher:**

Thank you very, very much.

**Indiv 2:**

Mm-hmm (affirmative).

**Researcher:**

Like I said, we're working on putting together another focus group, and then we'll finish up these individual interviews, and then we'll be done.

**Indiv 2:**

All right. Sweet. Awesome.

**Researcher:**

Then, we pull the names. If it's your name, I'm going to call you up and tell you.
Indiv 2:

For sure. It was super awesome to meet you guys. It's a pleasure.

Researcher:

You as well.