

Examining the Effects of Academic English as a Second Language  
Pathways at the Community College: A Mixed Methods Study

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## ABSTRACT

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Due in large part to their open access and affordability, community colleges have long played a central role in providing students with immigrant backgrounds who are English language learners (ELLs) with access to postsecondary education. Researchers have noted that English as a second language (ESL) courses have been the primary form of support provided by institutions to foster the college persistence and success of ELLs. Nevertheless, despite their importance, little is known about the extent to which participants who engage in postsecondary ESL programs are likely to succeed in college. Therefore, the purpose of this study is to analyze quantitative administrative data and use qualitative data to examine how ELLs seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs. It does so by exploring the role of two ESL pathways at a Large Urban Community College System (LUCCS): (1) the English Language Immersion Program (ELIP) and (2) the traditional ESL sequence.

In the quantitative phase of the study, I use a propensity score matching approach together with a large administrative dataset to examine the effects of ESL pathways on ELLs college English enrollment and performance, credit accumulation, and college progression and degree outcomes. I find no evidence that participation in ELIP versus traditional ESL leads to significant impacts on college English enrollment and performance within three and five years. I also find consistent evidence that students who participate in ELIP versus traditional ESL earn

fewer college level credits, but they also earn significantly fewer equated credits over three and five years—suggesting they spend less time on remedial coursework. Results also indicate that ELIP participants are more likely to persist and less likely to drop out, but there is no effect on graduation and/or transfer within three and five years. Finally, results indicate that males, younger students (age 23 and younger), and foreign-born, U.S. educated (generation 1.5) students experience less negative impacts on college credits and more positive impacts on several of the longer term outcomes.

Next, qualitative methods were used to help explain the quantitative results. In particular, interviews and focus groups were conducted to explore with program instructors, staff, and students' their perceptions of their engagement in ELIP and traditional ESL and its respective role in students' success in college programs. Findings suggest that null impacts on college English enrollment and performance could be explained by the finding that both ESL pathways emphasize the acquisition similar skills and employ parallel instructional approaches to help students acquire these skills. Findings also suggest that negative impacts on college credit completion may be due to the programs' respective college enrollment experience. The structure and length of the traditional ESL sequence helps explain negative results for equated credits. Differences in persistence and drop out as well as differences for subgroups are found to be partially explained by the activities and interactions that are fostered by a high intensity program.

This study provides suggestive evidence that the ESL pathway taken by degree-seeking students at LUCCS has important implications for their college outcomes. It also suggests that there exist heterogeneous impacts by gender, age, and immigrant status. ESL program staff and college administrators can use these findings to explore strategies that will better support ELL student success.

## TABLE OF CONTENTS

Chapter 1. Introduction .....	1
Chapter 2. Review of the Literature.....	21
Chapter 3. Context and Data.....	42
Chapter 4. A Quantitative Study of the ESL Pathways at the Community College.....	68
Chapter 5. A Qualitative Study of the ESL Pathways at the Community College.....	112
Chapter 6. Conclusions and Recommendations.....	145
References.....	155
Apendices.....	164

LIST OF TABLES

Table 1. Overview of ELIP and Traditional ESL ..... 37

Table 2. Descriptive Statistics for Pretreatment Covariates ..... 55

Table 3. Descriptive Statistics for College Outcomes ..... 61

Table 4. Qualitative Data Collected..... 64

Table 5. Odds Ratios of ELIP Participation..... 76

Table 6. Balance Between ELIP and Traditional ESL Sequence ..... 81

Table 7. College Outcomes Full Sample Results..... 105

Table 8. College Outcomes by Gender ..... 106

Table 9. College Outcomes by Race..... 107

Table 10. College Outcomes by Age ..... 109

Table 11. College Outcomes by Immigrant Generation Status ..... 110

Table 12. College Outcomes Full Sample Results, Conditional on LUCCS Enrollment..... 111

LIST OF FIGURES

Figure 1. LUCCS Traditional ESL Sequence Length and Structure ..... 8

Figure 2. ELIP and Traditional ESL: From Assessment to College level English..... 10

Figure 3. Graphical Representation of the Explanatory Sequential Mixed Methods Design..... 43

Figure 4. Probability Densities for ELIP and Traditional ESL Students, Pre-match ..... 78

Figure 5. Probability Densities for ELIP and Traditional ESL Students, Post-match..... 79

LIST OF APPENDICES

Appendix A. List of Quantitative Data Elements ..... 164

Appendix B. College Outcomes Full Sample Results, Comparisons Enrolled in ESL within one year.....	166
Appendix C. Background Inventories for Students, Instructors and Staff .....	167
Appendix D. Qualitative Protocols.....	170
Appendix E. Conceptual Framework and Coding Legend .....	177
Appendix F. Student, Staff and Instructors Background Inventory Tables .....	179
Appendix G. Qualitative Data Tables .....	178

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Using 2000 U.S. Census data, Chicana/o Critical Race Theory Scholar Tara J. Yosso (2006) reports that of one-hundred Chicana/o elementary students, only forty-four will graduate from high school. Of those forty-four, only twenty-six will continue on to college: nine will go directly to a four-year college, seventeen will go to a community college, and one will eventually transfer to a four-year institution. Of the nine four-year college students and one transfer student, seven will graduate with a bachelors' degree. Finally, only two Chicanas/os will earn a graduate or professional degree and less than 1 will receive a doctorate. These statistics powerfully demonstrate that navigating the Chicana/o educational pipeline through the PhD could not have been possible without the encouragement and support provided by my loving family, caring friends, inspiring teachers, exemplary professors, and generous foundations.

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the ways in which institutions can support the success of English language learners at the community college.

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*¡Sí, Se Pudo!*

*Olga Rodríguez*

*April 2013*

DEDICATION

*Para mis abuelos y mis padres.*

## CHAPTER 1

### INTRODUCTION

*“First, I have to solve language problem. Language is a key to open my doors”*

*–English Language Learner at a Large Urban Community College System.*

Immigration has historically been considered a major driver of population growth in the United States. Between 2005 and 2050, the U.S. population is expected to grow by 48 percent, and immigrants are expected to contribute 82 percent of this growth (Passell, 2011). Trends in countries of origin suggest that these immigrants are predominately from non-English speaking countries. The U.S. Census Bureau reported that in 1960, 75 percent of the foreign-born population was from countries in Europe. However, by 2009, over 80 percent of the foreign-born population had originated from Latin America and Asia (Grieco & Trevelyan, 2010). In 2011, only 15 percent of the foreign-born population over the age of 18 reported speaking only English at home; by contrast, 52 percent reported speaking English “less than very well” (Motel & Patten, 2013). Given that immigration to the United States is fundamentally motivated by the desire to achieve social and economic mobility, the impacts of these demographic and linguistic trends will undoubtedly have implications for educational systems and the labor market for years to come.

Due in large part to their open access and affordability, community colleges have long played a central role in providing students with immigrant backgrounds<sup>1</sup> with access to postsecondary education (Almon, 2012; Szelenyi & Chang 2002; Bailey & Weininger, 2002; Bunch & Endris, 2012). In an economy where jobs increasingly require at least some college

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<sup>1</sup> I define *students with immigrant backgrounds* as those who are foreign born or who have at least one parent who is foreign born. In the sample used for this study, 60 percent of students have an immigrant background.

education, the role of the community college is critical in facilitating the social and economic mobility of immigrants. For immigrants with limited English proficiency, investing in acquiring English language skills is an important first step they must take in order to more fully reap the benefits afforded by the U.S. educational system (Bunch et al., 2011; Gándara & Rumberger, 2009; Suárez-Orozco, Suárez-Orozco & Todorova, 2008).

The economic benefits of investing in postsecondary education have been well documented in the literature. A recent review of the economic returns to a community college education found evidence of returns to completing some college and even greater returns to those who completed college credentials (Belfield & Bailey, 2011). In particular, Belfield and Bailey reported that compared with women who only graduated from high school, women who completed at least 21 college credits earned an average of 9 percent more and up to 22 percent more if they completed an associate degree; this figure for males was equal to 5 percent and 13 percent, respectively (Belfield & Bailey, 2011).

Economists have also consistently shown that the act of acquiring higher levels of English proficiency itself improves labor market outcomes (Bleakly & Chin, 2004; Chiswick & Miller 1995; Gonzalez, 2000; Rivera-Batíz 1990). This evidence suggests that even if immigrants only study English and take no other courses, they will still improve their labor market outcomes. These findings suggest that individuals who speak, read, and write English may find it easier to search for and obtain a better paying job. Importantly, given that upon acquiring English language skills, English language learners will become bilingual or even multilingual, these findings should be considered jointly with those that examine the economic returns to bilingualism in the United States. Using national data from the 1990s, this literature has found that the returns to Spanish-English bilingualism were generally null or negative (Fry &

Lowell, 2003). More recently, using data from the 2000 Census, Cortina, De la Garza & Pinto (2007) found small positive economic returns—equal to 2.7 percentage point increase in earnings for the full sample of Spanish-English bilinguals compared to monolingual speakers of English. Importantly, they find variation within sectors: the returns are higher among laborers in manufacturing and negative in the public sector. These findings suggest that over the last two decades, bilingual skills have not generally been rewarded in the labor market. They may also indicate that there exist U.S. labor market practices that inhibit the earnings potential of individuals who are bilingual.

The acquisition of English language skills is also known to provide individuals with benefits in the social and political spheres. For example, individuals may benefit from an improved ability to understand complex paperwork as well as from the ability to participate more actively in the political process and in social activities of their community. The Pew Hispanic Research Center (2007) reported that immigrants who speak English become one step closer to meeting the requirements needed to acquire United States citizenship; they may also benefit by becoming better consumers of information about goods and services. Additionally, for individuals with children in primary and secondary education, improved English language skills also contribute to increased parental involvement in the schooling process (Turney & Kao, 2009).

### **Problem Statement**

For English language learners (ELLs) in the pursuit of a college degree, academic English as a second language (ESL) courses<sup>2</sup> often serve as the primary bridge to college:

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<sup>2</sup> Community colleges offer various types of ESL depending on the needs of their student population. Some examples include ESL for basic life skills/survival, ESL for citizenship/civics, vocational ESL, and academic ESL (Crandall & Shepard, 2004). The focus of this study is on academic ESL, which is designed for students who intend to pursue a postsecondary degree or credential.

academic ESL courses are generally prerequisites for college level courses for non-native English speakers. The central role of ESL coursework has been highlighted by Kanno and Harklau (2012)—they noted that ESL courses have been the primary form of support that colleges provide ELLs to foster their college persistence and success. Nevertheless, despite the importance of English language skills in improving the educational and economic attainment of students from an immigrant background, little is known about the extent to which participants who engage in postsecondary ESL programs are likely to succeed in college. Given the current and expected population growth of immigrant students who are ELLs, it is important to examine interventions that have the potential to increase educational achievement of immigrant students.

### **A Large Urban Community College System Case Study**

The six colleges that are part of the Large Urban Community College System (LUCCS) present important sites in which to study the ESL pathways of students with immigrant backgrounds.<sup>3</sup> During the time period covered by this study, fall 2001 through fall 2005, nearly 40 percent of the students at LUCCS were foreign born and 48 percent had a first language other than English. Furthermore, there is great diversity within these groups: foreign-born at LUCCS came from 190 different countries and spoke over 150 different languages. In addition, there is a significant amount of racial and ethnic diversity among LUCCS students: over 80 percent of LUCCS students identified having a non-White racial background (See Table 2). These prominent features of the college system make it possible to explore heterogeneous impacts of ESL pathways.

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<sup>3</sup> Not all students with immigrant backgrounds are English language learners. In this study, ELLs are defined as those who took a traditional ESL course within three years of taking the LUCCS placement tests or those who participated in the English Language Immersion Program. In the data used in this analysis, 22 percent of students with immigrant backgrounds and 32 percent of foreign-born students were identified as ELLs.



### **Placement into LUCCS ESL Pathways**

To support the success and persistence of degree-seeking ELLs, LUCCS offers several academic ESL course programming options at all six of its community colleges. Placement into LUCCS's ESL programming is determined based on performance on the LUCCS writing and reading placement tests.<sup>4</sup> During the time period covered by this study and up until fall 2010, all non-exempt<sup>5</sup> LUCCS applicants who intended to pursue a degree at one of the colleges in the system took the LUCCS ACT writing and reading placement exams to determine their college English course placement. The writing exam was graded qualitatively by two trained readers at a central location. Out of a range of 2 to 12, a student needed to receive a score of 7 in order to be assigned to college level English. In addition to the score, readers were also trained to identify whether non-passing writing exams had ESL-type errors; this assessment determined whether students should be referred to the ESL sequence rather than the developmental writing sequence. Exams identified as containing ESL-type errors were marked with an "E" and were subsequently sent to ESL faculty at each of the community college campuses. Faculty at each campus reread the exams to determine whether the student indeed required ESL coursework, and if so, to decide in which level to place them within the ESL sequence. Students who placed into the lowest levels of ESL, as indicated by receiving a score of 4 or less (out of 12), were encouraged by

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<sup>4</sup> Placement into academic ESL was almost entirely based on the students' performance on the LUCCS ACT writing exam. A score of 65 or higher is required to pass the COMPASS reading exam. LUCCS uses the COMPASS computerized reading exam to place students into developmental reading courses, if a separate developmental reading course is required at a college; only two colleges required students to complete an entirely separate reading sequence if they did not pass the reading exam (See Figure 1).

<sup>5</sup>In fall of 2010, a new writing placement test was introduced. A student may be exempt if they score a 75 or higher in the State's high school qualifying exam or if they obtain a score of 480 in the SAT English/Math, or a score of 20 in the ACT.

faculty and/or academic advisors to begin academic ESL studies in the college's English Language Immersion Program (ELIP) (Jaggars & Hodara, 2011; See Chapter 5 of this study).

This study focuses on the academic ESL pathways for degree-seeking students placing into the lowest levels of ESL, as indicated by receiving a score of 4 or less on their writing placement exam. For this group of students, LUCCS offers two main academic ESL programming pathways intended to help ELLs develop the academic English language and literacy skills needed to be successful in college. The first of these programs is known as the traditional English as a Second Language sequence and the second as the English Language Immersion Program (ELIP). The following discussion provides an overview of these programs, including their goals, structure, and programmatic features; it also highlights differences that exist between the two academic ESL options.

### **The Traditional ESL Sequence**

For ELLs intending to pursue a degree at LUCCS, the most common type of academic ESL programming offered is known as the traditional ESL sequence. At LUCCS, the academic ESL courses that are part of the traditional ESL sequence are aimed at helping students develop academic language and literacy in English needed to be successful in college. Specifically, these courses are designed and taught by faculty trained in teaching English to speakers of other languages and are intended to develop ELLs reading, writing, and oral language skills.

Figure 1 describes the traditional ESL sequence length and structure as documented in college catalogs for the six LUCCS community colleges between fall 2001 and fall 2007. The Figure shows that the ESL writing course is central to the traditional ESL sequence at LUCCS;

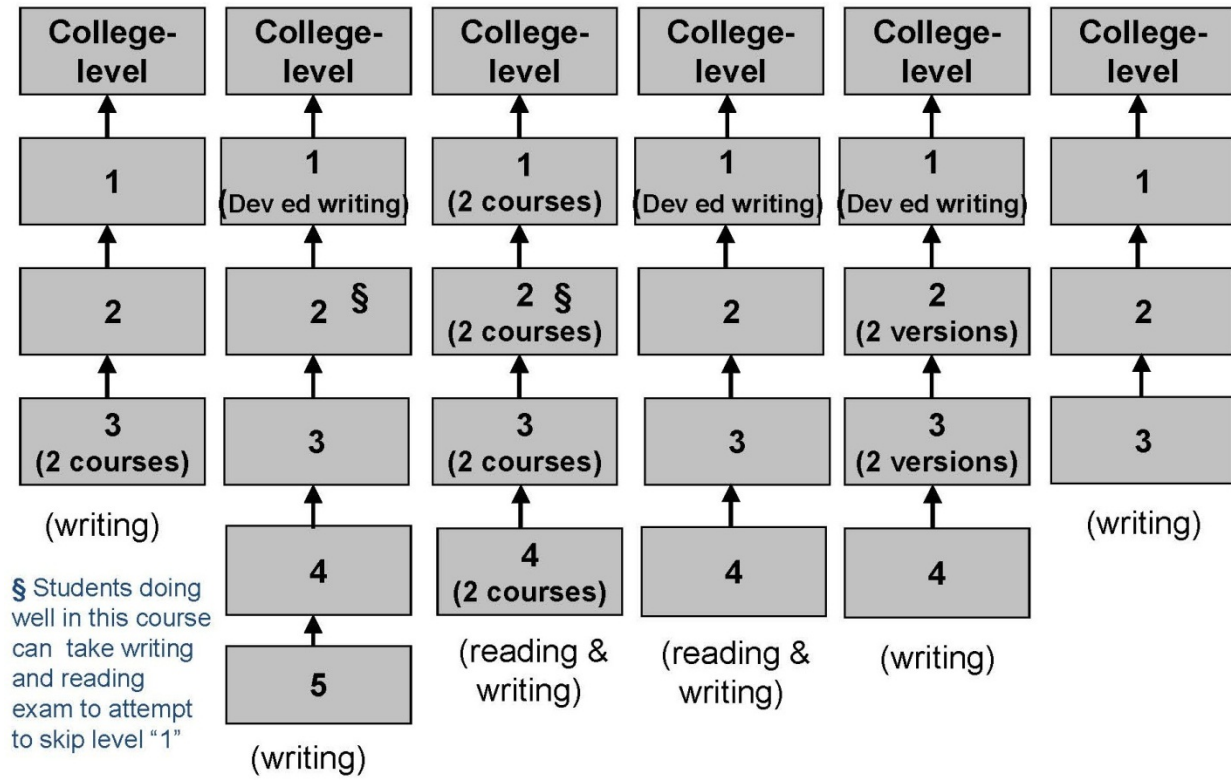
as all of the six campuses offer the course for degree-seeking ELLs.<sup>6</sup> The actual structure and length of the traditional ESL course sequence, however, varies by college. At LUCCS, ESL sequences ranged from three to four levels. At the lowest level, the number of hours of instruction can vary from eight to twelve hours. The curriculum is not standardized across colleges; however, college catalogs suggest that similar skill sets are emphasized across the different levels. These catalogs indicate that each of the ESL levels is intended to target various skills: the lowest levels typically focus on the development of oral fluency as well as basic reading and writing skills; the intermediate levels increasingly emphasize clarity in writing and reading comprehension; while the top levels emphasize critical thinking skills in addition to reading and writing.

As noted in Figure 1, four colleges only offered an ESL writing course as part of their sequence; while two other colleges offered separate ESL reading and ESL writing courses as part of their sequence. It is important to note that among colleges only offering ESL writing, those who do not integrate both reading and writing into a single ESL writing course, may still require ELLs who did not pass the reading placement exam to complete the colleges' developmental reading sequence before enrolling in college-level English. Furthermore, at three of the colleges, ESL sequences fed into the top level developmental writing course, which effectively made the ESL sequences up to five levels long. At the other three colleges, ESL sequences fed directly into the college level course. Therefore, for a student who places into the lowest level of traditional ESL, if they take and pass each course sequentially they may complete the traditional ESL sequence in four or five semesters.

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<sup>6</sup> Because of this, in this study the comparison group ELLs were selected from among those who enrolled in the standard ESL writing course at one of the six LUCCS campuses.

**Figure 1. LUCCS Traditional ESL Sequence Length and Structure<sup>7</sup>**



Students who begin their academic ESL pathway in the traditional ESL sequence must invest a significant amount of time and money before they reach college level English. An examination of college catalogs reveals that students assigned to the lowest levels of ESL must enroll and pass a minimum of approximately thirty equated credits before they reach college level English. Students in LUCCS must pay full tuition for all equated credit courses, including all those that are part of the traditional ESL sequence. However, if students apply and qualify for federal or state financial aid, the cost of tuition may be covered and the actual cost to the student

<sup>7</sup> Figure adapted from Hodara (2012).

may be zero.<sup>8</sup> Nevertheless, despite this significant investment in student time and financial resources, none of the traditional ESL courses bear credit toward a college degree.

Despite what are extraordinarily long sequences, one of the advantages of beginning academic ESL studies in the traditional ESL sequence is that upon reaching the top levels of ESL students obtain access to a select number of college level courses. For example, traditional ESL students may concurrently take courses such as health, art, music, speech, chemistry, and photography (See Chapter 5). Unlike traditional ESL courses, these do count toward a college degree. Hence, ELLs may potentially begin accumulating credits toward a degree while simultaneously completing their ESL requirements.

### **The English Language Immersion Program**

In response to the lengthy ESL course sequences and the respective high tuition costs faced by students placing into the lowest levels, in fall 1995, LUCCS introduced the English Language Immersion Program (ELIP) as an innovative pilot program intended to serve as an alternative to the traditional ESL sequence. By the fall of 1999, the pilot program had expanded and all six LUCCS campuses housed an ELIP program (on-site at five colleges and off-site at one college).<sup>9</sup> Similar to traditional ESL, one of the goals of ELIP is to provide students with the English language and literacy skills needed to be successful in college courses. In addition, ELIP is also intended to accelerate students through the ESL course sequence by providing ELLs with substantial language learning needs with an option to learn academic English skills in an

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<sup>8</sup> It is important to note that while some may think that financial aid may provide an incentive for students to enroll in traditional ESL courses, students typically served by academic ESL programs (e.g. immigrants and racial/ethnic minorities) tend to underutilize financial aid programs (Zarate & Pachon, 2006). Research suggests this is partly due to the complexity of the financial aid application process (Dynarski & Scott-Clayton 2006).

<sup>9</sup> In addition to the six community college campuses, ELIP was also offered at three urban four-year colleges that were part of the same urban public college system. This study focuses on community colleges that offered ELIP and thus these four-year program sites are not included in the study.

**Table 1. Overview of ELIP and Traditional ESL**

	<b>ELIP</b>	<b>Traditional ESL Sequence</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>* To develop academic literacy in English needed to be successful in college level courses</li> <li>* Accelerate acquisition of English language skills for students with highest language needs</li> <li>* Save financial aid</li> </ul>	<ul style="list-style-type: none"> <li>* To develop academic literacy in English needed to be successful in college level courses</li> </ul>
<b>Enrollment Experience</b>	<ul style="list-style-type: none"> <li>* Pre-college experience</li> <li>* Student defers enrollment as degree-seeking student</li> <li>* Non-Credit</li> <li>* Day and Evening Sessions</li> </ul>	<ul style="list-style-type: none"> <li>* College experience</li> <li>* Student enrolls as degree-seeking student</li> <li>* Equated Credit (does not count toward degree)</li> <li>* Day and Evening Sessions</li> </ul>
<b>Hours of instruction</b>	<ul style="list-style-type: none"> <li>* Intensive sessions: 25 hours per week for full academic semester</li> <li>* Can enroll for up to one year</li> </ul>	<ul style="list-style-type: none"> <li>* Varies by campus and level of course For example, lowest level of ESL can range from 8 to 12 credit hours per week for a full academic semester</li> <li>* At some campuses students also take developmental reading courses</li> </ul>
<b>Instructional approach</b>	<ul style="list-style-type: none"> <li>* All sites provide Content-based English language instruction</li> <li>* Integrates teaching of reading, writing, listening, and speaking</li> <li>* Embeds field trips into curriculum (i.e. museums, parks, historical landmarks)</li> </ul>	<ul style="list-style-type: none"> <li>* Varies: Some provide instruction based on content and/or themes; lower levels may provide more de-contextualized instruction</li> <li>* Some integrate or separately provide instruction on developing reading, writing, listening, and speaking</li> </ul>
<b>Location &amp; Department</b>	<ul style="list-style-type: none"> <li>* Colleges campuses at five sites &amp; offsite at one campus</li> <li>* Housed in Continuing &amp; Professional Education</li> </ul>	<ul style="list-style-type: none"> <li>* College campuses</li> <li>* Housed in developmental skills or English department</li> </ul>
<b>Cost</b>	<ul style="list-style-type: none"> <li>* Varies by campus academic calendar and eligibility status</li> <li>* Per semester cost from 2003-11 was               <ul style="list-style-type: none"> <li>--\$145-180 State Residents</li> <li>--\$360-450 Non-Residents</li> <li>--\$35-45 for Welfare recipients &amp; students participating in an educational opportunity program</li> </ul> </li> <li>* Cost covered by the student</li> <li>* Students not eligible for financial aid</li> </ul>	<ul style="list-style-type: none"> <li>* Regular college tuition applies</li> <li>* Tuition depends on residency status, the academic calendar, and number of credit hours taken during the semester</li> <li>* Between 2001 &amp; 2010 the cost for a full-time resident ranged from \$1250 to \$1575 at four colleges and from \$1390 to \$1550 at two other colleges</li> <li>* Cost covered by the student or</li> <li>* Student can also cover cost with financial aid, if eligible</li> </ul>
<b>Target population</b>	<ul style="list-style-type: none"> <li>* Students placing into lower levels of academic ESL sequence</li> <li>* Not open to international students</li> </ul>	<ul style="list-style-type: none"> <li>* Students placing into all levels of ESL</li> <li>* Open to international students</li> </ul>

intensive setting: 25 hours per week, compared to approximately 12 hours a week for traditional ESL, during a full academic semester (See Table 1).

ELIP instruction is content-based and holistic meaning reading, writing, listening and speaking are integrated into a single course and taught using content material students will encounter in future college courses, such as history, arts, and science, to name a few. The program is offered to students at a low-tuition cost that varies by campus academic calendar and student eligibility status: A state resident, for example, pays at most \$180 per semester compared to up to \$1575 for full-time study in the traditional ESL sequence. As such, the program is intended to serve as an academic ESL option that allows students to spend less time and financial aid on non-credit ESL and developmental education courses, thereby helping students save their financial aid for courses that toward a degree. Finally, unlike the traditional ESL, ELIP is not open to international students.

Students admitted to LUCCS are identified and encouraged to participate in ELIP when their writing placement test is flagged as ESL and they receive a score of 4 or less.<sup>10</sup> To participate in the program, admitted students defer enrollment for up to one year in order to focus on improving their academic English language skills. As such, unlike traditional ESL students, ELIP students are unable to take other college courses concurrently while in the program. After program participation, ELIP students re-take the LUCCS placement exam for appropriate placement at the campus to which they were admitted (LUCCS, 2009).<sup>11</sup>

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<sup>10</sup> Note that students may also participate in the program if they have failed traditional ESL courses multiple times; however, these students are not included in the quantitative phase of the study.

<sup>11</sup> This reference contains identifying information for the Large Urban Community College System participating in the study. Those interested in obtaining the reference may contact the author for more information--access to this information will depend on LUCCS approval.

Notably, in fall 2011, LUCCS launched a program modeled after ELIP; this program is intended to help incoming LUCCS students who failed the reading, writing, and/or math placement tests develop these skills prior to entering as degree-seeking students. Similar to ELIP, this new program provides students with a low-cost alternative to the traditional developmental education course sequence by providing them with an intensive 25 hour-per week curriculum in pre-college math and/or academic reading and writing.

### **Navigating from ELIP and Traditional ESL to College Level English**

The steps ELIP and traditional ESL students must undertake in order to reach college level English are illustrated in Figure 2. The first step of this process uses the writing placement exam to identify admitted students who need ESL instruction. As previously described, among individuals identified as ESL, those receiving a score a four or less on the writing exam are encouraged to participate in ELIP. However, participation in ELIP is voluntary and individual may also choose to begin in the lower levels of traditional ESL.<sup>12</sup> The second step shows that upon entering an ESL pathway, students in ELIP defer enrollment in LUCCS for up to one year while those who begin in traditional ESL<sup>13</sup> enter as degree-seeking students immediately upon enrolling in the program.

This difference in enrollment status suggests that standard college enrollment data which uses cohort of entry as the indicator of the term of first enrollment would not capture the point

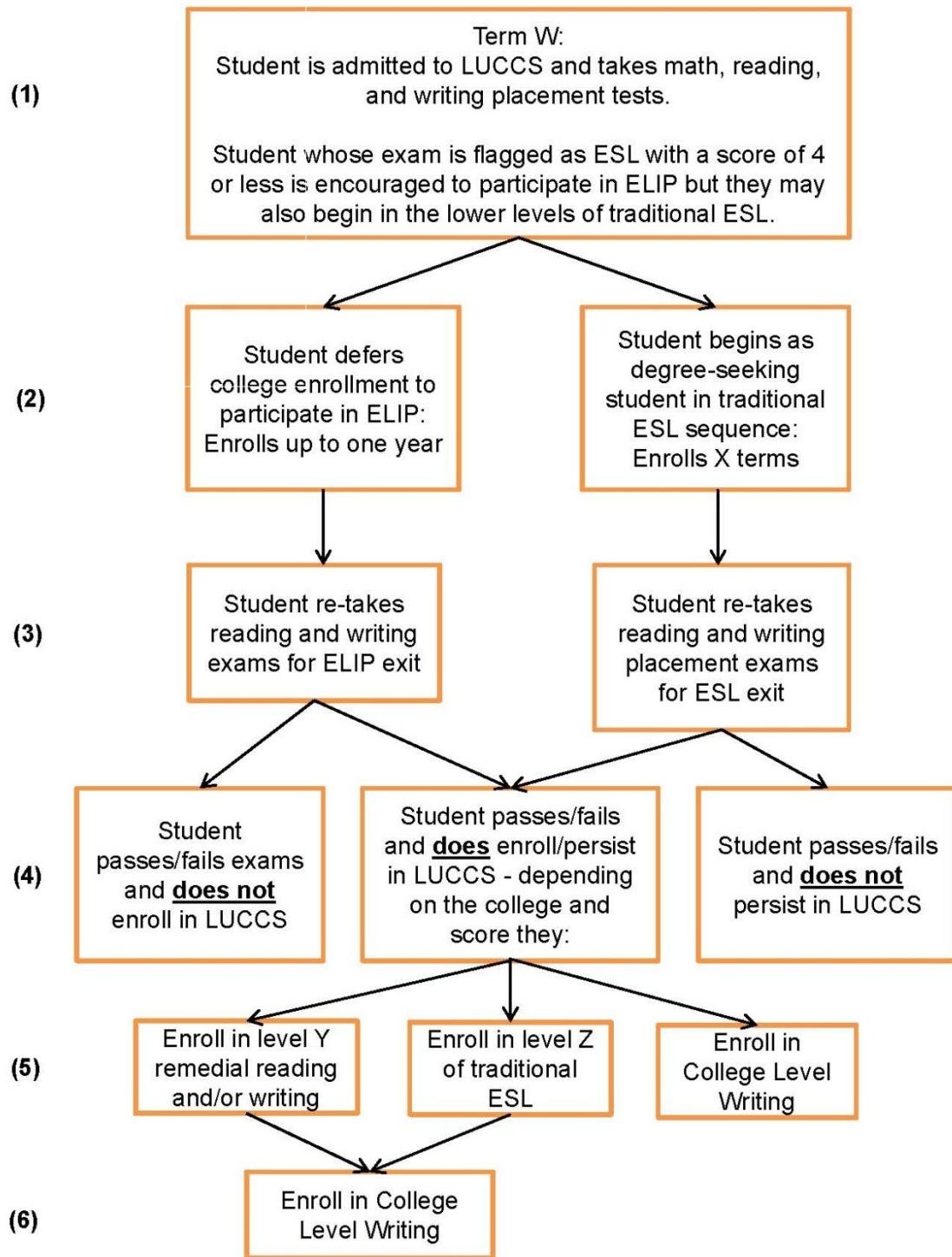
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<sup>12</sup> Qualitative fieldwork conducted as part of this study suggests that reasons behind choosing one program option over the other vary, and may be influenced by a series of student personal and background characteristics as well as differences in program cost, scheduling, and the type of college experience offered (see Chapter 5).

<sup>13</sup> In this study, students beginning in traditional ESL are defined as those who enroll in LUCCS and take a traditional ESL course within three years.



**Figure 2. *ELIP and Traditional ESL: From Assessment to College Level English***



when an ELIP student first began the ESL pathway. Therefore, to more equitably examine and compare the outcomes of students entering these ESL pathways it is important to track students' college outcomes from the time they first take the placement test and enter ELIP or traditional ESL as this is the point where the counterfactual condition takes place. Namely, this is the point in which we can infer what would have happened to an ELIP student had they not participated in the program and instead participated in the traditional ESL sequence, and vice versa.<sup>14</sup>

Next, Step 3 shows that to exit ELIP or traditional ESL students re-take the reading and writing exam. It is important to note that at any point in time between Step 2 and Step 3 a student may leave the program and LUCCS altogether. For those who begin in ELIP this implies some students may actually never enroll as degree-seeking students in LUCCS.<sup>15</sup> Step 4 illustrates what happens to ELLs upon re-taking the test: ELIP students may not enroll in LUCCS and traditional ESL students may not persist in LUCCS; the placement of those who do enroll or persist will depend on the score they receive and the college in which they enroll. Lastly, Steps 5 and 6 indicate the final steps taken to reach college level English: those passing the reading and writing exams will go directly into college English, while those who do not pass need to enroll in traditional ESL or remedial reading and/or writing (as seen in Figure 1, the level in which they enroll will depend on their scores and the college which they attend). The amount of time it takes students to reach college level English varies and depends to a great extent on whether or not the student enrolled in ELIP or traditional ESL continuously and whether they repeated any of the sequence courses.

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<sup>14</sup> Another way to think of this is that in a randomized experiment, students would have been randomized into ELIP or traditional ESL from among those who were in the target treatment group (e.g. those scoring a four or less on the ACT writing placement exam).

<sup>15</sup> During the period of time covered by this study, about 20 percent of the participant sample did not make the transition from ELIP to college. The ELIP students who did not ultimately enroll in college are included in this analysis; all their outcomes are recorded as zero. To address concerns that those who do not make the transition into college alternative analysis examines the outcomes of only those who ultimately enroll in LUCCS.

Research has shown that the lower a student is placed in a developmental education sequence, the lower their probability of ever completing developmental coursework and subsequent college level courses (Bailey, Jeong, & Cho, 2010). Given that the road to college level courses for those who begin in the ESL pathway is typically longer than for those who begin in developmental education sequences, the probability of completing the ESL sequence and subsequent college level courses would be even lower for students placing into the lowest level ESL courses. As a result, the ESL programming option chosen by degree-seeking students at LUCCS community colleges potentially has important implications for their college outcomes.

### **Statement of Purpose and Research Questions**

This purpose of this study, therefore, is to analyze quantitative administrative data and use qualitative data to examine how ELLs seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs. It does so by exploring the role of two ESL pathways at a Large Urban Community College System (LUCCS): (1) the English Language Immersion Program (ELIP) and (2) the traditional ESL sequence. It is anticipated that an improved understanding of the college outcomes of ELLs together with knowledge about their experiences in postsecondary ESL will facilitate more informed decisions by ELLs and postsecondary institutions that will better support student success. To this end, this study addresses the following four research questions:

1. What does the administrative data reveal about the effects of participation in ELIP compared with the traditional ESL sequence on subsequent college outcomes?
2. How do students, instructors, and administrators describe the experience of learning about and enrolling in ELIP and the traditional ESL sequence?

3. How do the ELIP and traditional ESL sequence designs facilitate the acquisition of knowledge, skills, and abilities perceived to be necessary for success in college programs?
4. What other factors help or hinder participants' success in college programs?

### **Research Approach**

To examine how English Language Learners seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs, a case study employing an explanatory mixed method design was used. A case study methodology was the most appropriate for this dissertation as this approach involves conducting of an intensive description and analysis of a system bounded by time or place: this study provides a case study of academic ESL pathways at a Large Urban Community College System (Merriam, 1998; Yin, 2009). With approval of the University's Institutional Review Board, the explanatory sequential mixed methods involved collecting and analyzing quantitative data first and then explaining the quantitative results with in-depth qualitative data (Creswell & Plano Clark, 2011; Ivankova, Creswell & Stick, 2006; Tashakkori & Teddlie, 1998).

This study contributes to the literature in three ways. First, using a rich longitudinal administrative dataset with over 80,000 students, I utilized a propensity score matching approach to examine the effect of participating in ELIP versus participating in the traditional ESL sequence on college English enrollment and performance, credit accumulation, and college progression and degree outcomes. Second, the high level of diversity among the sample enabled me to take a closer look at the impact heterogeneity by gender, race/ethnicity, age, and immigrant generational status. Third, qualitative semi-structured interviews with instructors and

administrators explored how ELIP and traditional ESL sequence components—such as the program design, structure, and curriculum—influenced program impact. Student focus groups reflected on their respective program experiences. Data collected via student focus groups was used to better understand students’ motivations for engaging in ELIP or the traditional ESL sequence as well as students’ perceptions of their program experiences. Student focus group with former program participants also provided information relating their perceptions of how participation influenced their preparedness for college programs. Faculty, staff, and students also reflected on other factors that may help or hinder success in college.

### **Assumptions**

Based on knowledge garnered from the literature, college documents, and this study’s qualitative fieldwork, two assumptions were made in this study. First, all degree-seeking ELLs at LUCCS enter an ESL pathway and do so by choosing among traditional ESL and ELIP. This assumption was made on the basis that at LUCCS the main academic ESL options for degree-seeking ELLs are the traditional ESL sequence and the English Language Immersion Program. This assumption was also guided by the literature that states that ELLs must acquire academic English language and literacy skills in order to successfully achieve college goals. Second, it is assumed that all ELIP participants intend to pursue a degree at LUCCS. This assumption was prompted by the ELIP requirements which state that individuals must apply and be accepted to LUCCS as degree-seeking students.

### **The Researcher**

During the time this study was conducted, I was employed as a Research Associate at the Community College Research Center (CCRC). While working at CCRC, I have joined research teams on visits to numerous community college campuses to explore topics such as dual enrollment, developmental education redesign, developmental English and math acceleration, and assessment and placement policies and practices. I have also worked with large administrative datasets from three of the largest and most diverse states in the country: New York, California, and Florida. Through these various experiences I have accumulated a wealth of quantitative and qualitative research experience. Thus, I bring to the analytical process a broad experience and knowledge about community colleges, the students they serve, as well as the programs and supports they offer.

Further, I also bring the personal experience of being from an immigrant family and learning English as a second language. Therefore, I understand the challenges associated with this monumental but vital task. In learning English as a second language, I acknowledge the instrumental role played by the encouragement and support provided by my parents and teachers. While acquiring English language skills was critical in promoting my academic achievement, many other outcomes that were also affected would not normally be captured by administrative datasets. My experience suggests that in studying the academic outcomes of ELLs it is important to both explore the quantitative educational data and also speak with students and faculty to better understand why certain findings emerge.

These experiences, while valuable in providing me with insight into the study, may also pose a challenge if they bias my interpretation of findings. To address this concern and to strengthen the credibility and reliability of the research, I triangulated methods (quantitative and

qualitative) and sources (student, faculty, staff, documents), and discussed findings with colleagues.

### **Organization of the Study**

This study is organized as follows. In Chapter 2, I provide an overview of two major areas of the literature: (1) the literature on the education of immigrant students, language minorities, and ELLs in secondary and postsecondary education to provide a context for understanding how various factors influence college preparation, access, and persistence; (2) empirical evidence on the impact of postsecondary developmental reading, developmental writing and ESL. In Chapter 3, I present a detailed description of the academic ESL pathways at LUCCS. In this Chapter I also provide an overview of the methodology and a description of the quantitative and qualitative data used in this dissertation.

In Chapter 4, I present the methods and results from the quantitative phase of this dissertation. The quantitative findings suggest there is no evidence that participation in ELIP versus traditional ESL leads to significant impacts on college English enrollment and performance within three and five years. I also find consistent evidence that students who participate in ELIP versus traditional ESL earn fewer college level credits, but they also earn significantly fewer equated credits over three and five years—suggesting they spend less time on remedial coursework. Results also indicate that ELIP participants are more likely to persist and less likely to drop out, but there is no effect on graduation and/or transfer within three and five years. Finally, results indicate that males, younger students (age 23 and younger), and foreign-born, U.S. educated (generation 1.5) students experience less negative impacts on college credits and more positive impacts on several of the longer term outcomes.

Chapter 5 presents the methods and results from the qualitative phase of this dissertation. Findings suggest that null impacts on college English enrollment and performance could be partially explained by the finding that both ESL pathways emphasize the acquisition similar skills and employ parallel instructional approaches to help students acquire these skills. Findings also suggest that negative impacts on college credit completion may be due to the programs' respective college enrollment experience. The structure and length of the traditional ESL sequence helps explain negative results for equated credits completed. Differences in persistence and drop out as well as differences for subgroups are found to be partially explained by the activities and interactions that are fostered by a high intensity program.

In the final chapter, I discuss the major findings and conclusions drawn from the research. I also offer recommendations for research and practice based on these findings. Particularly, I argue that much can be gained by linking pre-college program opportunities at LUCCS. One recommendation is to consider offering ELIP student's access to LUCCS dual-enrollment courses, so like traditional ESL students they too can begin accumulating college credits while learning English. Dual enrollment courses such as speech and student success can potentially ease the transition into college by helping build confidence in English oral skills and by equipping students with basic knowledge and skills needed for college success. In addition, traditional ESL may be strengthened by continuing to promote department-wide use of a content-based teaching approach that makes courses engaging and relevant to what students will be expected to know and do in future college courses. Finally, future research should explore broader outcomes of participating in postsecondary ESL. Among the outcomes that were considered to be important but beyond the scope of this study were: labor market outcomes, political engagement, cultural integration, and social mobility.



## **CHAPTER 2**

### **REVIEW OF THE LITERATURE**

This purpose of this study is to analyze quantitative administrative data and use qualitative data to determine how English Language Learners (ELLs) seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs. It does so by exploring the role of two ESL pathways at a Large Urban Community College System (LUCCS): (1) the English Language Immersion Program (ELIP) and (2) the traditional ESL sequence. To carry out this study, it was first necessary to complete a review of the current literature that explores the role of English language programs on student outcomes. As such, three major areas of the literature were reviewed: (1) the literature on the education of immigrant students, language minorities, and ELLs in secondary and postsecondary education to provide a context for understanding how various factors influence college preparation, access, and persistence; (2) the literature on academic English proficiency and the role of immersion in acquiring these skills; and (3) the empirical evidence on the impact of postsecondary developmental reading, developmental writing and ESL to illuminate ways in which academic ESL pathways may potentially affect student outcomes.

To conduct this literature review, multiple information sources were used, including books, dissertations, internet resources, professional journals, and periodicals. These were accessed via the Teachers College and Columbia University Libraries, ProQuest Digital Dissertations, and Google Scholar. Keywords used to retrieve the literature included “education of English language learners,” “college English language learners,” “immigrant college students,” “impact of ESL,” “impact of language immersion,” “college ESL,” “language

immersion,” and “adult language acquisition.” The same searches were conducted by substituting the term “English language learners” with the term “language minorities.” With the exception of a few key papers, the literature reviewed here covers the years 1995 to the present.

Given that the quantitative phase of this study was emphasized, this literature review draws heavily on empirical studies that used rigorous quantitative methods to estimate the causal impact of participating postsecondary English language programs. It is important to highlight that most of the causal studies on the impact of English language programs have been conducted at the primary and secondary level; these studies have primarily examined the impact of bilingual education versus structured immersion programs. However, given important differences in program goals and students served by K-12 and postsecondary immersion programs, this literature is not reviewed here (See Note 18). In all, only one causal study of ESL at the postsecondary level was found. Therefore, the empirical evidence on the impact of postsecondary developmental reading and developmental writing is reviewed to explore how it might inform the potential impact of postsecondary ESL.

The review is organized as follows: First, it reviews the literature to identify factors that are considered to be important in influencing the college enrollment pathways and subsequent college outcomes of immigrant students, language minorities, and ELLs. It then provides a discussion of the academic English language demands for ELLs in postsecondary education and discusses the role of immersion in acquiring these skills. This is followed by a review of the empirical evidence on the impact of postsecondary ESL, developmental reading, and developmental writing on college outcomes. The chapter concludes with a summary.

### **Factors Influencing Postsecondary Outcomes of ELLs**

I review the literature to identify factors what are considered by educators, developmental psychologists, and economists to be important in influencing the postsecondary pathways<sup>16</sup> and subsequent college outcomes of immigrant students, language minorities, and ELLs. The three groups were selected due to the their high degree of overlap in experiences, as by definition ELLs are a subgroup of the language minority population and many immigrants are of language minority backgrounds. Therefore, it is expected that together these groups will provide greater insight into the issues explored here. This review of the literature is especially important because it also informs the empirical strategy used in this study, which is propensity score matching. Literature in this field suggests that an examination of previous research is the one of the best ways to determine which pretreatment covariates are related to both the treatment assignment and the outcome (Hill, Reiter, Zanutto, 2004; Rubin and Thomas, 2001).

*Gender.* Scholars have found that gender is an important contributor to the educational outcomes of immigrant students. In particular, this research suggests that among the reasons female immigrants outperform males is that males tend to develop fewer meaningful relationships with teachers; males also tend to perceive their school environment as less supportive than their female peers (Suárez-Orozco & Qin-Hilliard, 2004; Suárez-Orozco, Pimentel, & Martin, 2009; Way & Chen, 2000). While this research was primarily conducted at the primary and secondary levels, it is plausible that such experiences may also influence differences in outcomes in college if the college and/or classroom environment functions as a space that facilitates the development of more meaningful relationships with teachers and peers.

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<sup>16</sup> Very little research directly discusses the choice between the various ESL programming options at the postsecondary level. However, because enrollment and participation in ELIP versus traditional ESL represents one of the first college choices a student makes upon choosing to enroll in the college, I define the treatment assignment more broadly as a college enrollment pathway. The literature therefore, mostly captures factors that influence students' decisions to enroll in college and the type of college they choose.

*Age.* The age at which an individual enters postsecondary education has important implications for the college pathways and outcomes of students with immigrant background. For immigrant students and English language learners overall, this impact has primarily been mediated by level at which students enter the U.S. school system. Research suggests that those entering in primary school typically acculturate well and achieve high levels of academic English proficiency (Suárez-Orozco, Suárez-Orozco, & Torodova, 2008). Immigrants who arrive at the secondary school age, on the other hand, generally attend schools with inadequate resources and limited access to a college preparatory curriculum; for this group of students, the type of education they received in their country of origin will greatly influence their achievement in U.S. secondary schools (Ruiz-de-Velazco & Fix, 2002). By contrast, those who completed high school in their country of origin may be well prepared academically but may not possess English language skills. Teranishi, Suárez-Orozco, and Suárez-Orozco (2011) highlight the importance of distinguishing between these groups of students, noting that their needs are distinct.

More generally, age can influence college enrollment pathways and outcomes via the differences that arise when students enter college at an older age. For example, as students get older they are more likely to have families, be working while enrolled, and enroll part-time. Such students are broadly defined as non-traditional and their characteristics have been associated with increased likelihoods of entering in a community college and lower likelihoods of completing a degree or certificate (Choy, 2002). On the other hand, having had exposure to the labor market prior to college entry, older students may have higher levels of motivation and a clearer sense of the types of skills they need to acquire to move forward in their career—as such, older students may also potentially be more likely to complete degrees. The work of Calcagno, Crosta, Bailey and Jenkins (2007) provide evidence in support of this. Their findings indicate that older students

in Florida were more likely than younger students to graduate after controlling for math abilities. They suggest this positive finding may be attributable to older students having clearer goals and a better ability to navigate the bureaucracies of postsecondary institutions.

***Region of Origin and Citizenship Status.*** The research on immigrants has also found that region of origin and citizenship status influences postsecondary pathways. In a recent review of the literature, Baum and Flores (2011) argue that immigration itself is not a hindrance to the postsecondary educational outcomes of immigrant students; rather, they note that the country of origin and their characteristics when they arrive tend to explain much of the variation in their postsecondary outcomes. For example, immigrants from Mexico and Central America are found to typically arrive to the United States with low-levels of educational attainment whereas immigrants from China, Korea and India typically immigrate with significantly higher levels of academic attainment. Immigrants from different regions, therefore, arrive to the U.S. with a differential ability to benefit from the countries postsecondary educational system.

Differences resulting from region of origin are similarly related to the citizenship status of immigrants upon arrival. Immigrants arriving with higher levels of education typically enter the United States with visas and may access postsecondary education, albeit, at a higher tuition cost. For immigrants who are non-permanent residents and/or undocumented, legal status and eligibility for admissions and financial aid are tightly linked. Harklau (2011) notes that for this group of students, despite the fact that some states and college systems allow undocumented immigrants to enroll and pay in-state tuition, many may still be unable to attend college because they do not qualify for many forms of state and federal financial aid. Furthermore, even if the student was born in the United States, if parents are undocumented they may not know that they qualify for aid (Zarate & Pachon, 2006; Gonzalez, 2009).

***Parental Education.*** Scholars have consistently found that parental education is a strong factor influencing the postsecondary pathways of students of immigrant background. This literature finds that even after controlling for income, youth whose parents did not go to college are less likely to enter college; researchers note that these findings are even more distressing for those whose parents did not graduate from high school (Ellwood & Kane, 2000; Gándara & Contreras, 2008). When students of immigrant background do enter college, the education of parents is strongly linked with the choice of postsecondary sector. Students who will be the first in their families to attend college, for example, are more likely to enter community colleges (Cohn & Brawer, 2003; McDonough, 1997; Pascarella, Pierson, Wolniak & Terenzini, 2004).

***Prior Academic Preparation.*** As has been frequently found to be true for students in general, the college pathways of language minority students are highly influenced by whether or not they took a college preparatory curriculum while in high school. The research for language minorities in the United States, for example has generally found that language minorities are more likely to be placed in non-college preparatory tracks while in high school (Callahan & Shifter, 2012; Nuñez & Sparks, 2012; Gándara & Contreras, 2009). This poor academic preparation they receive as a result subsequently affects their college choice options. Namely, if they do not complete a college preparatory curriculum, their postsecondary options are generally restricted to the labor market or to open-access postsecondary institutions. Furthermore, if students do enroll in community college, the weak academic preparation they received often lands them in remedial courses that do not count toward a degree.

***Expected Future Returns to Postsecondary Education.*** College pathways and outcomes may also be influenced by an individual's assessment of expected future economic returns. Human capital theory suggests that in choosing to undertake an investment in postsecondary

education or learning the language of the host country, an individual will assess the benefits, which might include higher wages and lower probabilities of being unemployed, versus the costs incurred in terms of time, money, and effort (Becker, 1964; Chiswick & Miller, 2007). A recent review of the economic returns to a community college education found evidence of returns to completing some college and even greater returns to those who completed college credentials (Belfield & Bailey, 2011). Economists have also consistently shown that the act of acquiring higher levels of English proficiency itself improves labor market outcomes (Bleakly & Chin, 2004; Chiswick & Miller 1995; Gonzalez, 2000; Rivera-Batíz 1990).

***Financial Constraints.*** Researchers have found that students from immigrant background are more likely to come from lower income families (Almon, 2012; Nunez & Sparks, 2012). The affordability of postsecondary educational options, therefore, is an important factor constraining postsecondary options for many immigrant students. Research shows that immigrant students often do not have access to information on how to finance postsecondary education and as a result tend to underutilize financial aid and loans (Zarate & Pachon, 2006). As noted previously, these constraints are further amplified for undocumented students who do not have access to federal financial aid and depending on the state, they may have to pay out-of-state tuition rates (Zarate & Pachon, 2006; Gonzalez, 2009).

In sum, knowing what factors influence the postsecondary pathways and outcomes of immigrant students, language minorities, and ELLs is an important first step in understanding the needs of these students both in and out of the classroom. Keeping these issues in mind is important as these factors may subsequently influence outcomes in the short and long run through the acquisition of academic language proficiency, college enrollment and progression, and labor market outcomes.

### **Academic Language Proficiency and College Success**

Cummings and Man (2007) formally define academic language proficiency as the “ability to understand and express, both in oral and written modes, the concepts and ideas relevant to success in school” (p.797). Academic language proficiency has been found to be critical for access and success in primary, secondary, and postsecondary education. This literature suggests that increased levels of academic English language proficiency, including speaking, listening, reading, and writing are associated with higher test scores, increased rates of high school graduation, and positive impacts on college entry and persistence (Benesch, 2001; Bleakly & Chin, 2004; Bunch et al., 2011; Curry, 2004; Harklau, Losey, & Siegal, 1999). The successful acquisition of these academic language proficiencies is thus critical for educational success. Together, these skills lay the foundation for students’ ability to learn new vocabulary, understand readings, and communicate, orally and in writing, the concepts and ideas that will be presented in courses across disciplines. Guadalupe Valdés (2004) articulated the concept of acquiring academic language proficiency in the following way:

In the *Standards* document, for example, we are told that to achieve academically students will use English to follow oral and written directions both implicitly and explicitly, request and provide clarification, request information and assistance, explain actions, negotiate and manage interactions, and ask and answer questions. They will also use English to obtain, process, construct and provide subject matter information in written form. They will retell information, compare and contrast information, persuade, argue, and justify, analyse, synthesise and infer from information. They will also hypothesise and predict, understand and produce technical vocabulary and text features according to the content area. (Valdés, 2004, p. 121)

As described by Valdés (2004), it is evident that acquiring academic language and literacy skills will undeniably be a challenging undertaking for students. The quote sheds some light into several reasons why academic language proficiency may influence students’ success:



first, academic language proficiency skills will enable students to follow both implicit and explicit directions; second, they will facilitate active participation in the classroom; third, they will provide students with the tools needed to improve reading comprehension and writing abilities.

In discussion academic language proficiency, Cummings and Man (2007) highlight the centrality of reading as critical for college success. In particular, they note that reading is crucial for academic language development because it introduces students to less common academic vocabulary and grammar that would not necessarily be acquired in a conversational setting. Support for the importance of reading in the development of academic language skills is provided by Krashen's (1989) "Input Hypothesis." Krashen (1989) argues that the "Input Hypothesis" provides evidence that opportunities to hone reading skills are crucial for the development of vocabulary and spelling. He argues that reading helps students utilize written texts as a form of "input" that helps draw attention to how language is used. This process facilitates the learning of vocabulary and grammar while at the same time strengthening reading comprehension. Together these academic language skills lay the foundation for students' ability to communicate in increasingly complex ways both orally and in written form (Cummings & Man, 2007).

Importantly, Valdés' (2004) quote also highlights that acquiring academic language proficiency requires a significant investment of time. Scholars have found that while conversational fluency and discrete language skills (grammar and spelling) can generally be learned in one or two years. The development of academic language proficiency, on the other hand, requires at least five years of exposure to the language (Cummins, 1981; Hakuta, Butler, & Witt, 2000; Thomas & Collier, 2002). Taking these considerations into account, it may be

expected that individuals would prefer to acquire academic language proficiency in the most effective and efficient way possible.

### **The Role of Immersion in Acquiring Academic Language Proficiency**

The literature on second language acquisition and language immersion as an instructional approach illuminate possible reasons why one might expect that for adults, a language immersion program would be more effective than a series of traditional language courses. First, a central element of language immersion programs is the distribution of time. Namely, immersion programs provide students with long hours of instruction over a shorter period of time, whereas traditional language programs provide short hours of instruction over a longer period of time. Second language acquisition theory suggests that, *ceteris paribus*, the more time a student dedicates to learning and practicing a second language, the higher level of proficiency they will attain (Stern, 1985). A recent descriptive study comparing an intensive English as a foreign language (EFL) program to a regular EFL course at the University of Barcelona suggest that part of the success of intensive programs is not only related to increased instructional time, but also the fact that intensive programs provide students with increased opportunities to practice language skills with peers and instructors (Serrano, 2011). For students with limited opportunities to practice and improve language skills outside of the classroom setting, an immersion program may provide an effective means to develop crucial speaking and listening skills.

It is also possible to draw inferences as to possible reasons why one might expect improved academic outcomes for ELLs who participate in immersion compared to standard

language courses by looking at the original Canadian immersion model.<sup>17</sup> Genesee (1994) argues that while studies examining the language proficiency gains for participants of the Canadian immersion programs compared to standard courses have been mostly descriptive in nature, they do provide suggestive evidence that positive language learning gains are possible.<sup>18</sup> In discussing the features which have been found to contribute most to the success of the Canadian immersion model, Genesee (1994) presents the following:

- 1) Instructional approaches that integrate content and language are likely to be more effective than approaches which teach the language in isolation;
- 2) The use of instructional strategies and academic tasks that encourage active discourse among learners and between learners and teachers is likely to be especially beneficial for second language learning;
- 3) Language development should be systematically integrated with academic development in order to maximize language learning (Genesee, 1994, p. 10).

The first and third points are well supported by the ESL pedagogical and theoretical literature. In particular, drawing on Krashen's (1985) theory of learning and acquisition and Cummings (1981) two-tiered model of skill acquisition, Kasper (2000) argues that content-based ESL courses offer students with contextualized language curricula that is both meaningful and relevant to the students' personal and educational goals while at the same time providing them with opportunities to acquire "*basic interpersonal language skills*" (functional literacy skills) and "*cognitive academic language proficiency*" (academic literacy skills) (p. 4-5). As

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<sup>17</sup> Swain and Lapkin (1989) report that there are two main variations of French immersion programs: (1) *Early French Immersion* begins upon entering elementary school and all instruction is in French during the first few years. By the end of elementary school the program is taught about half and half in both English and French. (2) *Late Immersion* begins at about middle school (6-8<sup>th</sup> grade) and instruction can be either completely in French or it can be as little as half in French.

<sup>18</sup> The structured English immersion promoted at the primary and secondary level in the United States, while citing the success of the Canadian model to support its use (Baker, 1998), has in fact very different goals. In the U.S, immersion as a language policy is intended to strip children of their native language and produce monolingual speakers of English. During the early 2000s massive campaigns claiming that bilingual education results in an ineffective use of the states' resources led voters in Arizona, California and Massachusetts to pass laws mandating that English be taught via a structured immersion program. These laws were largely driven by a strong wave of xenophobia and conservatism during a period of high levels of immigration (Gandara & Hopkins, 2010).

such, scholars have highlighted that providing ELLs with content-based courses shows promise for providing ELLs with a more stimulating and challenging course than the traditional grammar-based ESL classes (Kibler, Bunch & Endris, 2012). In the same way, the literature on the contextualization of basic academic skills lends further support for the use of a content-based approach. In a recent review of the literature on contextualization, Perin (2011) highlights that contextualization has been used in the teaching of basic skills as a means to engage students, develop content knowledge, and promote the transfer of skills. Perin (2011) concludes that while there is little rigorous research on the topic, the evidence that is available suggests that contextualization has the potential to improve student outcomes.

The second point noted by Genesee (1994) links back to the previous discussion that the increased instructional time in immersion programs affords improved opportunities to actively engage with peers and instructors enabling them practice language skills in the classroom. This practice can be facilitated by what Genesee (1994) calls “activity-based learning” –whereby students are encouraged to work on projects together, make oral presentations, consult with one another on a constant basis, or by having native speakers in the classroom with non-native speakers. In the college setting, these activities may be integrated by promoting group activities, oral presentations and by integrating non-native speakers in the classroom. This last activity can be achieved by providing ELLs with opportunities to take non-ESL courses concurrently.

In addition to the curricular and instructional features, time distribution, and opportunities to practice, scholars posit that effective language programs for ELLs must also provide comprehensive supports that address the multiple challenges faced by language minority students (Kanno & Harklau, 2012; Gándara & Rumberger 2009; Suárez-Orozco, et. al, 2008). In examining how language policy in the United States has influenced the educational opportunities

of young immigrant students, Gándara and Rumberger (2009) articulate the specific needs of immigrant students in the following way:

Immigrant students, if they are indeed to be incorporated into the social and economic fabric of the nation, need the same rich and broad curriculum that most parents contend they want for their children. But they also need more: They need additional instructional time to acquire English skills and the standard curriculum; they need explicit instruction in *academic* English; they need explicit instruction in the culture and norms of American society; they need emotional and often social service support to address the traumas of refugee and migrant experiences; and they need a roadmap for navigating the educational and occupational systems in this country. In spite of this, they often receive *less*, not more, instructional attention (Gándara & Rumberger, 2009, p. 755).

This quote highlights the complexity involved in providing effective programs for ELL youth and young adults. While underlining the importance of the acquisition of academic language skills, it also points out the critical importance of providing students with multifaceted supports. An effective immersion program may therefore be one that utilizes increased class time to provide students with assistance in adapting to cultural and educational norms, counseling support on personal and academic matters, as well as opportunities to gain skills to successfully navigate the educational systems of the United States. In addition, for adult English language learners, scholars suggest that effective instruction must also provide an environment that fosters positive beliefs about oneself, self-efficacy, willingness to communicate, low levels of language anxiety, and self-confidence (Gardner, Tremblay, and Masgoret, 1997). Importantly, Marinova-Todd, Marshall, and Snow (2000) highlight that if adult learners engage in learning the second language in a supportive environment with ample motivation, time, and energy; they will be met with success in learning the second language.

## **Developmental English Programming in Higher Education**

At the community college, academic ESL, remedial reading, and remedial<sup>19</sup> writing instruction all typically fall under the umbrella of “basic” or “developmental” skills (Grubb, et al., 2011). Although all approach teaching and learning in different ways, the three instructional pathways are intended to help degree-seeking students acquire the academic skills and competencies needed to be successful in college courses. In this context, the literature examining the impact of remedial reading and writing courses can potentially illuminate ways in which academic ESL pathways affect student outcomes. In this light, I review the empirical literature that has used quasi-experimental methods to examine the impacts of remedial reading and remedial writing on student outcomes. It is important to draw from this literature base as there is scant rigorous research specifically studying the impact of academic ESL—to date only Hodara (2012) has explored the impact of ESL on language minority students using a quasi-experimental approach. Research that exists on the impact of immersion programs in postsecondary education provides only descriptive evidence comparing language learning gains with the standard traditional language courses—these studies find positive impacts on learning gains for learners in intensive English as a foreign language programs (Serrano, 2011; Serrano & Muños, 2007).

Using a dataset similar to the one used in this study, Hodara (2012) employed a difference-in-difference instrumental variable approach to identify the causal impact of starting in an ESL sequence versus the developmental writing sequence for language minorities. Specifically, she exploits the near random variation in the probability of placement into ESL versus developmental writing that occurs when a language minority student with a score of 6 on the writing exam and an ESL flag attends a college with a high probability of ESL placement versus one with a low probability of ESL placement. She then controls for potential bias that

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<sup>19</sup> The terms “remedial” and “developmental” are used interchangeably throughout the paper.

may results from unobservable institutional variation between high and low probability colleges by using a difference-in-difference approach; where the first difference estimates the likelihood of enrolling into ESL for language minority students who received a score of 6 and an ESL flag on their writing exam. The second difference represents the difference in the outcome between language minority students at the two different types of colleges who did not enroll in ESL. Results of this study indicated that taking ESL versus developmental writing has no impact on passing the writing exit exam or taking and passing college English after three years of entry. She does however find that students taking ESL earn between 3.3 and 3.7 fewer college credits after their first year but this effect is no longer significant after three years. She finds that the first year negative impacts on credit accumulation are driven by first and second generation immigrant students. Finally, she finds that there is no impact of taking ESL on dropping out, transferring, or earning a degree within the LUCCS system. She concludes that these mostly null findings are possibly a result of the fact that ESL and developmental writing sequences appear to teach the same content, namely, both are preparing students to pass the same remedial writing exit exam; the difference in credits may arise because students placing into the upper level of ESL course may still be required to take developmental writing upon completing—essentially making the route to college courses even longer than it would have been had they started in developmental writing.

The study by Hodara (2012) provides great insight into the current study as it specifically examined the impact of ESL on subsequent student outcomes. However, one limitation of its applicability to the current study is that it only examined the impact of the upper level ESL courses compared to upper level developmental English courses. This study, on the other hand examines ESL pathways for students placing into the lowest levels. The two ESL programming

options in this study serve students at the lower end of the academic English reading and writing skill distribution. As such, studies examining the causal impact of placement into the lower levels of remediation or more intensive remedial sequences—by assigning students into both reading and writing remediation versus just writing remediation—are also especially informative.

To evaluate the impacts of lower levels of English remediation (Boatman & Long, 2010; Xu, forthcoming) and more intensive remedial English sequences (Hodara, 2012; Scott-Clayton & Rodríguez, 2012) studies have used a regression-discontinuity design to address student selection issues. The intuition behind the use of regression-discontinuity is that within a narrow range of the cutoff used for placement into a lower level course (or more intensive remedial treatment), individuals are assumed to be equally likely to have been assigned to a lower level course (or more intensive remedial treatment). Thus if nothing other than the placement policy varies discontinuously at the cutoff, the causal effect of the lower level course (more intensive remedial treatment) can be defined as the difference between two regression functions at the cutoff—where one is estimated by approaching the cutoff from above and the other is estimated by approaching the cutoff from below.

The study by Boatman and Long (2010) used data from the state of Tennessee public colleges and universities to examine the impact of different levels of developmental math, reading, and writing. They find that students who placed into the highest level of developmental reading versus college level English earned 7 fewer college credits after three years, while those who placed into the lowest level of reading versus the highest level of reading earned 4.6 fewer credits. In examining placement into remedial writing versus college level writing, they find that students placing into remedial writing were less likely to enroll a second semester and they



earned 5.2 fewer college credits; the differences in college credits for students who place into the lowest level versus the highest level of remedial writing were not statistically significant but they did find that students in the lowest level were more likely to have earned a degree after six years. In contrast, Xu (forthcoming) using data from state of Virginia community colleges, finds that placing into the lowest levels of remediation increases the probability of dropping out within the first year in both reading and writing—this impact is equal to 13 percentage points for reading and 18 percentage points for writing remediation. She also finds that placing into the lowest level of reading remediation reduces the probability of taking college English by 16 percentage points and has no significant impact on the likelihood of passing the course. While findings from Boatman and Long (2010) suggest that students with the weakest English writing skills may benefit from an additional remedial course, the findings by Xu (forthcoming) provide contrasting evidence suggesting that the direction of the impact for students with the weakest skills is far from conclusive.

A separate study by Hodara (2012), which used the same dataset used in her evaluation of ESL, examines the impact of reading and writing remediation versus just writing for the subgroup of students identified as language minority. Using a regression-discontinuity approach, she finds that students who place into both reading and writing have a 4 percentage point increased likelihood of taking college English and a 5 percentage point decreased likelihood of dropping out. She hypothesizes that language minority students placing in two versus one remedial course have such weak skills that they are benefiting greatly from the extra support and a more intense treatment (the total number of hours of instruction is greater). The study by Scott-Clayton and Rodríguez (2012) extends this study by examining the impact of assignment to reading and writing remediation versus just writing for at all students. Using a regression-

discontinuity design and data from on over 100,000 students in a large urban community college system they find that students placing into two remedial subjects are 3 percentage points more likely to enroll immediately and are more likely to enroll in remedial reading and remedial writing. Unlike Hodara (2012) they find no evidence of positive effects on the likelihood of taking college English or the decreased likelihood of dropping out.

The next set of studies that may be informative to this research are those whom have examined the impact of placement into remedial English versus college level English. Similar to Boatman and Long (2010), Hodara (2012) and Scott-Clayton and Rodríguez (2012), these studies identified the causal impact of English remediation versus college English on various college and labor market outcomes using a regression-discontinuity. Results of these studies can then be interpreted as the effect of remedial assignment for students who just fail the placement exam. It must be noted, however, that the extent to which their findings may apply to this study may be lower because they specifically examine the impacts of remediation on the highest achieving among the remedial students.

Evidence from regression-discontinuity studies examining the impact of remedial English for students on the margin of just needing remediation has been mostly negative or null. One of the earliest regression-discontinuity studies was conducted by Calcagno and Long (2008) using a sample of over 100,000 students from the state of Florida. Results of this study suggest that after limiting the sample to institutions that do not allow re-testing, assignment to remedial reading has no significant impact on passing college level English, fall-to-fall retention, credit accumulation, degree completion or transfer to a public four-year Florida college. Similar results were found using another statewide dataset. Namely, using a sample of over 250,000 degree seeking freshman at public two and four-year colleges students in Texas, Martorell and McFarlin

(2011) examine the impact of reading remediation on total credits completed, persistence, degree completion, transfer, and labor market earnings measured after seven years. For all outcomes and at both two and four-year colleges, they find negative and insignificant effects of reading remediation for those at the margin of taking college level English. The study by Xu (forthcoming) also examined the impact of remediation for those at the margin of needing remediation. She too finds no evidence that reading and writing remediation has any significant impact on subsequent college outcomes. The only exception is a marginally significant and negative impact, equal to 10 percentage points, on five-year degree completion and transfer for reading remediation.

Next, the study by Scott-Clayton and Rodríguez (2012) examines this impact on a sample it identifies as potentially missassigned to remediation because this group of students failed the reading exam but passed the more “*difficult*” writing exam—as such the reading scores may underrepresent their true ability. Their results suggest that student’s placement into remedial reading results in large and significant negative impacts on college English enrollment and performance, negative effects on college level credits completed, negative effects on degree attainment and positive effects of dropping out. Particularly, they find that students assigned to remedial reading are 16 percentage points less likely to take college level English and 14 percentage points less likely to earn a “C” or better in college English after three years. Students assigned to developmental reading also take 4 fewer college level credits, are 5 percentage points less likely to earn an associate’s degree, and 8 percentage points more likely to drop out after three years (significant at the 10% level). For this group of students, who likely did not need remediation, the large and significant negative effects are noted as indicative of potential

discouragement and diversion effects which may partly arise as a consequence of being unable to take college English which is a pre-requisite for other college courses.

Finally, Bettinger and Long (2009) have also examined the impact of remediation using a dataset with over 13,000 first-time degree seeking traditional age freshman who took the ACT and enrolled in one of Ohio's public two- and four-year colleges. To identify the causal effect of remediation, they apply an instrumental variables approach. Using this method, the researchers take advantage of variation in the placement policies across different colleges by using distance to instrument for the likelihood of remediation. They find some of the most promising evidence on the impact of remediation. In particular they find that students who were more likely to be remediated in English were less likely to dropout within their first year; less likely to transfer-down; and were more likely to complete bachelor's degrees within four years. On the other hand, students more likely to be remediated in English were also found to earn significantly fewer credits. These overly positive yet mixed results might be a result of their sample selection—they include in their study only students who have taken the ACT college entrance exam. A typical community college student does not generally take this exam (it is not required for admission to the college) unless they intended to enter a four year college but for some reason decided to begin their studies at the community college—hence, these pre-treatment degree aspirations may be driving the positive effects on early college outcomes and bachelor's degree completion.

### **Summary**

In sum, the literature has identified a series of factors that are considered to be important in influencing the college enrollment pathways and subsequent college outcomes of immigrant students, language minorities, and ELLs. Awareness of the issues faced by these students is

important for several reasons. First, understanding these issues provides insight into the academic, linguistic, and socio-economic needs of this group of students; knowledge of this information should enable programs and institutions to better serve students. Second, in examining outcomes of these students, controlling for the factors that influence postsecondary choices and outcomes informs and strengthens empirical strategies and their respective findings.

The literature also suggests that provided with the appropriate supports and instructional conditions immersion programs can potentially help adult English language learners acquire academic language proficiency. There is little causal evidence however, on the outcomes of adults ELLs. Drawing on the research on developmental education however, provides some insight as to potential impacts of ESL. The quantitative evidence on the impact of remediation is not conclusive as to whether remediation is an effective treatment for students who are assessed as not being college ready. While findings for those on the margin of needing remediation have been rather negative, the positive findings from the state of Ohio provide a glimmer of hope for developmental remedial proponents. The studies that have looked at the impacts of different levels of remediation and more intense treatments, however do provide suggestive evidence of positive impacts. However, these positive findings are not conclusive as other studies find null or negative impacts of lower levels of English remediation. Therefore, given the available evidence on English remediation, it is not entirely clear what one should expect to find when examining the impact on ESL programming on future student outcomes.

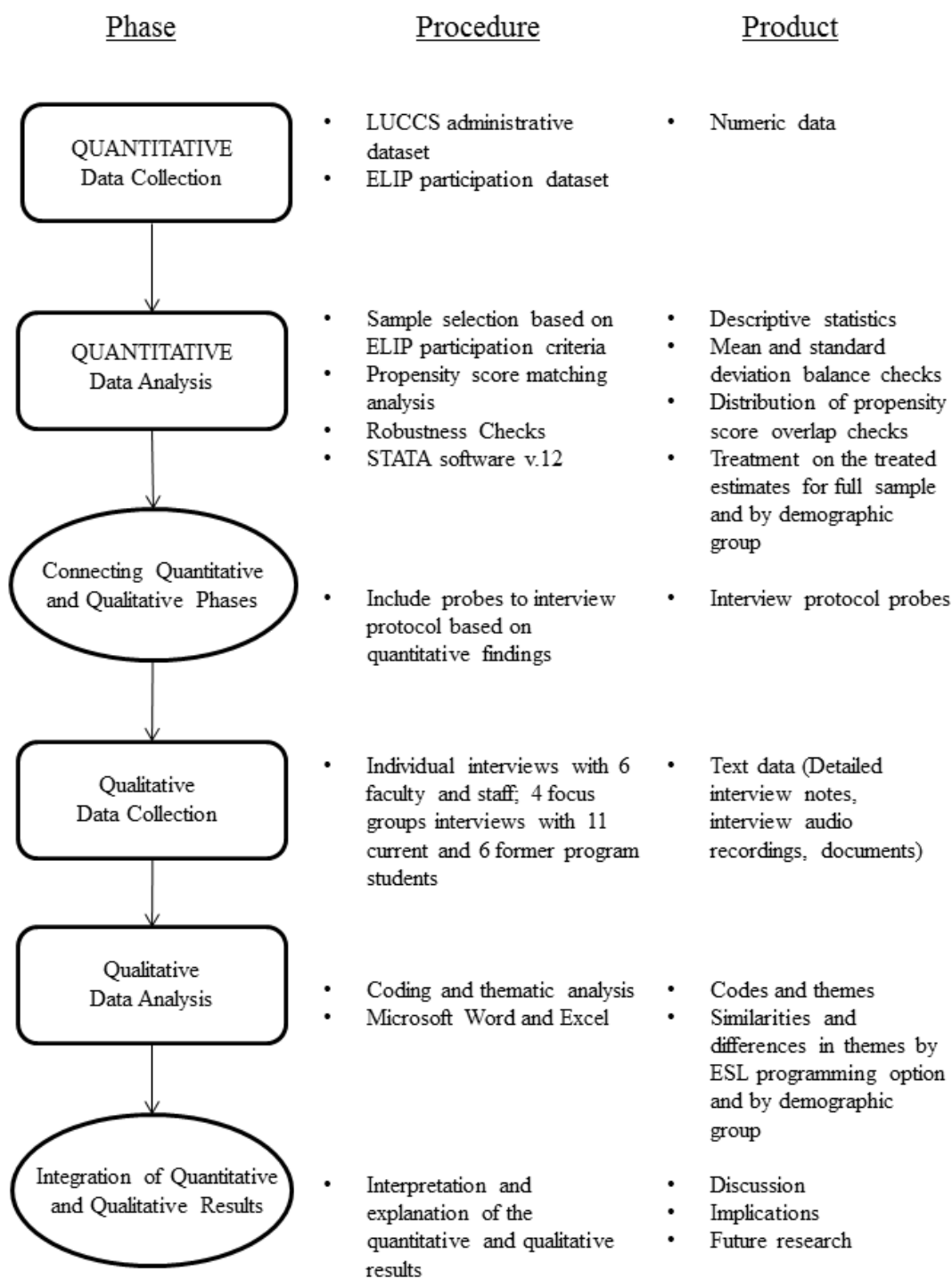
### CHAPTER 3

#### CONTEXT AND DATA

To examine how English Language Learners seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs, a case study employing an explanatory mixed method design was used. A case study methodology was the most appropriate for this dissertation as this approach involves conducting of an intensive description and analysis of a system bounded by time or place (Merriam, 1998; Yin, 2009). Particularly, this dissertation provides a case study of academic ESL pathways within a Large Urban Community College System. The explanatory sequential mixed methods involved collecting and analyzing quantitative data first and then explaining the quantitative results with in-depth qualitative data (Creswell & Plano Clark, 2011; Ivankova, Creswell & Stick, 2006; Tashakkori & Teddlie, 1998). Figure 2 provides a graphical representation of the research activities undertaken as part of the research design. Capital letters on the quantitative data collection and analysis denotes that priority was given to this phase of the study. Bulleted lists next to each phase denote the procedures undertaken and the product from each stage in the study.

This chapter is organized as follows: it begins by providing detailed description of the data used in the quantitative phase of the study. Next, it provides a description of the data used in the qualitative phase. This chapter concludes with a summary and by introducing the chapters in which findings are reported.

**Figure 3.** Graphical Representation of the Explanatory Sequential Mixed Methods Design<sup>20</sup>



<sup>20</sup> Figure adapted from Ivankova, Creswell & Stick (2006).

## Quantitative Data

This dissertation uses quantitative data provided through a restricted-use agreement from LUCCS. The database contains longitudinal records for 88,377 first-time degree-seeking students who applied and took a placement test at LUCCS between fall 2001 and fall 2005. Student enrollment, performance, and degree outcomes in LUCCS are followed for five years until summer 2010. I was able to track student outcomes, even if the student transferred to other two-year or four-year institutions within the college system.<sup>21</sup> The dataset includes student-level information on demographics including country of origin and native language, high school background including transcripts, college course enrollment and performance, and degree attainment. The database also includes information on student performance in reading, writing, and math placement tests, which are used to place students into remedial or college level courses in math and English, including ESL courses.<sup>22</sup> In addition, information on ELIP tuition and full-time LUCCS tuition was collected from ELIP program administrators and college catalogs from 2001 to 2005. This information was used to construct a variable representing the tuition cost incurred by students.<sup>23</sup>

A separate data file, provided by LUCCS, was used to identify ELIP participants. This supplemental ELIP dataset contains a flag indicating program participation as well as information on the program site, the last term enrolled in the program, and the term in which

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<sup>21</sup> Unfortunately, if students transfer out of the LUCCS system, for example to another public, private, or for-profit college, they cannot be distinguished from dropouts.

<sup>22</sup> Appendix A contains the list of quantitative data elements provided by LUCCS.

<sup>23</sup> The cost ratio is defined as the cost of ELIP tuition divided by the cost of full-time tuition at the community college for a given semester. This is intended to serve as a proxy for the cost that a student incurs if they choose ELIP versus entering as full-time students in the traditional ESL sequence. The cost ratio varies by citizenship status (resident and non-resident tuition), across years (changes in tuition over time), and across colleges (due to different academic calendars and their associated tuition and fees).



participants enrolled as degree-seeking students at a LUCCS college. Traditional ESL students were identified as such if they enrolled in a course in the traditional ESL sequence within three years of entry and had no prior ELIP experience.<sup>24</sup> This study refers to students who participated in ELIP or the traditional ESL sequence as English Language Learners (ELLs).

### **Sample**

Students are included in the sample even if they did not ultimately enroll in the college after applying and being assessed. Having data on all students who apply and take an assessment test is essential given that ELIP is a pre-college program where participation is largely determined by performance on the LUCCS writing placement test.

As was described in Figure 2, upon entering an ESL pathway, students in ELIP defer enrollment in LUCCS for up to one year while those who begin in traditional ESL begin as degree-seeking students in LUCCS immediately upon enrolling. This difference in enrollment status suggests that standard college enrollment data which uses cohort of entry as the indicator of the first term would not capture the point when an ELIP student first entered the ESL pathway. Therefore, to more equitably examine and compare the outcomes of students entering these ESL pathways it is important to track students' college outcomes from the time they first take the placement test and enter ELIP or traditional ESL. The intuition behind this approach is that this is the point where the counterfactual condition is determined—namely, at this point we can with more certainty infer what would have happened to an ELIP student had they not participated in ELIP and instead participated in the traditional ESL sequence, and vice versa.

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<sup>24</sup> To allow for possible delays college enrollment and ESL course-taking, the comparison group for this dissertation included all students who enrolled in traditional ESL within three years. A separate analysis using only ELLs who enrolled in ESL within the first year finds qualitatively and quantitatively similar results because approximately 95% of ELLs in this sample enroll in traditional ESL courses within their first year (See Appendix B for results).

Further, the pre-college nature of ELIP also implies some students may actually never enroll as degree-seeking students in LUCCS. During the period of time covered by this study, about 20 percent (N=777) of the participant sample did not make the transition from ELIP to LUCCS as degree-seeking students. The ELIP students who do not ultimately enroll in LUCCS are included in this analysis and all their outcomes are recorded as zero. Assuming all students intend to pursue a degree at LUCCS, excluding these students from an analysis may produce biased results, as ELIP students who participate, complete, and subsequently make the transition to LUCCS are likely different in ways that also affect the outcomes.<sup>25</sup> Nevertheless, because it is possible that not all non-enrollees may have originally intended to pursue a degree in LUCCS, for example if they only enrolled to learn English or originally intended to pursue a degree outside the LUCCS system, a separate analysis is conducted using the sample conditional on LUCCS enrollment.

A total of 15,256 first-time degree-seeking ELLs applied and took a placement test in LUCCS between fall 2001 and fall 2005. These students comprise 17 percent of the total LUCCS sample. Of these students, 4,520 participated in ELIP and 10,736 enrolled in the traditional ESL sequence. Following Angrist and Pischke's (2009) proposition that it is possible to obtain better estimates of treatment effects if the analysis sample is restricted using information of program admissions criteria, the analysis sample was restricted in the following ways. First, college administrators informed me that students placing into the lowest levels of ESL—as indicated by scoring a 4 or less in the LUCCS ACT Writing placement exam—are the target population for ELIP. Thus, the sample is restricted to students scoring a 4 or less on the LUCCS ACT Writing placement exam. Next, because ELIP is a full-time program, the traditional ESL group was also

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<sup>25</sup> The last two columns of Table 2 contain descriptive characteristics of this group. A discussion of these groups is also provided later in this Chapter.

limited to those who enrolled full time during their first term in college. Finally, given that individuals with a student visa are not eligible for ELIP, these students are excluded from the analysis sample. After the sample restrictions, the final analysis sample contains 9,258 ELLs, 3,800 who began in ELIP and 5,458 who began in traditional ESL.

It is important to note that the sample restrictions made limit the external validity of this study to ELLs with the highest academic English language and literacy needs (as indicated by a placement into the lowest levels of the academic ESL sequence), who enroll full-time in the first semester, and were not international students. Therefore, results may not be generalizable to the full spectrum of English language learners; including those who may possess higher levels of academic English language and literacy skills, enroll part-time, or are international students.

### **Analysis Covariates**

Table 2 provides descriptive information for the covariates used in the quantitative analysis of this dissertation. All covariates were measured before treatment condition was established. Covariates were selected for inclusion in the study because the literature on immigrants, language minorities, and ELLs indicates they either directly measure or proxy for important factors that influence college enrollment pathways as well as subsequent student outcomes. For example, factors such as gender, race/ethnicity, age, native language, citizenship status, region of origin, prior educational experience, college tuition and performance on college placement tests are all considered to be important factors influencing college enrollment pathways and subsequent college outcomes (Almon, 2012; Bailey & Weininger, 2002; Bunch, 2009; Bunch & Enderis, 2012; Erisman & Looney, 2007; Hagy & Staniec, 2003; Hodara, 2012; Suárez-Orozco, Pimentel, & Martin, 2009). In addition, college enrollment pathways and

outcomes may also be influenced by the timing of college application as well as the students' own assessment of skills, as indicated by delays in applying to college and the selection of a four-year college as a first choice on the college admissions application. Furthermore, the intended program of study, as specified on the LUCCS application, may also influence college pathways and subsequent college outcomes. This variable, for example, may capture some of the effect of students' motivation for learning English due to links between program choice, career aspirations, and future expected returns. Also, while all colleges offered both ESL programming options over the academic years covered in the study, it is possible that there was variation in program and college characteristics across colleges and across years. Therefore, this study also includes controls for college and cohort. Finally, treatment status and subsequent college outcomes were also hypothesized to be influenced by the interaction of being a graduate of a foreign high school with both being a permanent resident of the United States and taking college preparatory math courses while in high school.<sup>26</sup> The first potentially signals an intention to learn English and pursue a college education due to stronger ties to the host country; the latter potentially proxies for academic preparation in the country of origin.<sup>27</sup>

### **Characteristics of LUCCS Students**

In the first column of Table 2, I present descriptive statistics for the full sample of individuals (N=88,377) who applied and took a placement test at LUCCS between fall 2001 and fall 2005. These statistics noticeably reflect great diversity in terms of gender, race/ethnicity, age, citizenship status and region of origin: 58% of were female, 34% were Latino, 29% were

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<sup>26</sup> These interactions were hypothesized to be important as their interaction helped to achieve better balance during the propensity score matching process.

<sup>27</sup> Qualitative fieldwork conducted as part of this study found that graduates of foreign high schools are perceived by students to have had more rigorous high school preparation.

non-Hispanic, Black, 10% were Asian Pacific Islander, 14% were non-Hispanic White, and 78% were age 23 or younger. In addition, 53% were U.S. citizens, another 22% were U.S. permanent residents and 48% identified English as their primary language. LUCCS applicants also originate from all over the world, only 39% identify being from the United States; the Caribbean is the non-U.S. region most highly represented (17%). In fact, the foreign born at LUCCS came from 190 different countries and spoke over 150 different languages. Furthermore, there was also great diversity in terms of prior academic background. Overall, 43% of applicants were graduates of a high school in the same urban area, nearly 20% held a GED, and 14% were graduates of foreign high schools. In terms of prior academic preparation, about two thirds of applicants also took college prep English and Math. Overall, about one-third of all LUCCS applicants had their writing test flagged as ESL, they received an average writing score of 5.4 on their writing placement exam and about 36% were assigned to remedial reading and 67% were assigned to remedial math.

It is important to note that with the exception of gender composition, these characteristics also indicate that LUCCS applicants and test-takers are not typical of community college students nationally. In contrast to LUCCS, at community colleges nationwide during the 2002 academic year, just over 60% of students identified as non-Hispanic White, 72% were age 23 or younger, 93% were U.S. citizens, 6% were U.S. permanent residents and 88% identified English as their primary language (NCES, 2012).<sup>28</sup>

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<sup>28</sup> Authors' calculations using the Beginning Postsecondary Students (2003-04) dataset, via NCES QuickStats.

### Characteristics of All LUCCS English Language Learners

The second column of Table 2 provides descriptive statistics for the full sample of LUCCS applicants (N=15,256) who were identified in the dataset as English language learners.<sup>29</sup> There are some clear differences between the group of ELLs and the full sample of LUCCS applicants. First, in terms of race/ethnicity, among ELLs there were more Latinos (45% vs. 34%), fewer non-Hispanic Blacks (10% vs. 29%), and more Asian Pacific Islanders (24% vs. 10%); non-Hispanic Whites were about equally represented (12% vs. 14%). ELLs were also slightly older—they were on average 24 years old, compared to 22 for the full sample of LUCCS applicants. There were also vast differences in terms of citizenship status: there were much fewer ELLs that were U.S. citizens (16% vs. 53%) and many more who were permanent residents (47% vs. 22%). As would be expected, only 10% identified English as their primary language and nearly 40% identified Spanish as their primary language. Compared to the full sample of LUCCS applicants, greater proportions of ELLs identified themselves as being from Asia, the Caribbean, and South America. Unsurprisingly, fewer of them were graduates of local urban high schools (25% vs. 43%), many more were graduates of foreign high schools (41% vs. 14%), fewer took college-prep English (28% vs. 65%) but they took college-prep math at similar rates (65% vs. 67%). Next, as would be expected, ELLs received lower scores in the writing placement test (3.9 vs. 5.4) and many more were assigned to remedial reading (72% vs. 35%), but slightly fewer were assigned to remedial math (61% vs. 67%). These last indicators suggest that while ELLs may have weaker English skills their quantitative skills may be stronger than those of the average LUCCS applicant.

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<sup>29</sup> This study refers to students who participated in ELIP or the traditional ESL sequence as English Language Learners (ELLs). See data description below for more details.

### **English Language Learners: Characteristics of Analysis Sample**

The fifth and sixth columns of Table 2 present descriptive information for the subset of ELLs most likely to be targeted for ELIP. This sample is used for all quantitative analyses therefore the following discussion is provided in more detail. Overall, these descriptive statistics illustrate that there are clear and significant differences in baseline covariates for students participating in ELIP compared to the traditional ESL sequence. ELIP students tend to be more female (56% vs. 68%), Latino (45% vs. 60%), and older in age (24 vs. 27 years old). Both ESL programming options have permanent residents as the most represented citizenship category; however, the share in ELIP is nearly 10 percentage points higher. Also, compared to ELIP, the traditional ESL sequence has a higher proportion of students who are U.S. citizens (5 percentage points higher) and who have visas (8 percentage points higher). In terms of language background and region of origin, ELIP has a higher proportion of Spanish language and Caribbean students and fewer students from Asia.

It is also clear that graduates of local urban public high schools make up a higher proportion of those students who begin in the traditional ESL sequence (a 19 percentage point difference), while those who graduated from a foreign high school are more highly represented in ELIP (55% vs. 36%). Also, ELIP students take college prep English at lower rates than students starting in a traditional ESL sequence (about a 17 percentage point difference). Compared with the traditional ESL sequence, a higher proportion of students in ELIP were assigned to developmental reading (73% vs. 89%) and developmental math (62% vs. 71%). Also, a higher proportion of students in the traditional ESL sequence selected a LUCCS four-year college as their first choice on the LUCCS application (17% vs. 9%). Students in ELIP also delayed college application and placement testing to a greater extent—only 9% had no delay

versus 34% in traditional ESL. Students in both ESL programming options tended to be equally represented across the various program of study options. The program tuition cost ratio was slightly higher for students in traditional ESL. Finally, there were more foreign high school graduates who were permanent residents in ELIP than in traditional ESL (41% vs. 20%), and more of the foreign high school graduates in ELIP also took college prep high school math (50% vs. 31%). Of the nearly 75 covariates used in this study, only a handful did not have differences that were significantly different from zero at the 5% level (using a t-test)—the table identifies these covariates using bold numbers in column 6.

### **ELIP Enrollees and Non-Enrollees**

The last two columns of Table 2 present descriptive information for ELIP students who enrolled (N=3,023) and those who did not enroll (N=777) in LUCCS as degree-seeking students after ELIP participation. To address the concern that results may be biased downward if not all students who participate in ELIP truthfully intended to pursue a degree at LUCCS this study separately conducted an analysis of college outcomes conditional on enrollment in LUCCS. Here, I present basic descriptive information on both groups of students.

Overall, descriptive statistics illustrate that among basic demographic lines, enrollees and non-enrollees were similarly represented in terms of gender as well as among Latinos, and non-Hispanic Blacks; however, there were fewer non-enrollees who were Asian Pacific Islanders (7% vs. 15%) and more non-Hispanic Whites (17% vs. 13%). ELIP non-enrollees were also about four years older than enrollees with over two-thirds being age 24 or older. Non-Enrollees were also more highly represented among U.S. citizens (19% vs. 10%), U.S. permanent residents (64% vs. 54%), and among the undocumented (6% vs. 3%). In terms of language background



and region of origin, non-enrollees were more highly represented among those of Spanish language background, the Caribbean, South America, and Europe. ELIP non-enrollees were also more represented among graduates of a foreign high school (69% vs. 51%) and students with a GED (22% vs. 14%). Both groups took college-prep English at about similar rates but non-enrollees took college-prep math at higher rates (72% vs. 58%). Students were also equally likely to place into remedial reading but non-enrollees were less likely to be placed into remedial math. Also, a higher proportion of ELIP enrollees selected a LUCCS four-year college as their first choice on the LUCCS application (10% vs. 6%). Students in ELIP enrollees also delayed college application and placement testing to a greater extent—only 8% had no delay versus 12% of non-enrollees. Both groups of students tended to choose business/marketing and STEM majors at about the same rates, but non-enrollees tended to choose social liberal arts (39% vs. 30%), health and related occupations (19% vs. 13%) and service/technical careers (12% vs. 7%) at higher rates. The program tuition cost ratio was higher for non-enrollees, meaning non-enrollees faced slightly higher direct tuition costs. Finally, there were more foreign high school graduates who were permanent residents in ELIP than in traditional ESL (41% vs. 20%), and more of the foreign high school graduates who also took college prep high school math (50% vs. 31%).

While the non-enrollment condition of ELIP participants has a negative overall program impact when examining college outcomes, we cannot discard the possibility that ELIP may be producing positive impacts when outcomes are defined more broadly. These descriptive statistics suggest that non-enrollees possess stronger quantitative skills but have weaker English skills. If an ELIP non-enrollee enrolled in a four-year college outside of LUCCS, this would be considered a positive outcome for ELIP but would not be captured in the current dataset. In addition, it is possible that ELIP participation in itself may have had human capital benefits if the

individuals' English language and literacy skills improved in such a way that they were able to obtain a better job. Also, given the higher share of non-enrollees that are U.S. permanent residents, an improvement in English language skills may also potentially influence their political participation if the English skills acquired subsequently help them obtain U.S. citizenship.

**Table 2. Descriptive Statistics for Pretreatment Covariates**

Pretreatment Covariates	Full Sample				Analysis Sample		ELIP Analysis Sample	
	All CC Students	ELL's	Trad. ESL	ELIP	Trad. ESL	ELIP	Enrollees	Non-Enrollees
<b>Demographic Background</b>								
Female	0.584	0.606	0.575	0.678	0.564	0.677	0.671	<b>0.699</b>
Latino	0.335	0.451	0.395	0.584	0.457	0.604	0.602	<b>0.611</b>
Black, Non-Hispanic	0.291	0.097	0.113	0.061	0.107	0.057	0.059	<b>0.048</b>
Asian, Pacific Islander	0.103	0.240	0.281	0.141	0.240	0.130	0.146	0.068
White, Non-Hispanic	0.140	0.122	0.113	0.143	0.104	0.139	0.133	0.165
Other Race	0.069	0.042	0.043	0.042	0.049	0.028	0.030	<b>0.021</b>
Age	21.87	24.22	23.15	26.78	23.68	26.95	26.150	30.096
Age 23 or less	0.782	0.643	0.702	0.501	0.672	0.490	0.537	0.310
Age 24 or more	0.218	0.357	0.298	0.498	0.328	0.508	0.463	0.683
<b>Citizenship Status</b>								
US Citizen	0.532	0.158	0.177	0.115	0.171	0.119	0.102	0.185
Visa	0.065	0.126	0.157	0.053	0.132	0.046	0.042	0.059
Refugee	0.006	0.021	0.014	0.038	0.014	0.037	0.033	0.053
Perminent Resident	0.218	0.468	0.427	0.567	0.458	0.563	0.543	0.644
Undocumented	0.039	0.054	0.059	0.041	0.050	<b>0.043</b>	0.038	0.059
Citizenship Status Unknown	0.132	0.162	0.152	0.185	0.176	0.192	0.241	0.000
<b>Language Background</b>								
English	0.478	0.098	0.127	0.029	0.098	0.026	0.023	0.040
Spanish	0.255	0.378	0.331	0.489	0.370	0.501	0.459	0.664
Other	0.477	0.416	0.466	0.298	0.408	0.279	0.274	<b>0.299</b>
Unknown	0.292	0.239	0.232	0.257	0.256	<b>0.267</b>	0.312	0.093
<b>Region of Origin</b>								
U.S.A	0.389	0.048	0.061	0.017	0.052	0.017	0.016	<b>0.022</b>
Asia	0.096	0.256	0.291	0.170	0.256	0.159	0.165	0.133
Europe	0.051	0.074	0.070	0.082	0.059	0.080	0.068	0.125
Africa	0.029	0.044	0.052	0.023	0.046	0.020	0.019	<b>0.023</b>
Caribbean	0.169	0.233	0.195	0.321	0.238	0.336	0.314	0.420
Mexico and Central America	0.021	0.035	0.034	0.037	0.037	<b>0.036</b>	0.034	<b>0.044</b>
South America	0.073	0.137	0.130	0.154	0.122	0.149	0.131	0.218
Unknown	0.171	0.176	0.167	0.196	0.190	<b>0.203</b>	0.251	0.017
<b>High School Background</b>								
NYC Public High School	0.426	0.252	0.317	0.097	0.270	0.085	0.094	0.051
Foreign High School	0.139	0.405	0.345	0.548	0.356	0.549	0.512	0.691
GED	0.196	0.143	0.140	0.150	0.150	<b>0.153</b>	0.136	0.220
Other U.S. High School	0.062	0.031	0.036	0.019	0.038	0.019	0.015	0.036
High school missing	0.132	0.162	0.152	0.185	0.176	0.192	0.241	0.000
Took college-prep English	0.647	0.278	0.349	0.110	0.276	0.102	0.105	<b>0.091</b>
Did not take college-prep English	0.176	0.513	0.446	0.671	0.493	0.670	0.609	0.909
College-prep English unknown	0.177	0.209	0.205	0.219	0.231	0.228	0.286	0.000
Took college-prep math	0.673	0.654	0.667	0.622	0.620	<b>0.611</b>	0.584	0.718
Did not take college-prep math	0.149	0.137	0.128	0.158	0.150	<b>0.161</b>	0.130	0.282
College-prep math unknown	0.178	0.209	0.204	0.219	0.230	<b>0.228</b>	0.286	0.000

**Table 2. Descriptive Statistics for Pretreatment Covariates, continued**

Pretreatment Covariates	Full Sample				Analysis Sample		ELIP Analysis Sample	
	All CC Students	ELL's	Trad. ESL	ELIP	Trad. ESL	ELIP	Enrollees	Non-Enrollees
<b>LUCCS Placement Test</b>								
Writing test flagged ESL	0.321	0.897	0.885	0.925	0.971	0.978	0.978	<b>0.979</b>
Writing placement score	5.439	3.918	4.298	3.051	3.459	2.683	2.744	2.448
Assigned to Dev. Reading	0.356	0.721	0.657	0.873	0.729	0.892	0.891	<b>0.894</b>
Reading placement score	66.87	50.78	54.89	41.18	50.89	39.88	40.310	38.139
Assigned to Dev. Math	0.667	0.605	0.570	0.688	0.622	0.711	0.701	0.752
Math placement score, standardized	0.019	0.085	0.241	-0.271	0.055	-0.337	-0.270	-0.603
<b>LUCCS Application &amp; Program Choice</b>								
No delay in college application/testing	0.511	0.300	0.385	0.097	0.341	0.091	0.084	0.121
Med. delay in college application/testing	0.261	0.319	0.298	0.369	0.308	0.366	0.400	0.233
Big delay in college application/testing	0.218	0.377	0.312	0.530	0.345	0.539	0.511	0.646
4-year college was 1st choice	0.259	0.171	0.203	0.096	0.172	0.092	0.101	0.057
Business/Marketing	0.157	0.183	0.188	0.169	0.176	0.165	0.160	<b>0.183</b>
Health and Related Occupations	0.164	0.151	0.154	0.143	0.141	<b>0.142</b>	0.130	0.188
Service/Technical	0.095	0.091	0.096	0.077	0.097	<b>0.076</b>	0.065	0.116
Social Liberal Arts	0.351	0.297	0.291	0.310	0.288	0.315	0.295	0.394
STEM	0.097	0.117	0.118	0.113	0.121	<b>0.109</b>	0.107	<b>0.115</b>
Program Unknown	0.136	0.163	0.153	0.187	0.177	0.194	0.242	0.005
<b>Financial Aid Receipt</b>								
Pell in first term	0.491	0.567	0.571	0.558	0.642	<b>0.568</b>	0.714	0
State Aid in first term	0.398	0.39	0.393	0.384	0.454	<b>0.387</b>	0.487	0
<b>College</b>								
College 1	0.129	0.146	0.110	0.232	0.115	0.245	0.239	0.265
College 2	0.181	0.157	0.193	0.073	0.152	0.069	0.071	0.062
College 3	0.159	0.097	0.074	0.153	0.103	0.149	0.137	0.197
College 4	0.284	0.237	0.262	0.176	0.194	0.163	0.181	0.093
College 5	0.068	0.131	0.119	0.161	0.200	0.179	0.179	0.179
College 6	0.179	0.231	0.243	0.204	0.237	0.195	0.193	0.205
<b>Test Cohort</b>								
2001-02	0.211	0.238	0.237	0.240	0.252	0.227	0.224	0.236
2002-03	0.208	0.215	0.226	0.188	0.227	0.186	0.188	0.179
2003-04	0.211	0.209	0.217	0.189	0.207	0.187	0.180	0.214
2004-05	0.226	0.214	0.199	0.251	0.204	0.264	0.265	0.260
Fall 2005	0.145	0.124	0.121	0.132	0.110	0.137	0.143	0.112
Fall Term	0.724	0.683	0.694	0.657	0.675	0.651	0.655	0.633
<b>Cost Ratio (ELIP fees/Full-time Tuition)</b>								
Cost ratio	0.119	0.129	0.134	0.116	0.125	0.114	0.106	0.142
Cost ratio unknown	0.132	0.162	0.152	0.185	0.176	0.192	0.241	0.000
<b>Interactions</b>								
Foreign HS Grad.*Permanent Resident	0.069	0.237	0.165	0.408	0.199	0.411	1.000	0.486
Foreign HS Grad.*Took College Prep Math	0.120	0.361	0.304	0.498	0.312	0.498	1.000	0.622
Sample Size	88,377	15,256	10,736	4,520	5,458	3,800	3,023	777

Source: Restricted use database covering placement test takers at LUCCS.

Notes: Each of the six columns in Table 2 present descriptive statistics for the following groups: 1) the full sample community college first-time degree seeking applicants who took a placement test within fall 2001 and fall 2005; 2) the subgroup of students identified as ELLs; 3) ELLs who participated in the traditional ESL sequence; 4) ELLs who participated in ELIP; 5) students in the traditional ESL sequence in the restricted analysis sample; 6) students in ELIP in the restricted analysis sample; 7) students in the ELIP analysis sample that enrolled in LUCCS post-ELIP participation; and 8) students in the ELIP analysis sample who did not enroll in LUCCS post-ELIP participation. Bold numbers in Column 6 and Column 8 represent differences in means were not statistically significant at the 5 percent level (ttest).

## Outcome Variables

The quantitative phase of this study examines the effect of participation in ELIP compared to the traditional ESL sequence on college English enrollment and performance, credit accumulation, and college progression and degree outcomes. All outcomes examined are measured within three and five years after taking the placement test. The following discussion presents detailed variable descriptions for each of these outcomes.

***College English Enrollment and Performance.*** Examining the impact of ELIP on college English enrollment and performance is important for several reasons. First, given that one of the primary goals of academic ESL programming at the postsecondary level is to assist students in acquiring the English language and literacy skills needed to perform and do well in college level courses, one would expect that one of the first places to see an impact would be on students taking college level English. We may also expect that students' performance in college English would be influenced by the skills and abilities acquired in academic ESL. Also, the importance of this outcome is further highlighted by the fact that taking and passing college English is a requirement for graduation and a pre-requisite for many courses students must take in order to fulfill degree requirements. As such, the following outcomes are explored:

- Enrolled in college English: Gives a value of 1 if the student enrolled in college English within the specified number of years and a value of 0 otherwise.
- Passed college English: Gives a value of 1 if the student received a grade of "D-" or higher, *pass*, or *satisfactory* in college English within the specified number of years and a value of 0 otherwise.
- Earned a B or higher: Gives a value of 1 if the student received a grade of "B" or higher in college English within the specified number of years and a value of 0 otherwise.

***Credit Accumulation.*** Given that students must complete a minimum number of college level credits to earn a degree, typically 60 for an associate degree, studying the impact of participation in ELIP versus ESL on credit accumulation is also of great importance. This study explores the impact of ELIP participation on two types of credits students can earn at the community college: 1) the total number of equated credits,<sup>30</sup> and 2) the total number of college level credits. It is important to note that equated credits cost students the same amount as college level credits, but equated credits do not count toward a degree.

- Equated credits: Gives the total number of equated credits completed within the specified number of years.
- College level credits: Gives the total number of college level credits completed within the specified number of years.

***College Enrollment and Degree Outcomes.*** Finally, given the important social and economic implications of persisting and completing a college degree, this analysis explores the impact of ELIP participation on three mutually exclusive college enrollment and degree outcomes: 1) whether the student drops out of the LUCCS system, 2) whether the student persists in the LUCCS system, and 3) whether the student earns an associate or bachelor's degree in LUCCS or if they transfer to a LUCCS four-year college.

- Dropped out of LUCCS: Gives a value of 1 if the student is no longer enrolled in LUCCS and if they did not earn a degree and did not transfer to a LUCCS four-year college within the specified number of years and a value of 0 otherwise.

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<sup>30</sup> Equated credits are also commonly referred to as non-credit remedial credits. In this study both terms are used interchangeably.

- Persisted in LUCCS: Gives a value of 1 if the student is still enrolled in the college but has not earned a degree or transferred to a LUCCS four-year college within the specified number of years and a value of 0 otherwise.
- Earned a degree or transferred to LUCCS four-year college: Gives a value of 1 if the student earned a degree or transferred to a LUCCS four-year college within the specified number of years and a value of 0 otherwise.

Table 3 provides descriptive information on the outcomes measured within one, three, and five years. It is important to highlight that a look at college progression and degree outcomes illuminates the importance of focusing the analysis on outcomes measured after three and five years. For example, dropout outcomes measured within one year of taking the placement test indicate that 66 percent of ELIP students are not enrolled in college, compared to 20 percent of traditional ESL students. After three years, however, the dropout rate for ELIP students falls to 54 percent and increases for traditional ESL students to 65 percent. A similar pattern is mirrored with persistence measured within one year. These first-year enrollment patterns are reflective of the fact that ELIP students effectively defer college enrollment after being assessed. Given that ELIP participants defer college enrollment for up to one year, outcomes measured over a longer term are more likely to be reflective of “true” college outcomes. Therefore, the main quantitative analysis only examines and presents findings for outcomes measured after three and five years.

Straightforward comparisons of college outcomes between those who began in the traditional ESL sequence and ELIP reveal that the traditional ESL students take and perform better in college English within three and five years. Among students in the analysis sample, 37 percent of traditional ESL students enrolled in college English within three years compared to 26 percent of ELIP students; after five years, the difference persisted and was equal to 46 percent

compared to 34 percent, respectively. The differences in college English performance follow similar patterns: within five years, 41 (28) percent of traditional ESL students passed (earned a *B* or higher) college English compared to 31 (20) percent of ELIP students. ELIP students were also found to take fewer remedial credits but also accumulate fewer college credits compared with their peers who began in the traditional ESL sequence. In terms of equated credits completed, ELIP students earned an average of 12 equated credits after five years, compared to an average of 19 equated credits for traditional ESL students. After five years, ELIP students earned an average of 28 college credits compared to 39 college credits for those who began in the traditional ESL sequence. After three and five years, ELIP students also dropped out at slightly higher rates than their traditional ESL peers (52% versus 54% after three years and 65% versus 68% after five years). ELIP students, however, persisted at slightly higher rates (38% versus 41% after three years and 10% versus 15% after five years), but completed degrees or transferred at slightly lower rates (10% versus 4% after three years and 25% versus 17% after five years). All differences in mean outcomes were significant at the 1% and 5% level.

Overall, comparisons between these two groups suggest there are important and significant differences in pretreatment student-level characteristics. Differences in means between ELIP and traditional ESL were found to be significant for the overwhelming majority of covariates. Simple differences in outcomes between the groups are therefore unlikely to provide a causal interpretation. Because students were not randomized into the two ESL programming options, selection bias generates a significant problem that could affect causal inferences made about the effect of participating in ELIP versus traditional ESL. This study intends to address selection bias of participants into treatment by using propensity score matching (discussed in Chapter 4).



**Table 3. Descriptive Statistics for College Outcomes**

Outcome	Full Sample				Analysis Sample	
	All CC Students	ELL's	Trad. ESL	ELIP	Trad. ESL	ELIP
<b>College English Enrollment &amp; Performance</b>						
Enrolled w/in 1	0.344	0.088	0.106	0.045	0.037	0.022
Enrolled w/in 3	0.529	0.407	0.458	0.284	0.375	0.255
Enrolled w/in 5	0.565	0.483	0.531	0.369	0.458	0.344
Passed w/in 1	0.270	0.073	0.087	0.039	0.027	0.019
Passed w/in 3	0.447	0.365	0.413	0.252	0.329	0.222
Passed w/in 5	0.487	0.442	0.487	0.337	0.413	0.314
Earned B or higher w/in 1	0.168	0.043	0.052	0.023	0.016	0.010
Earned B or higher w/in 3	0.304	0.240	0.273	0.162	0.213	0.137
Earned B or higher w/in 5	0.341	0.302	0.335	0.226	0.277	0.204
<b>Credit Accumulation</b>						
Equated credits w/in 1	4.801	9.380	11.783	3.673	13.136	3.447
Equated credits w/in 3	6.720	14.470	16.182	10.406	18.422	10.719
Equated credits w/in 5	7.108	15.240	16.783	11.574	19.070	11.987
College level credits w/in 1	8.673	6.933	8.547	3.101	8.263	2.424
College level credits w/in 3	23.922	26.276	29.389	18.884	27.850	17.275
College level creditsw/in 5	32.662	38.088	41.434	30.139	38.818	28.279
<b>College Progression &amp; Degree Outcome</b>						
Dropped out of LUCCS w/in 1	0.363	0.327	0.198	0.635	0.206	0.669
Dropped out of LUCCS w/in 3	0.624	0.510	0.496	0.541	0.516	0.544
Dropped out of LUCCS w/in 5	0.698	0.631	0.614	0.669	0.653	0.683
Enrolled in LUCCS w/in 1	0.618	0.669	0.798	0.363	0.790	0.329
Enrolled in LUCCS w/in 3	0.248	0.378	0.372	0.393	0.381	0.412
Enrolled in LUCCS w/in 5	0.081	0.111	0.099	0.138	0.102	0.147
Degree or Transfer w/in 1	0.017	0.002	0.002	0.002	0.001	0.001
Degree or Transfer w/in 3	0.128	0.111	0.130	0.063	0.102	0.042
Degree or Transfer w/in 5	0.223	0.260	0.288	0.192	0.246	0.170
Sample Size	88,377	15,256	10,736	4,520	5,458	3,800

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Each of the six columns in Table 3 present descriptive statistics for the following groups: 1) the full sample community college first-time degree seeking applicants who took a placement test within fall 2001 and fall 2005; 2) the subgroup of students identified as ELLs; 3) ELLs who participated in the traditional ESL sequence; 4) ELLs who participated in ELIP; 5) students in the traditional ESL sequence in the restricted analysis sample; and 6) students in ELIP in the restricted analysis sample.

## Qualitative Data

The second part of the explanatory mixed methods design is meant to follow up the quantitative results to help explain the quantitative results. In the qualitative phase of the study, perceptual data was collected over four days during spring and summer 2012 using semi-structured interviews and student focus groups with open-ended questions (See Appendix C). Open-ended questions were used to enable me to collect information based on questions that do not restrict the participants' opinions (Creswell & Plano Clark, 2011). Documents were also collected to better understand the research setting, program policies, and program practices. These documents included college catalogs, program handbooks, reports, pamphlets and/or websites, and other published communications. These documents were used to triangulate the interview and focus groups findings. These documents together with the literature review were also used to inform the conceptual framework (See Appendix D). Finally, demographic and background data was collected from participants to describe the research sample (See Appendix B). This included data on age, gender, ethnicity, native language, educational attainment, as well as work and career. The basis for collecting this information is in support of the overall findings and for exploring differences in perceptions by subgroup.

In this study, qualitative data and methods were used to answer the following three research questions:

1. How do students, instructors, and administrators describe the experience of learning about and enrolling in ELIP and traditional ESL sequence?
2. How do the ELIP and traditional ESL sequence designs facilitate the acquisition of skills and abilities perceived to be necessary for success in college programs?
3. What other factors help or hinder participants' success in college programs?

### Sample

The sample for the qualitative analysis was drawn from one of the six LUCCS community colleges. The site was selected for being the college where ELIP was first offered as an ESL programming option during fall of 1995. The site also has one of the longest-running ESL programs within the LUCCS system having been established in the mid-1970s. Upon identification of the site, the ELIP director was recruited as a staff participant with the assistance of the University Director of Language and Literacy at LUCCS's central office. The ELIP program director then provided me with contact information for potential ELIP faculty participants; she also introduced me to the department chair of basic skills, the staff member who oversees the traditional ESL sequence at the college. The traditional ESL program staff member subsequently provided me with contact information of potential faculty participants. Faculty members were selected for their experience with teaching various levels of ESL within their respective program, for their role(s) within the program, and for their level of experience overall. A total of two ELIP and two traditional ESL instructors were interviewed for 60 minutes each. Program staff—the ELIP program director and the department chair who oversees traditional ESL—were also interviewed for 60 minutes each. Interviews took place in a vacant classroom or in the participants' personal offices.

As part of the study, a total of four student focus groups were also conducted with current and former students of ELIP and the traditional ESL sequence. In particular, focus groups with six current adult ELIP students and five current adult ESL students were conducted for 60 minutes each. Also, 60 minute focus groups with four former adult ELIP students and another with two former adult ESL students were conducted. All focus groups took place in a vacant

classroom. ELIP students were recruited with the help of the ELIP program director and faculty members. Students from the traditional ESL program were recruited with the help of the traditional ESL faculty members. Students were selected based on their participation in the respective programs.

Table 4 summarizes the type of qualitative data that was collected.

**Table 4.** *Qualitative Data Collected*

<b>Data source</b>	<b>Description</b>	<b>Number</b>
Staff interviews	Semi-structured interviews with key administrative staff	2 staff members: 1 from ELIP and 1 from traditional ESL
Faculty interviews	Interviews with faculty members	4 faculty: 2 from ELIP and 2 from traditional ESL
Current student focus groups	Focus group interviews with current program students	11 students in two focus groups: 6 in ELIP and 5 in traditional ESL
Former student focus groups	Focus group interviews with former program students	6 students in two focus groups: 4 in ELIP and 2 in traditional ESL

### **Data**

Among faculty and staff participants there was great diversity in terms of the level of experience with their respective programs—among traditional ESL faculty and staff, experience ranged from two to 39 years; among ELIP, experience ranged from three to 17 years. Similarly, ages among participants ranged substantially: program staff were 55 years of age or older, while faculty members' ages ranged from 25 to 54. All participants were female, one was Latina and five were White, non-Hispanic. All but two faculty and staff spoke English as a first language—other first languages included Spanish and German. Two of the six were also born outside of the United States—one was born in the United Kingdom and another was born in Germany. Three of the faculty members had master's degrees in teaching English to speakers of other languages

(TESOL), one had a doctorate in linguistics; the traditional ESL program staff had a doctorate in TESOL, and the ELIP program director had a master's degree in TESOL. Several of the faculty and staff members also had other roles at the college, for instance, one of the ELIP faculty members also frequently supervised student teachers; both traditional ESL faculty members were co-coordinators of the ESL program and were members of several committees on campus (i.e., the testing committee, the teaching/learning center board). The ELIP program director also supervised and managed three other ESL programs within the college's continuing education program; the department chair overseeing traditional ESL also taught in the traditional ESL program and was also one of the "founding mothers" of the ESL program at her college.

Focus group participants reflected the racial/ethnic and linguistic diversity of the programs. Among ELIP students, place of birth ranged from Senegal, Yemen, Ecuador, Uzbekistan, Mexico, and the Dominican Republic; their first languages included Spanish, French, Arabic, Uzbek, and Russian. Similarly, among traditional ESL students, places of birth included Haiti, Russia, Turkey, Morocco, Colombia, and the Dominican Republic; among the first languages of students in this group were Russian, Turkish, Arabic, Spanish, and Haitian-Creole. In terms of age, all six former students were between 18 and 24 years old. The age of the current students, on the other hand, ranged significantly—four of the 11 current students were between the ages of 18 and 24, three were between the ages of 25 and 34, two were between 35 and 44 and one was between the age of 45 and 54. In terms of gender, all traditional ESL current and former student participants were female; among ELIP participants, three of the six current students were male and two of the four former students were male.

All but one student noted that their highest level of education was at least a high school diploma. Some students indicated that they had some prior college experience, and four current

(two ELIP and two ESL) students indicated they had bachelor's degrees from their home countries. In addition, two current and one former ELIP students mentioned that their high school diploma was completed in a local urban public high school. None of the traditional ESL students identified having attained their highest level of education in the United States. The majority of students in both groups also worked while participating in ELIP or traditional ESL. Among current ELIP and traditional ESL students, nine of 11 identified working while in the program. They reported to be working in various service related occupations such as servers at restaurants, babysitters, cooks, cashiers, and sales associates; one reported that she is a doctor but is currently not practicing. Four of the six former ELIP and traditional ESL students also reported working as lab assistants, sales staff, and administrative assistants. When asked about intended program or major, all former students provided a response: three students identified business administration, one political science, another criminal justice, and one other mathematics. Among current participants, only one of six ELIP students identified an intended program or major (computer information systems), while all but one current ESL student identified an intended program or major—these included liberal arts, engineering science, nursing, and science.

### **Summary**

This chapter provided a detailed description of the study's context and data. Quantitative and qualitative data was collected as part of the explanatory sequential mixed method case study design. After restricting the sample to the group of students fitting the ELIP admissions criteria, the final analysis sample contained 9,258 ELLs, 3,800 who began in ELIP and 5,458 who began in the traditional ESL. The qualitative sample consisted of 23 purposefully selected participants

from both ELIP and traditional ESL: four faculty, two staff members, 11 current students, and six former program students. Quantitative data was obtained as part of existing research project with LUCCS and CCRC. This data were analyzed using a propensity score matching technique. Qualitative data were collected using individual interviews, focus groups, document reviews, and demographic surveys of participants. The next two chapters present the methods and findings for the quantitative phase (Chapter 4) and qualitative phase (Chapter 5) of this explanatory sequential mixed methods case study.

**CHAPTER 4**  
**A QUANTITATIVE STUDY OF THE ESL PATHWAYS**  
**AT THE COMMUNITY COLLEGE**

The ESL programming option chosen by degree-seeking students at LUCCS community colleges has important implications for their college outcomes. This chapter presents evidence on the effect of participating in the ELIP versus participating in the traditional ESL sequence on subsequent college outcomes. Using data from 9,258 LUCCS ELLs, 3,800 of whom enrolled in ELIP and 5,458 of whom enrolled in the traditional ESL sequence, this study tracked the college outcomes of those who took a LUCCS placement test between fall 2001 and fall 2005 for five years. Exploiting the richness of the dataset, a propensity score matching technique was used to create a matched comparison group. Next, treatment effects were estimated in three ways: (1) differencing the sample averages of treatment and matched comparison groups, (2) using a multiple regression and the matched sample controlling for pretreatment covariates and an indicator of the treatment, and (3) using a multiple regression to estimate the average treatment effect across the full pre-match sample conditional on pretreatment confounding covariates. The first set of estimates represents the main results and the latter two sets of estimates are used to assess their robustness.

Overall, I found no impact on college English course-taking and performance from enrolling in ELIP. Negative impacts of ELIP participation were found for the accumulation of college credits—after five years, for students who participated in ELIP, the impact of participating in ELIP versus ESL was the accumulation of 3 fewer college credits. However, results also reveal that after five years, ELIP students accrued 8 fewer equated (non-credit



remedial) credits, which suggests ELIP students spent less time in remedial coursework. Results also reveal that after five years, for students who participated in ELIP, the effect of participating in ELIP versus traditional ESL was a 5 percentage point drop in the likelihood of dropout and a 4 percentage point increase in the likelihood of persisting. In addition, results indicate that males, younger students, and 1.5 generation students experience less negative impacts on college credits and more positive impacts on several of the longer term outcomes.

To address possible concerns that some students who participate in ELIP may have never intended to pursue a degree at LUCCS, for example if they only enrolled in the program to learn English or if they intend to pursue a degree at a non-LUCCS institution, I also conduct the analysis restricting the sample to ELIP students who ultimately enroll in LUCCS as degree-seeking students. These results indicate that for students who participate in ELIP and subsequently enroll in LUCCS, participation in ELIP versus traditional ESL is associated with completing more college credits over five years and fewer remedial credits over three and five years. ELIP students who subsequently enroll in LUCCS are also found to be more likely to enroll and perform better in college level English within three and five years. In addition, ELIP students who subsequently enroll in LUCCS also drop out at lower rates and persist at higher rates within three and five years; after five years, they are also more likely to earn a degree or transfer. These results indicate that while the program has a positive impact for the students who make the transition from ELIP to LUCCS, the overall program impact is attenuated by those who ultimately never enroll.

This chapter is organized as follows: first, it provides a discussion of the quantitative empirical strategy used. Next, it presents results from the propensity score matching technique. It then present findings on the effects of ELIP participation on college English enrollment and

performance, credit accumulation, and college progression and degree outcomes—these results are presented for the full matched sample as well as by gender, race/ethnicity, age, and immigrant generational status. In addition, this section includes a separate analysis conditional on LUCCS enrollment. This is followed by a discussion of the limitations of the study and robustness checks. The chapter concludes with a discussion and introduces the second, qualitative phase of the study.

### **Empirical Strategy**

Randomized experiments are the gold standard for obtaining causal inferences. In an ideal setting, to determine the effect of participation in ELIP compared to the traditional ESL sequence on college outcomes, one would have randomized ELLs placing into the lowest levels of ESL into one of two academic ESL programming options: ELIP (“treatment”) or the traditional ESL sequence (“control”). With randomization, we could expect the two groups to be similar based on both observable and unobservable characteristics before treatment. In this case, any differences in outcomes would be attributable to the treatment rather than to any differences in observed and unobserved background characteristics.

For many causal questions, however, it is not possible to assign units at random—either for ethical or practical reasons. Therefore, in a non-experimental setting, a causal analysis must account for potential sources of sample selection bias to address the condition where those who self-select into the treatment tend to be different from those who do not in ways that also affect the outcomes. In this study, a simple comparison of mean outcomes or a naive regression analysis of treatment and control students would lead to biased results; throughout the time period of the study and to the present, both academic ESL programming options have been

available at all six LUCCS community colleges, and degree-seeking students who place into the lowest levels of ESL can choose to either enroll in ELIP or the traditional ESL sequence. As such, it is likely that unobserved factors, such as motivation and access to information, are correlated both with the choice to participate in the program as well as with various college outcomes. For example, a student with a high level of motivation may wish to acquire English skills more quickly and thus choose to participate in an immersion program such as ELIP. Given the high level of motivation, this student would have likely achieved higher postsecondary outcomes even in the absence of ELIP, resulting in an upward bias. Negative selection may arise if students choosing ELIP have unobserved factors that make them more at risk of dropping out of college—for example, if they have work or family responsibilities.

Given the non-random sorting of students into the two ESL programming options, this study employs a propensity score matching technique<sup>31</sup> to construct a matched sample of treatment and comparison students who are closely balanced on covariates known to be related to both treatment assignment and the outcomes (Rosenbaum & Rubin, 1983, 1984). In particular, this study uses one-to-one matching with replacement within a caliper of 0.072.<sup>32</sup> Rosenbaum and Rubin (1985) suggest using a caliper that is one-fourth the standard deviation of the propensity score to avoid producing poor matches. This method matches one treatment observation with one control in such a way that the distance between propensity scores between treatment and matched comparison is not larger than 0.072 standard deviations. The work of Dehijia and Wahba (2002) suggests that matching with replacement reduces bias because

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<sup>31</sup> I use a matching program in Stata called *psmatch2* (Leuven & Sianesi, 2003) to calculate propensity score estimators.

<sup>32</sup> The propensity score mean is 0.423 with a standard deviation of 0.288. One-fourth the standard deviation of the propensity score is 0.072.

controls that look the most similar to treated individuals can be used many times, while those that do not are discarded.

Propensity score matching provides an estimate of the treatment on the treated. Namely, for those who participated in ELIP, the estimate represents the effects of participating in ELIP versus the traditional ESL sequence. This estimate is defined as follows:

$$(1) E[Y_i(1)-Y_i(0) | T_i=1] = E[Y_i(1) | T_i=1] - E[Y_i(0) | T_i=1],$$

where  $T_i = 1$  indicates the individual was treated and  $T_i = 0$  indicates they were not treated. The outcome of individual  $i$  is denoted by  $Y_i$ . Rosenbaum and Rubin (1983, 1984) posit that in order to obtain an unbiased estimate of the treatment on the treated using propensity score matching, several conditions must hold. First, the conditional independence assumption states that conditional on a set of covariates ( $X$ ), the outcomes of treatment,  $Y_i(1)$ , and controls,  $Y_i(0)$ , are independent of the treatment ( $T_i$ ):

$$(2) Y_i(0), Y_i(1) \perp T_i | X_i$$

In other words, this means that two individuals who are similar on all confounding covariates are equally likely to have received the treatment. Second, we must also assume that the outcomes of individual (unit)  $i$  depend only on the treatment assignment of that individual. Intuitively, this says that we assume that one individual's treatment assignment does not affect the outcome for another. This assumption is known as the stable unit treatment value assumption (SUTVA).

If these assumptions hold, Rosenbaum and Rubin (1983, 1984) propose that the propensity score, defined as the conditional probability of receiving the treatment given observed pretreatment characteristics, can be used to create a comparison group that resembles the treatment group by matching on the propensity score. The predicted probability of receiving the treatment can be estimated using logistic or probit regression of the form:

$$(3) \Pr(T_i = 1 | X_i) = \beta_0 + \beta_1 X_{ki} + \varepsilon_i$$

where,  $X_k$  is a vector of pretreatment confounding covariates that are known to be related to both treatment assignment and the outcomes, and  $\varepsilon_i$  denotes the error term. The outcomes of the matched comparisons can then be used to estimate the treatment on the treated.

If the assumptions noted above hold, causal estimates of the treatment of the treated can be obtained by differencing the sample outcome means for treatment and matched comparison groups. Another approach is to use the matched sample to run a multiple regression of the outcomes on pretreatment covariates and an indicator of the treatment. Researchers suggest the propensity score regression approach can potentially improve the precision of the estimates by adjusting for slight covariate imbalances (Rubin, 1973, 1979; Rubin & Thomas, 2000).

Additionally, both of these approaches must also account for the fact that comparison units were matched with replacement and were not drawn at random. To do so, both approaches estimate the treatment effect by using a weighted least squares regression with robust standard errors; in both models the weights equal the number of times each matched comparison unit was used in the analysis. Hill, Reiter, and Zanutto (2004) note that this approach runs the regression only on the subsample where there is overlap; this avoids the concern surrounding extrapolation in standard regression analysis with the unmatched sample. Linear probability (OLS) models are used for dichotomous (continuous) outcomes. The model is of the following form:

$$(4) Y_i = \alpha_0 + \alpha_1 TREAT + \alpha_i X_{ki} + CollFE + CohortFE + u_i$$

Where  $Y_i$  is the outcome of interest,  $X_k$  is a vector of pretreatment confounding covariates,  $TREAT$  is the indicator of treatment status,  $\alpha_1$  is the coefficient of interest, and  $u_i$  is the error term. The model also includes quadratics of the reading, writing, and math test scores as well as college (*CollFE*) and cohort (*CohortFE*) fixed effects.

### **Propensity Score Matching Estimation**

To estimate the likelihood of each student participating in ELIP, this study employed a logit regression of the treatment–control condition on observed pretreatment confounding covariates. This propensity score estimation process began with a parsimonious specification where all pretreatment confounding covariates were included linearly. After this first specification did not achieve covariate balance, a series of modifications were made to the logistic model. For example, the model incorporated age as a categorical variable and included squares of the placement exam scores as well as interactions of variables that did not achieve balance (i.e., taking college prep math and graduating from a foreign high school). This process continued until a satisfactory balance was achieved (Dehejia & Wahba, 2002; Rosenbaum & Rubin, 1984, 1985).

The results from the logistic regression of ELIP participation as a function of gender, race/ethnicity, age, first language, citizenship status, region of origin, prior educational experience, program cost, and other predictors are presented in Table 4. Students who participated in ELIP differed from students who participated in the traditional ESL sequence on a number of variables. For example, women, older students, those of Spanish language backgrounds, permanent residents, and graduates of foreign high schools or GED programs had significantly higher odds of participating in ELIP. Also, being placed into developmental math tended to be associated with lower odds of participating in ELIP. Similarly, higher math standardized scores and higher writing placement scores tended to be associated with lower odds of participating in ELIP. These patterns suggest that students who perform better on the college placement exam are less likely to participate in ELIP. Finally, the results also indicate that as the

ratio of ELIP tuition to full-time tuition increases (a proxy for program cost differences), the odds of participating in ELIP increase.<sup>33</sup> This last finding is statistically significant and large in magnitude, suggesting that cost is a critical factor in determining ELIP program participation. Overall, these differences in the odds of participating in ELIP indicate that simple comparisons between ELIP and traditional ESL students are unlikely to yield accurate estimates of the causal effect of ELIP on college outcomes.

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<sup>33</sup> The cost ratio is defined as the cost of ELIP tuition divided by the cost of full-time tuition at the community college for a given semester. This is intended to serve as a proxy for the cost that a student incurs if they choose ELIP versus entering as full-time students in the traditional ESL sequence. The cost ratio varies by citizenship status (resident and non-resident tuition), across years (changes in tuition over time), and across colleges (due to different academic calendars and their associated tuition and fees). The propensity score model estimate for the cost ratio was by and large the biggest in magnitude (1.3E+08, significant at the 10 percent level).

**Table 5. Odds Ratios of ELIP Participation**

Pretreatment Covariate	Odds Ratio	(SE)
<b>Demographic Background</b>		
Female	1.315 ***	(0.080)
Latino	0.964	(0.140)
Black, Non-Hispanic	0.498 ***	(0.085)
Asian, Pacific Islander	0.665 ***	(0.091)
Other Race	0.438 ***	(0.081)
Race, missing	0.763	(0.129)
Age 24 or more	1.431 ***	(0.116)
<b>Citizenship Status</b>		
Visa	0.427 *	(0.186)
Refugee	2.268 *	(1.030)
Perminent Resident	1.290 **	(0.152)
Undocumented	0.994	(0.437)
Citizenship Status Unknown	9.872	(14.123)
<b>Language Background</b>		
Spanish	2.003 ***	(0.485)
Other	1.329	(0.288)
Unknown	1.094	(0.158)
<b>Region of Origin</b>		
Asia	1.938 ***	(0.480)
Europe	1.908 **	(0.504)
Africa	1.999 **	(0.669)
Caribbean	1.785 **	(0.481)
Mexico and Central America	1.876 ***	(0.368)
South America	2.006 ***	(0.485)
Unknown	2.387 ***	(0.499)
<b>High School Background</b>		
Foreign High School	1.585 **	(0.357)
GED	1.568 ***	(0.212)
Other U.S. High School	0.955	(0.186)
High school missing	3.059	(2.909)
Took college-prep English	0.837	(0.100)
College-prep English unknown	2.388	(4.125)
Took college-prep math	1.165	(0.166)
College-prep math unknown	0.250	(0.431)



**Table 5. Odds Ratios of ELIP participation, continued**

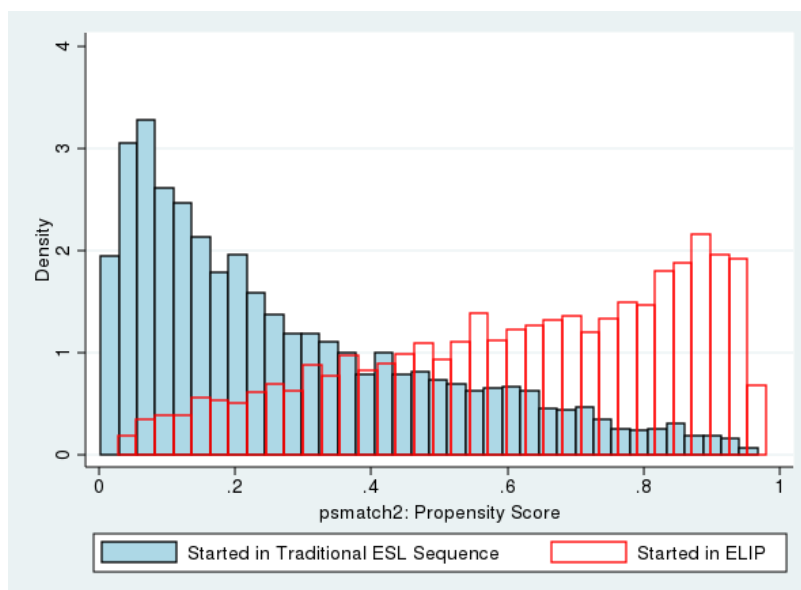
<b>LUCCS Placement Test</b>		
Writing test flagged ESL	1.097	(0.194)
Assigned to Dev. Reading	0.926	(0.140)
Assigned to Dev. Math	0.756 ***	(0.067)
Math placement score, std.	0.851 ***	(0.031)
Math placement score, std. squared	1.044 ***	(0.014)
Reading placement score	0.975 **	(0.010)
Reading placement score, squared	1.000	(0.000)
Writing placement score	0.098 ***	(0.058)
Writing placement score, squared	1.310 ***	(0.129)
<b>LUCCS Application &amp; Program Choice</b>		
Med. delay in college application/testing	2.999 ***	(0.279)
Big delay in college application/testing	2.599 ***	(0.295)
Delay in college application/testing, missi	2.581 **	(0.969)
4-year college was 1st choice	0.763 ***	(0.071)
Health and Related Occupations	0.970	(0.100)
Service/Technical	0.865	(0.104)
Social Liberal Arts	1.130	(0.098)
STEM	1.141	(0.125)
Program Unknown	0.743	(0.510)
<b>College</b>		
College 1	1.121	(0.144)
College 2	0.472 ***	(0.062)
College 3	0.430 ***	(0.047)
College 4	0.885	(0.104)
College 5	0.186 ***	(0.024)
<b>Test Cohort</b>		
2002-03	1.013	(0.085)
2003-04	1.275 **	(0.135)
2004-05	1.776 ***	(0.183)
Fall 2005	1.705 ***	(0.182)
Fall Term	0.990	(0.060)
<b>Cost Ratio (CLIP fees/Full-time Tuition)</b>		
Cost ratio	1.3E+08 *	1.24E+09
Cost ratio, squared	0.000 **	(0.000)
<b>Interactions</b>		
Foreign HS Grad.*Permanent Resident	1.287 *	(0.189)
Foreign HS Grad.*Took Coll. Prep Math	0.827	(0.174)
Sample Size	8312	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1.

Figure 3 presents graphical evidence that further suggests that simple comparisons between the treatment and comparison groups will not likely yield causal estimates. This figure shows the distribution of the probability of participating in ELIP for both groups of students using the raw data sample before matching. Figure 3 reveals that the distribution of students in the traditional ESL sequence was skewed to the right: 27 percent ( $n = 1,293$ ) of students had probabilities of participating in ELIP of less than 0.10, and only 3 percent ( $n = 156$ ) had a probability greater than 0.8. This indicates that many traditional ESL students indeed had low probabilities of participating in ELIP. The distribution of students in ELIP, on the other hand, was slightly skewed to the left: only 2 percent ( $n = 73$ ) of students had probabilities of participating in ELIP of less than 0.10 and 30 percent ( $n = 1068$ ) had a probability greater than 0.8. Overall, the figure illustrates that there was overlap of treatment and control observations.

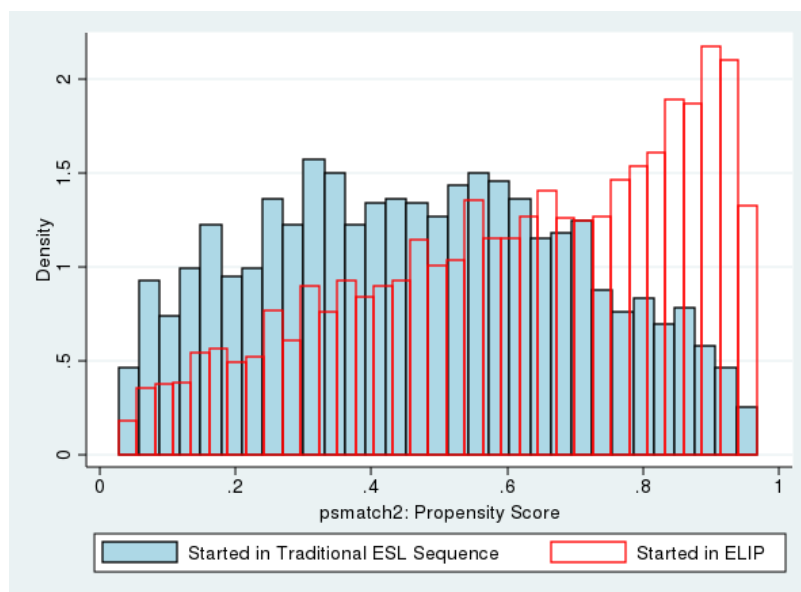
**Figure 3. Probability Densities for ELIP and Traditional ESL Students, Pre-match**



Next, I proceeded to match the sample using one-to-one matching with replacement within a caliper of 0.072 (as described in the previous section). Given that the ELIP group was smaller than the traditional ESL group, all but nine ELIP students had a matching traditional ESL comparison student. These nine students represented less than 1 percent of the ELIP population and they had the highest probability of participating in ELIP ( $> 0.97$ ). To assess the efficacy of the matching strategy, I examined (1) the histogram of the probability distribution of participating in ELIP for both groups of students using the matched data sample and (2) the standardized difference in means of the treatment and matched comparison group.

Figure 4 shows the probability densities for ELIP and traditional ESL students after one-to-one matching with replacement. The figure shows that upon matching, many traditional ESL students with low probabilities of participating in ELIP were dropped from the sample and only a subset were used as matched controls—specifically, 29 percent (1,431 of 4,807) of the traditional ESL students were matched to ELIP participants. The figure provides graphical evidence that sufficient overlap was achieved after matching ELIP students to traditional ESL peers.

**Figure 4. Probability Densities for ELIP and Traditional ESL Students, Post-match**



Next, Table 6 presents results for the covariate balance check between ELIP and the traditional ESL groups. Rosenbaum and Rubin (1984, 1985) proposed that the most appropriate methods for assessing covariate balance include those that are not dependent on sample size, for example, by examining standardized difference in means for treated and untreated units. Absolute values that are large indicate that means are far from each other and values that are near zero suggest improved balance (Rosenbaum and Rubin, 1984, 1985). Rubin (2001) advised that an absolute standardized difference of means should be less than 0.25 to indicate close balance. Looking at the matched and unmatched standardized differences in means (SD in column 5), it is possible to see that for most covariates, the standardized difference in means was smaller for the matched sample compared with the unmatched sample, signifying improved balance after matching. Prior to matching, the highest standardized difference among all covariates was 0.89 for the writing placement score; after matching, this difference was reduced to 0.03. Importantly, covariate balance was strong for key variables, such as gender, race/ethnicity, first language, region of origin, prior academic background, and cost ratio. Across all confounding covariates, standardized differences post-matching were all below 0.16. In sum, this evidence points to the existence of covariate balance and sufficient overlap among treatment and comparison units, indicating that the propensity score matching strategy constructed an appropriate matched comparison group.

**Table 6. Balance Between ELIP and Traditional ESL Sequence**

Pretreatment Covariates	Sample	Mean		s		SD
		CLIP	Trad. ESL	CLIP	Trad. ESL	
Female	Unmatched	0.683	0.570	0.466	0.495	0.234
	Matched	0.682	0.667	0.466	0.471	0.030
Latino	Unmatched	0.608	0.465	0.488	0.499	0.290
	Matched	0.608	0.607	0.488	0.489	0.002
Black, non-Hispanic	Unmatched	0.057	0.109	0.231	0.312	0.190
	Matched	0.057	0.063	0.232	0.242	0.021
Asian Pacific Islander	Unmatched	0.128	0.228	0.335	0.420	0.263
	Matched	0.129	0.143	0.335	0.350	0.038
Other Race	Unmatched	0.026	0.050	0.158	0.219	0.129
	Matched	0.026	0.029	0.158	0.168	0.017
Age	Unmatched	26.973	23.780	8.462	6.949	0.412
	Matched	26.962	26.662	8.459	7.937	0.039
Age 23 or less	Unmatched	0.488	0.665	0.500	0.472	0.366
	Matched	0.488	0.469	0.500	0.499	0.041
Age 24 or more	Unmatched	0.511	0.335	0.500	0.472	0.363
	Matched	0.511	0.532	0.500	0.499	0.043
Visa	Unmatched	0.044	0.130	0.206	0.336	0.307
	Matched	0.044	0.042	0.206	0.200	0.009
Refugee	Unmatched	0.038	0.014	0.191	0.118	0.150
	Matched	0.037	0.044	0.189	0.206	0.045
Perminent Resident	Unmatched	0.563	0.458	0.496	0.498	0.212
	Matched	0.563	0.560	0.496	0.497	0.007
Undocumented	Unmatched	0.041	0.050	0.198	0.219	0.046
	Matched	0.041	0.032	0.198	0.176	0.043
Citizenship Status Unknown	Unmatched	0.195	0.176	0.396	0.381	0.048
	Matched	0.195	0.197	0.396	0.398	0.005
Native Language: Spanish	Unmatched	0.501	0.377	0.500	0.485	0.251
	Matched	0.500	0.507	0.500	0.500	0.013
Native Language: Other	Unmatched	0.277	0.400	0.448	0.490	0.261
	Matched	0.277	0.272	0.448	0.445	0.012
Native Language: Unknown	Unmatched	0.269	0.258	0.443	0.438	0.023
	Matched	0.269	0.275	0.444	0.447	0.014
Asia	Unmatched	0.155	0.244	0.362	0.430	0.225
	Matched	0.155	0.156	0.362	0.363	0.001
Europe	Unmatched	0.081	0.060	0.273	0.238	0.083
	Matched	0.081	0.083	0.273	0.276	0.009
Unknown	Unmatched	0.206	0.190	0.404	0.393	0.039
	Matched	0.206	0.207	0.405	0.406	0.003
Africa	Unmatched	0.021	0.046	0.145	0.210	0.138
	Matched	0.021	0.019	0.144	0.135	0.014
Caribbean	Unmatched	0.336	0.247	0.473	0.431	0.199
	Matched	0.336	0.342	0.472	0.475	0.014
Mexico and Central America	Unmatched	0.036	0.037	0.186	0.189	0.006
	Matched	0.036	0.043	0.186	0.203	0.037
South America	Unmatched	0.147	0.121	0.354	0.327	0.075
	Matched	0.147	0.134	0.354	0.341	0.037

**Table 6. Balance Between ELIP and Traditional ESL Sequence, continued**

Pretreatment Covariates	Sample	Mean		s		SD
		CLIP	Trad. ESL	CLIP	Trad. ESL	
Health and Related Occupations	Unmatched	0.143	0.145	0.350	0.352	0.005
	Matched	0.143	0.137	0.350	0.344	0.017
Service/Technical	Unmatched	0.075	0.098	0.263	0.297	0.082
	Matched	0.075	0.065	0.263	0.247	0.035
Social Liberal Arts	Unmatched	0.313	0.287	0.464	0.453	0.055
	Matched	0.312	0.310	0.463	0.463	0.004
STEM	Unmatched	0.109	0.118	0.311	0.322	0.028
	Matched	0.109	0.101	0.311	0.301	0.024
Program Unknown	Unmatched	0.196	0.177	0.397	0.382	0.048
	Matched	0.197	0.197	0.397	0.398	0.002
College 1	Unmatched	0.249	0.121	0.433	0.326	0.335
	Matched	0.248	0.237	0.432	0.425	0.030
College 2	Unmatched	0.073	0.152	0.261	0.359	0.251
	Matched	0.074	0.065	0.261	0.247	0.026
College 3	Unmatched	0.192	0.223	0.394	0.416	0.076
	Matched	0.192	0.161	0.394	0.367	0.077
College 4	Unmatched	0.158	0.187	0.364	0.390	0.077
	Matched	0.158	0.219	0.364	0.413	0.161
College 5	Unmatched	0.177	0.208	0.382	0.406	0.080
	Matched	0.177	0.172	0.382	0.377	0.014
2002	Unmatched	0.182	0.217	0.386	0.412	0.087
	Matched	0.183	0.187	0.386	0.390	0.010
2003	Unmatched	0.182	0.207	0.386	0.405	0.061
	Matched	0.183	0.194	0.387	0.395	0.027
2004	Unmatched	0.275	0.213	0.447	0.409	0.146
	Matched	0.275	0.262	0.446	0.440	0.029
2005	Unmatched	0.138	0.111	0.344	0.314	0.081
	Matched	0.137	0.134	0.344	0.340	0.009
Fall cohort	Unmatched	0.651	0.675	0.477	0.469	0.050
	Matched	0.651	0.650	0.477	0.477	0.001
Cost of CLIP/Cost FT Tuition	Unmatched	0.113	0.125	0.074	0.083	0.155
	Matched	0.113	0.111	0.074	0.071	0.025
Cost of CLIP/Cost FT Tuition, missing	Unmatched	0.195	0.176	0.396	0.381	0.048
	Matched	0.195	0.197	0.396	0.398	0.005
Foreign HS Grad.*Permanent Resident	Unmatched	0.415	0.207	0.493	0.405	0.462
	Matched	0.415	0.382	0.493	0.486	0.072
Foreign HS Grad.*Took College Prep Math	Unmatched	0.505	0.322	0.500	0.467	0.378
	Matched	0.504	0.483	0.500	0.500	0.044

Note: Summaries of pretreatment covariate balance in CLIP (treated) and Traditional ESL (comparison) groups. Means (M) of matched and unmatched samples presented in Columns 1 and 2 for both groups. Standard deviations (s) for the samples presented in Columns 3 and 4. The standardized difference in group means (SD) is presented in Column 5. They are calculated using the formula:

$$SD = \frac{(\bar{x}_t - \bar{x}_c)}{\sqrt{((s_t^2 + s_c^2)/2)}}$$

Propensity score theory suggests that if covariate balance and sufficient overlap exists among the treatment and comparison units, causal estimates of the treatment on the treated can be obtained by differencing the sample means of treatment and matched comparison groups. As such, the main findings presented below focus on the difference in mean outcomes for the treated and matched comparison groups. The robustness of these estimates was assessed by comparing these findings with estimates obtained using propensity score regression and estimates of the average treatment effect across the full pre-match sample conditional on pretreatment confounding covariates—whenever differences in magnitude and significance existed, they are noted.

Table 7 presents estimates of the treatment on the treated for the full sample, namely, for those who participated in ELIP, the estimate represents the effect of participating in ELIP versus the traditional ESL sequence. The first column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct).<sup>34</sup> The second column (2) presents regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). The third column (3) contains regression estimates of the average treatment effect across the full pre-match sample—in this case, the difference-in-mean outcomes between those who participated in ELIP and those participating in the traditional ESL sequence, conditional on pretreatment confounding covariates (Regression). This difference represents is the “naïve” estimate of the conditional average treatment effect. All subsequent results tables are organized in this way.

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<sup>34</sup> Following the terminology used by Hill, Reiter, and Zanutto (2004), I refer to each set of models as (1) P-score Direct, (2) P-score Regression, and (3) Regression.

## **Results**

This section presents results for the full matched sample of ELLs and explores heterogeneous impacts by gender, race/ethnicity, age, and immigrant generational status. It then presents results for the full matched sample, conditional on ELIP student enrollment in LUCCS. All tables of results are included at the end of the chapter. Note that this Chapter solely reports findings of the quantitative phase of the study, explanations for quantitative results are presented in Chapter 5.

### **College English Enrollment and Performance**

Examining the impact of ELIP on college English enrollment and performance is important for several reasons. First, given that a primary goal of ESL programming at the postsecondary level is to assist students in acquiring the English language and literacy skills needed to do well in college level courses, one would expect that among the first places to see an impact would be on students taking college level English. We would also expect that a student's performance in college English would be influenced by the skills and abilities acquired in ESL. Also, the importance of this outcome is further highlighted by the fact that taking and passing college English is a requirement for graduation and a pre-requisite for many core courses that students must take in order to fulfill degree requirements.

The analysis on the impact of participating in ELIP versus traditional ESL on college English enrollment and performance for the full sample suggest that there was no statistically significant impact within three and five years (Table 7). This impact, however, did vary by gender. Table 7 shows that while the null impact persisted for females, males participating in ELIP versus traditional ESL experienced a 6 percentage point increase in the likelihood of taking



college level English after five years (significant at the 10 percent level); these results hold using the P-score Regression. Effects on college English performance were mixed—while both propensity score approaches estimated a 5 percentage point increase in the likelihood of passing college English within five years, the P-score Regression model found this impact to be marginally significant at the 10 percent level while the matched difference-in-mean outcomes found the difference to not be significantly different from zero.

The racial and ethnic diversity among ELIP and traditional ESL students made it possible to explore heterogeneous impacts of participating in ELIP versus traditional ESL for Latinos (N = 2,913), non-Hispanic Whites (N = 668), non-Hispanic Blacks (N = 334), and Asian Pacific Islanders (N = 678). Table 9 present results for each of these groups, respectively. Overall results show no evidence of heterogeneity by race/ethnicity for college English enrollment and performance measured within three and five years.

Next, in exploring heterogeneity by younger and older students, defined as those aged 23 or younger and those aged 24 or older, results were mixed but do suggest larger impacts of participating in ELIP versus the traditional ESL sequence for younger students (Table 10). Results for younger students consistently show positive impacts for taking and passing college English over three and five years—however, these impacts are only significant under the P-score Regression approach. They indicate that within three years, younger students who participated in ELIP versus the traditional ESL sequence were 4 percentage points more likely to take college English; after five years this impact was 6 percentage points (both significant at the 5 percent level); for older students these impacts were not significantly different from zero. A similar pattern was present for passing college English. Namely, results were only significant for the P-score Regression, which indicated that the impact of participating in ELIP on passing the course

within three years was positive and equal to 4 percentage points for younger students compared with a negative impact equal to 3 percentage points for older students. In both cases, estimates were significant at the 10 percent level. After five years, younger students who participated in ELIP were 5 percentage points more likely to pass college English (significant at the 5 percent level); no significant impact was found for older students. Neither group experienced a significant impact on earning a *B* or higher in college English within three and five years.

Finally, it is possible that immigrant generational status students postsecondary outcomes. In this analysis, a first generation immigrant is defined as foreign-born individuals, generation 1.5 is defined as foreign-born individuals who graduated from a U.S. high school, and second generation is defined as individuals born in the U.S. and have at least one parent that is foreign-born. This may occur, for example if immigrant generational groups enter college with differential educational and personal experiences (e.g. differential access to financial aid, prior exposure to English, high school academic preparation, etc.) that may influence the way students experience the postsecondary institutional setting. Overall, this analysis did not find heterogeneous impacts by immigrant generational status on any of the college English enrollment and performance outcomes measured within three and five years (See Table 11).

### **Credit Accumulation**

Given that students must complete a minimum number of credits to earn a degree, typically 60 for an associate degree, studying the impact of participation in ELIP versus ESL on credit accumulation is also of great importance. This study explores the impact of ELIP participation on two types of credits students can earn at the community college: (1) the total number of non-credit remedial credits, and (2) the total number of college level credits. It is

important to note that non-credit remedial credits cost students the same as college level credits, but remedial credits do not count toward a degree. A positive impact of ELIP on college credits in particular, may indicate that the skills and abilities acquired in the program are helping students in courses at the college level. A negative impact, on the other hand might suggest that the initial diversion into a pre-college program may be limiting their ability to accumulate college credits. Similarly, a decrease in the number of non-credit remedial courses may suggest that skills learned in ELIP are enabling students to avoid some of the remediation they may have had to take if they had participated in traditional ESL.

The second panel of Table 7 presents findings that indicate that for students who participated in ELIP, participating in ELIP versus the traditional ESL sequence resulted in accumulating significantly fewer equated credits. After three and five years, ELIP students earned about 8 fewer remedial credits, which is significant at the 1 percent level. Looking specifically at the accumulation of credits that count toward a degree, results indicate that after three years, those who participated in ELIP versus traditional ESL earned 5 fewer credits (significant at the 1 percent level). After five years, students participating in ELIP versus the traditional ESL sequence are estimated to complete about 3 fewer college level credits (significant at the 5 percent level). These impacts equate to taking about 3 fewer remedial courses and one fewer college level course.

Next, looking at the impact by gender results indicate that both males and females who participated in ELIP versus the traditional ESL sequence accumulated significantly fewer remedial credits over three and five years (second panel of Table 8). The impact was slightly higher for females. Namely, after three and five years, women accumulated about 9 fewer equated credits and men accumulated between 7 and 6 fewer equated credits respectively. All

estimates were significant at the 1 percent level. Findings for the number of college level credits completed suggest that the impact is more negative for females than for males after three and five years. Results indicated no significant difference in the number of college level credits completed by males, while females were estimated to earn 7 fewer college level credits within three years and 5 fewer credits after five years—both significant at the 1 percent level.

In examining difference across racial/ethnic groups, results show that across all groups, participation in ELIP versus traditional ESL was consistently associated with accumulating significantly fewer remedial credits (second panel of Table 9). Specifically, after three years all racial/ethnic groups earned between 8 and 9 fewer remedial credits—all significant at the 1 percent level. This negative accrual of remedial credits continued after five years for all groups: all earned between 7.5 and 9 fewer remedial credits, both significant at the 1 percent level. Looking at college level credits completed, the analyses did find evidence of heterogeneous impacts. After three years, the impact on total credits completed was only consistently statistically significant for Latino students and non-Hispanic White students: Latinos earned about 5 fewer college credits and Whites earned 9 fewer credits. Results across propensity score models were mixed for five year outcomes: only the P-score Regression result was significant for Latinos (3 fewer credits, significant at the 5 percent level); for non-Hispanic Whites, both approaches yielded negative and significant impacts but with different magnitudes: the P-score Direct found that they earned 11 fewer credits while the P-score Regression approach found that they earned 7 fewer credits, both significant at the 10 percent level.

In examining the impacts by age, results show that both younger and older students who participated in ELIP versus traditional ESL completed fewer equated credits and that this number was slightly higher for older students (second panel of Table 10). In particular, after three years,

younger students accumulated about 8 fewer equated credits while older students who participated in ELIP versus traditional ESL accumulated about 9 fewer equated credits. After five years this number declined slightly to 7 equated credits for younger students and to 9 credits for older students. In all cases, results were significant at the 1 percent level and were similar in magnitude for both propensity score approaches. More noticeable differences between the groups arose when looking at the total number of college level credits completed. Specifically, the three-year impact for younger students who participated in ELIP versus traditional ESL earned about 4 fewer college level credits; this estimate for older students was about 6 fewer college level credits (significant at the 1 percent level). Analysis also revealed about a one-credit difference between propensity score approaches. Results for five year outcomes indicate that younger students who participated in ELIP versus ESL no longer experienced a significant negative impact. However, the negative impact for older students remained: older students were estimated to complete 5 to 6 fewer college level credits depending on propensity score approach; these impacts were significant at the 1 percent level.

Examining outcomes by immigrant generation status I found both first generation and 1.5 generation students who participated in ELIP versus traditional ESL consistently attained fewer equated credits (second panel of Table 12). Findings also show that first generation students who participated in ELIP accumulated about one fewer remedial course over three and five years, compared with their 1.5 generation peers. Namely, after three years, first generation students accumulated about 10 fewer equated credits and 1.5 generation students accumulated about 7 fewer credits. Over five years, the numbers dropped slightly but the difference remained equal to about 3 equated credits. These results were significant at the 1 percent level. This pattern of findings persisted when looking at the impact on college level credits completed. First

generation students continued to earn fewer credits compared with their 1.5 generation peers (a difference of about 3 credits persisted). Over five years, the difference for 1.5 generation students who participated in ELIP versus ESL was no longer significantly different from zero; this difference persisted for first generation students, where first-generation ELIP students earned 8.5 fewer college credits than their traditional ESL peers (this difference was slightly lower, equal to 6.6 fewer college credits, under the P-score Regression model). Both are significant at the 1 percent level. For second generation immigrants, none of the three and five year outcomes were statistically significant—this is likely due to the small sample size ( $N = 89$ ).

### **College Enrollment and Degree Outcomes**

Lastly, this analysis explores the impact of ELIP participation on three mutually exclusive college enrollment and degree outcomes: (1) whether the student dropped out of the LUCCS system (no degree or transfer and not enrolled), (2) whether the student persisted in the LUCCS system (still enrolled with no degree or transfer), and (3) whether the student earned an associate or bachelor's degree in LUCCS or whether they transferred to a LUCCS four-year college.

Full sample results for college enrollment show that after three years, participating in ELIP versus the traditional ESL sequence resulted in around a 5 percentage point decrease in the likelihood of dropping out and a 6 percentage point increase in the likelihood of persisting in LUCCS, both significant at the 1 percent level (third panel of Table 7). After five years, the likelihood of dropping out was 5 percentage points lower for those who participated in ELIP; the likelihood of persisting in LUCCS was 4 percentage points higher. All estimates were significant

at the 1 percent and 5 percent level. Examining the impact of participating in ELIP compared with traditional ESL on degree completion or transfer, the analysis found that after three years, the impact was basically null. Only the P-score Regression found a marginally significant and negative impact: namely, that ELIP students experienced a drop of 1 percentage point in the likelihood of degree completion under the P-score Regression approach. Results for degree completion over five years reveal that the direction of the impact was trending positive, but that the impact was not significantly different from zero.

Results by gender do suggest heterogeneity in degree completion or transfer within three years: females who participated in ELIP versus ESL experienced a 2 percentage point decline in the likelihood of attaining a degree or transferring; this impact was not significantly different from zero for males (third panel of Table 8). Over five years, however, the impact was not significantly different from zero for both males and females.

Patterns on dropout and persistence across racial/ethnic groups point to the existence of heterogeneous impacts (third panel of Table 9). After three years and five years, Latinos were the only group that consistently experienced a statistically significant decline in the likelihood of dropping out and increased likelihood of persisting; however, these impacts were slightly higher for the P-score Direct than for the P-score Regression. Namely, after three years, Latinos who participated in ELIP versus the traditional ESL experienced a decline in the likelihood of dropping out ranging from 8 percentage points to 6 percentage points. After 5 years, Latinos continued to experience a decreased likelihood of dropping out, ranging from 7 percentage points to 5 percentage points. This suggests that Latinos who participate in ELIP are about 8 percentage points more likely to persist after three years and 4 percentage points more likely to persist after five years. Results also reveal that non-Hispanic Blacks who participated in ELIP experienced a

negative and significant impact on dropping out after five years, equal to a decline of 15 percentage points, significant at the 1 percent level—however, this impact was significant only under the P-score Regression approach. Similarly, the P-score Regression found that non-Hispanic Black ELIP participants experienced a 9 percentage point increased likelihood of persisting after five years. Finally, Asian Pacific Islander students who participated in ELIP were also found to experience a positive impact on persistence—again, slight increases in the impact were found for the matched difference in means estimator compared with the P-score Regression: this impact was equal to 8 percentage points compared with 5 percentage points, respectively.

Next, results also pointed to the existence of heterogeneous impacts on degree completion and transfer by age (third panel of Table 10). After three years, younger students who participated in ELIP versus traditional ESL experienced a 10 percentage point decrease in the likelihood of dropping out (significant at the 1 percent level), while this difference was not significantly different from zero for older students. After five years, both older and younger students who participated in ELIP versus traditional ESL experienced a decline in the likelihood of dropping out. However, these impacts varied slightly, depending on which propensity score approach was used. Specifically, after five years, both older and younger students who participated in ELIP experienced a 5 percentage point lower likelihood of dropping out under the P-score Direct approach; under the P-score Regression approach, younger students experienced a 7 percentage point decline while older students experienced a 4 percentage point decline. The impact on persistence within three years was only statistically significant for younger students: for younger students who participated in ELIP versus ESL, the impact of ELIP was equal to a 12 percentage point increase in the likelihood of persisting in college. Over five years, the impact



was positive and statistically significant only for older students, where participation in ELIP was associated with a 6 percentage point increase in the likelihood of persisting. Examining the impact of ELIP on degree completion or transfer did not reveal consistent differences between younger and older students. The only positive and significant impact was found for younger students within five years under the P-score Regression approach; results show that younger students who participated in ELIP versus traditional ESL graduated or transferred at a rate that was 4 percentage points higher.

Examining the impact of participation in ELIP by immigrant generational status on college progression and degree outcomes I find significant impact on dropping out within three years, but do find that after five years, 1.5 generation students who participate in ELIP versus traditional ESL are 8 percentage points less likely to drop out of postsecondary education, significant at the 1 percent level; however this impact was slightly lower (5 percentage points) using the P-score Regression (significant at the 5 percent level) (third panel of Table 11). Similarly, in examining the impact on persistence, I only found consistent significant impacts for 1.5 generation students after five years: the likelihood of persisting was 5 percentage points higher (this impact was equal to 4 percentage points using P-score Regression). The positive effects found for the sample of second generation students, while significant and large, are possibly an artifact of the small sample size; they were not consistent across model specifications and thus should be interpreted with caution. Finally, examining degree completion and transfer, I found no statistically significant impact for any immigrant group. The only significant impact found was for first generation immigrants—a decreased likelihood of attaining a degree or transferring equal to 3 percentage points (significant at the 5 percent level)—however, this result did not hold across the two propensity score specifications.

### **Results conditional on LUCCS enrollment**

The analysis and results presented above assume that all ELIP participants intend to pursue a degree at LUCCS. Under this assumption, keeping students who do not subsequently make the transition into LUCCS as degree-seeking (20 percent of the ELIP sample, See Table 2) students makes intuitive sense. Excluding these students from an analysis may produce biased results, as ELIP students who participate, complete, and subsequently make the transition to LUCCS are likely different in ways that also affect the outcomes. For example, the bias may be positive if individuals who do not make the transition are less motivated and thus would have obtained lower outcomes had they enrolled in LUCCS; on the other hand, the bias may be negative if individuals did not make the transition, for example because they already had a foreign-degree and only needed to learn English to practice their profession in the United States. Nevertheless, it is also possible that not all students who participate in ELIP originally intended to pursue a degree in LUCCS and therefore, for this reason did not make the transition into LUCCS. Including these students in the analyses would bias results in a similar fashion. Despite the fact that an individual must apply, be admitted as a degree seeking student, and take placement tests in order to participate in ELIP, an individual seeking to learn English may be encouraged by peers or incentivized by the low cost or other program features to enroll in the program even if they never originally intended to pursue a degree. The available data does not allow me to distinguish which students genuinely intended to pursue a degree from those who did not. As such, I address this concern by conducting a separate propensity score analysis using the sample conditional on LUCCS enrollment (Table 12).

Results indicate that conditional on LUCCS enrollment, participation in ELIP versus traditional ESL is associated with a 7 percentage point increase in the likelihood of taking college English (significant at the 1 percent level); this impact increased to 11 percentage points after five years (significant at the 1 percent level) (Table 12). ELIP participants also experienced higher likelihoods of passing and earning a *B* or higher—over three years, ELIP participants were 6 percentage points more likely to pass (significant at 1 percent level) and 4 percentage points more likely to earn a *B* or higher (significant at 5 percent level); after five years, the likelihood of passing and earning a *B* or higher nearly doubled, to 11 percentage points and 6 percentage points, respectively (both significant at the 1 percent level). The results for the P-score Regression are nearly identical.

The second panel of Table 12 presents findings that indicate that for students who participated in ELIP and subsequently enrolled in LUCCS, participating in ELIP versus the traditional ESL sequence resulted in accumulating significantly fewer equated credits. After three and five years, ELIP students earned about 6 and 5 fewer remedial credits, respectively (both significant at the 1 percent level). Looking specifically at the accumulation of credits that count toward a degree, results indicate there is no impact after three years, but those who participated in ELIP versus traditional ESL earned about 4 more credits after five years (significant at the 1 percent level). These impacts equate to taking about two fewer remedial courses and one more college level course.

Finally, results also indicate that for students who participated in ELIP and subsequently enrolled in LUCCS, participating in ELIP versus the traditional ESL sequence is associated with about a 16 percentage point decrease in the likelihood of dropping out and a 17 percentage point increase in the likelihood of persisting in LUCCS after three years, both significant at the 1

percent level. After five years, the likelihood of dropping out was 12 percentage points lower for those who participated in ELIP; the likelihood of persisting in LUCCS was 4 percentage points higher. All estimates were significant at the 1 percent and 5 percent level. Examining the impact of participating in ELIP compared with traditional ESL on degree completion or transfer, the analysis found no statistically significant impact after three years. Results for degree completion over five years, on the other hand, reveal that participating in ELIP versus the traditional ESL sequence resulted in around a 3.8 percentage point increase in the likelihood of degree completion or transfer (significant at the 5 percent level). In all instances, P-score Direct and P-score Regression estimates were less than 1 percentage of each other.

### **Limitations**

As with all non-experimental studies, in this study there exist limitations with respect to the data and methods. First, as is common with administrative datasets, this dataset suffers from problems of missing data on some important variables. For example, 5% of observations had missing values for race/ethnicity; 15% were missing citizenship status and type of high school background; and 23% were missing first language data. This study addresses missing data by including missing data dummies in all model specifications. In the propensity score model, only missing race/ethnicity data was statistically significant—this indicates that those missing race/ethnicity had lower odds of participating in ELIP. Second, small sample sizes may affect the standard errors and can potentially affect statistical significance of the coefficients. This is particularly a concern when examining effects by some of the smaller subgroups. Another concern may be measurement error. For example, to address the fact that many students in my sample do not take college English because they are graduates of a foreign high school, an

attempt to capture prior academic preparation was made by transforming the continuous variable indicating the number of units in college prep English and college prep math into three dummy variables: took college prep English/math, did not take college prep English/math, and whether this value was missing. In doing so, it is possible that these variables lost some of their original purpose—where now they proxy for exposure to these subjects, not the actual intensity of college prep course-taking.

There exists a debate about whether or not estimates based on the propensity score actually produce unbiased estimates of treatment effects. As such, the use of propensity score matching as an empirical strategy can also be considered a limitation of the research. The work of Agodini and Dynarski (2004) suggests that propensity score matching does not do a very good job in replicating impacts of experimental estimates. In fact, they conclude that estimates based on propensity score matching are not much better than those based on regression analysis. On this note, Gellman and Hill (2009) highlight that propensity score matching addresses some of the pitfalls of linear regression, for example by constraining inference to areas of common support in order to avoid model extrapolation. The work of Dehejia and Wahba (2002) further stresses the importance of common support in propensity score matching. Their study uses an experimental benchmark to compare various matching methods and demonstrate that propensity score matching methods do provide a good means to correcting for selection bias due to unobserved differences between treatment and control groups. Their findings also illustrate that the matching method used does impact the degree to which experimental and non-experimental estimates differ. Using various methods and two different control samples, they find that the degree of common support or overlap between treatment and comparison groups in terms of the distribution of the propensity score impacts the sensitivity to different matching methods—in

particular, when there is substantial overlap, most matching algorithms will provide similar results; this is not the case otherwise. Robustness checks performed in this study are intended to explore these limitations.

There are also limitations posed by the outcomes that can be examined by this study. To begin, it is important to note that outcomes measured within one year are not especially informative of “true” college outcomes, given the pre-college nature of ELIP. As previously noted, program participants defer college enrollment for up to one year and thus are unlikely to generate college enrollment–related outcomes within one year of entering the program. As a result this study examined outcomes on the effect of participating in ELIP versus the traditional ESL sequence for outcomes measured within three and five years, as these data are more likely to represent authentic college outcomes for students who participated in ELIP. Additionally, there are limitations on the types of outcomes that can be examined given the available quantitative data. First, while performance in college level English may proxy for academic English skills, this study was unable to directly capture whether participation in ELIP improved English oral and literacy skills. Improvements in English oral and literacy skills, even if students only study English and take no other courses at the college, would have important implications for labor market outcomes, as economists have consistently shown that the act of acquiring higher levels of English proficiency itself improves labor market outcomes (Bleakly & Chin, 2004; Chiswick & Miller 1995; Gonzalez, 2000; Rivera-Batíz 1990). Second, while college and program administrators may be most interested in performance in college English, college credit accumulation, and degree outcomes, ESL programming options may have broader impacts. For example, by acquiring English language skills, individuals may benefit from an improved ability to understand complex paperwork as well as from an ability to participate more deeply in the

political process and in social activities. The Pew Hispanic Research Center (2007) reported that immigrants who speak English are one step closer to meeting the requirements needed to acquire United States citizenship; they may also benefit by becoming better consumers of information about goods and services. Taken together, the limitations in outcomes that can be examined suggest that an important part of the program's success would be captured with the availability of detailed data on English oral and literacy skills, labor market outcomes, and social and political participation.

To address the concern that results may be biased downward if not all students who participate in ELIP truthfully intended to pursue a degree at LUCCS this study separately conducted an analysis of college outcomes conditional on enrollment in LUCCS. This sample of non-enrollees however may include a group of students who did intend to enroll in LUCCS (should be kept in the analysis) as well as those who never did intend to enroll (should be excluded from analysis). An implication of this limitation is that data that better distinguishes between individuals who truly intend to pursue a degree at LUCCS would be of great assistance in helping uncover the overall impact of ELIP. As it stands, results indicate that while the program has a positive impact for the students who make the transition from ELIP to LUCCS, however, the positive impact may be an over estimate because it excludes those who intended to pursue a degree but were dropped from the analysis. On the other hand, results from an analysis that includes all students may be attenuated by those who never intended to pursue a degree and thus did not make the transition into LUCCS.

Finally, it is important to draw attention to the fact that in the absence a strict cutoff for placement, pre- and post- data, or some other plausibly exogenous source of variation of the treatment condition, it is not possible to use empirical strategies such as difference-in-difference,

regression-discontinuity, or instrumental variables. At first sight, knowing that ELIP targets students scoring a 4 or less on the LUCCS writing placement test, one might consider regression-discontinuity as a viable empirical strategy. However, the high degree of clustering around one side of the writing placement exam cutoff, primarily due to the nature of the scoring system and the small range of scores, presents evidence that this approach is not feasible.

### **Robustness Checks**

As a robustness check, I compared the results based on the matched sample difference in means (P-score Direct) with those based on the regression adjusted matched model (P-score Regression) and those based on linear regression (Regression). This exercise examined differences and similarities between the estimates. Researchers have suggested that the P-score Regression approach can potentially improve the precision of the estimates by adjusting for slight covariate imbalances (Rubin, 1973, 1979; Rubin & Thomas, 2000); similar estimates between P-score Direct and P-score Regression suggest consistency and increased reliability of causal estimates. The Regression approach addresses Agodini and Dynarski's (2004) argument that estimates based on the propensity score are not very different from the standard regression and that they do not do a good job in replicating experimental estimates; similarities between P-score and Regression estimates would support this argument. Differences between the P-score approaches and the Regression approach would suggest that propensity score matching addressed some of the weaknesses of linear regression as noted by Gellman and Hill (2009).

Across models, I found that estimates based on the propensity score were fairly robust to whether or not covariates were included in the model. There was only a slight drop in the consistency of the estimates for the subgroups in which the sample size fell significantly, such as



when examining second generation students. The consistency of the estimates can be seen in Table 7, which contains the results for the full sample: the differences between the regression adjusted propensity score estimates (column 2) and those based on a difference in means between matched samples (column 1) were consistently similar in sign, magnitude, and statistical significance (Table 7). When this was not the case, such as for obtaining a degree or transfer within three years, the likely reason is that the magnitude of the estimate was quite small. Next, I compared the propensity score estimates (column 1 and column 2) with those of the Regression model (column 3). I found that for the college English outcomes propensity score estimates were mostly positive (but not statistically significant) while Regression estimates were generally negative (but not statistically significant). Looking at equated and college credits completed, the sign and significance were the same across both P-score and regression models; however, estimates of the Regression model were slightly larger compared to the P-score models. In terms of dropout, both the P-score and Regression models found negative impacts, but Regression results were about half the size of the P-score estimates and tended to be significant at a lower level. Similarly, with persistence, both P-score and Regression models found positive and statistically significant impacts, but the Regression model effects were slightly smaller.

Finally, looking at degree or transfer, I found that results measured within three years were negative across both models but were about double the size and statistically significant for the Regression model; after five years, the degree or transfer outcome results were positive under both P-score models and negative under the regression model but neither was statistically significant. In sum, the Regression model tended to find more negative impacts than the models estimated using a matched sample, although estimates were not always statistically significant. Differences in the magnitude of the effects also tended to be larger under the Regression

model—suggesting possible upward biased results when using the full unmatched dataset.

Differences arising between propensity score and the Regression models are likely due to the fact that the full sample is used (larger sample size) and the resulting high degree of extrapolation that occurs when using standard regression (Gellman & Hill, 2009).

### **Discussion**

This chapter helps address the gap in the literature on the effect of academic ESL pathways on college outcomes. It attempts to address student self-selection into the ESL pathway by exploiting a rich longitudinal administrative dataset and utilizing a propensity score matching approach. Specifically, for students placing into the lowest levels of ESL, it examined the effect of participating in the English Language Immersion Program versus participating in the traditional ESL sequence on college English enrollment and performance, credit accumulation, and college progression and degree outcomes. Due the high level of diversity among the sample this study also explored impact heterogeneity by gender, race/ethnicity, age, and immigrant generational status. The results add to prior literature examining the effectiveness of lower levels of remediation or more intensive remedial sequences (Boatman & Long, 2010; Hodara, 2012). These studies tend to find less negative and some positive impacts of these remedial assignments.

In this study, I find no evidence that participation in ELIP versus traditional ESL leads to significant impacts on college English course-taking and performance; this suggests that students in both ESL pathways take college English and perform about the same. The only exception was for male ELIP participants: after five years, male students who participated in ELIP are found to take college English at slightly higher rate than had they began in the traditional ESL sequence.

I also find consistent evidence for the full sample and across most subgroups that students who participate in ELIP versus traditional ESL earn fewer college level credits. The negative impact on college level credits is suggestive of diversion effects—in deferring their enrollment to participate in ELIP, students are unable to accumulate college credits and with the exception of males, younger students, and generation 1.5 students, they do not catch up to their traditional ESL peers after five years of placing into the program. For males who participate in ELIP versus traditional ESL, I find that the negative effect on college level credits fades and is no longer statistically significant after three and five years; for younger and generation 1.5 students I find no statistically significant impact on college level credits completed after five years. These results suggest that for these subgroups, the gap in college credits completed tends to close over time. Furthermore, I also find that ELIP students earn significantly fewer equated credits over three and five years—suggesting they spend less time on remedial coursework than observably similar traditional ESL peers.

Results for college enrollment outcomes after three and five years indicate that for the full sample and across most subgroups, ELIP participants were more likely to persist and less likely to drop out than observably similar peers who participated in the traditional ESL sequence. Finally, I do not find evidence that ELIP participation discourages students from future study: namely, I find that the effect of on graduation and/or transfer to a LUCCS four-year college is not significantly different from zero—the only exception is for female ELIP participants, they are 2 percentage points less likely to earn a degree and/or transfer after three years—this negative impact fades after five years.

In the next chapter, I present findings from the qualitative phase of this study in an effort to help explain the quantitative results. Specifically, interviews with ELIP and traditional ESL

instructors and administrators as well as focus groups interviews with current and former ELIP and ESL students was used to better understand student's motivation for engagement in ELIP and the traditional ESL sequence. The interviews also explored how the ELIP and traditional ESL sequence components--such as the program design, structure, and curriculum—might influence program impact. Student focus group interviews with former program participants also provided information relating to their perceptions of how their respective ESL pathway influenced their preparedness for college programs. Faculty, staff, and students also reflected on how other factors help or hinder success in college.

**Table 7. College Outcomes Full Sample Results**

Outcomes	Post-Match				Pre-Match	
	(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>						
Took w/in 3	0.012	(0.017)	0.006	(0.016)	-0.015	(0.011)
Took w/in 5	0.020	(0.020)	0.015	(0.018)	-0.012	(0.012)
Passed w/in 3	0.006	(0.016)	0.001	(0.015)	-0.014	(0.011)
Passed w/in 5	0.018	(0.019)	0.015	(0.017)	-0.009	(0.012)
Earned B or higher w/in 3	0.003	(0.013)	-0.001	(0.012)	-0.019**	(0.009)
Earned B or higher w/in 5	0.013	(0.016)	0.012	(0.014)	-0.014	(0.011)
<i>Credit Accumulation</i>						
Equated credits w/in 3	-8.405***	(0.628)	-8.588***	(0.570)	-8.981***	(0.297)
Equated credits w/in 5	-7.925***	(0.651)	-8.106***	(0.590)	-8.589***	(0.312)
College level credits w/in 3	-5.070***	(0.908)	-5.325***	(0.779)	-5.967***	(0.537)
College level creditsw/in 5	-3.064**	(1.428)	-3.308***	(1.213)	-4.197***	(0.846)
<i>College Progression &amp; Degree Completion</i>						
Dropped out of LUCCS w/in 3	-0.046**	(0.022)	-0.045**	(0.020)	-0.015	(0.013)
Dropped out of LUCCS w/in 5	-0.052***	(0.018)	-0.052***	(0.017)	-0.027**	(0.012)
Persisted in LUCCS w/in 3	0.061***	(0.021)	0.060***	(0.020)	0.041***	(0.013)
Persisted in LUCCS w/in 5	0.042***	(0.014)	0.042***	(0.013)	0.035***	(0.009)
Degree or Transfer w/in 3	-0.014	(0.008)	-0.013*	(0.007)	-0.028***	(0.006)
Degree or Transfer w/in 5	0.010	(0.014)	0.010	(0.012)	-0.008	(0.010)
Sample Size	4,927		4,927		8,312	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

**Table 8. College Outcomes by Gender**

Outcomes	Females						Males					
	(1)		(2)		(3)		(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>												
Took w/in 3	-0.002	(0.022)	-0.018	(0.019)	-0.037**	(0.015)	0.040	(0.028)	0.042*	(0.025)	0.024	(0.019)
Took w/in 5	0.002	(0.025)	-0.008	(0.022)	-0.041***	(0.015)	0.055*	(0.031)	0.057**	(0.027)	0.036*	(0.020)
Passed w/in 3	-0.001	(0.020)	-0.014	(0.018)	-0.031**	(0.014)	0.019	(0.028)	0.023	(0.024)	0.013	(0.018)
Passed w/in 5	0.004	(0.024)	-0.002	(0.021)	-0.037**	(0.015)	0.045	(0.030)	0.048*	(0.026)	0.039*	(0.020)
Earned B or higher w/in 3	-0.003	(0.017)	-0.011	(0.015)	-0.033***	(0.012)	0.013	(0.021)	0.017	(0.019)	0.004	(0.015)
Earned B or higher w/in 5	0.007	(0.020)	0.006	(0.018)	-0.036***	(0.014)	0.025	(0.024)	0.026	(0.023)	0.021	(0.017)
<i>Credit Accumulation</i>												
Equated credits w/in 3	-9.273***	(0.806)	-9.588***	(0.688)	-9.699***	(0.374)	-6.726***	(0.968)	-6.803***	(0.809)	-7.762***	(0.484)
Equated credits w/in 5	-8.766***	(0.848)	-9.050***	(0.719)	-9.294***	(0.393)	-6.307***	(0.965)	-6.428***	(0.835)	-7.426***	(0.511)
College level credits w/in 3	-6.846***	(1.160)	-7.142***	(0.951)	-7.454***	(0.669)	-1.518	(1.401)	-1.794	(1.182)	-3.419***	(0.903)
College level credits w/in 5	-5.272***	(1.825)	-5.456***	(1.445)	-6.263***	(1.053)	1.287	(2.216)	1.257	(1.947)	-0.714	(1.436)
<i>College Progression &amp; Degree Completion</i>												
Dropped out of LUCCS w/in 3	-0.014	(0.028)	-0.013	(0.025)	0.008	(0.016)	-0.110***	(0.033)	-0.113***	(0.031)	-0.050**	(0.022)
Dropped out of LUCCS w/in 5	-0.053**	(0.023)	-0.053***	(0.020)	-0.019	(0.015)	-0.047	(0.031)	-0.055*	(0.028)	-0.039*	(0.020)
Persisted in LUCCS w/in 3	0.033	(0.027)	0.032	(0.025)	0.021	(0.017)	0.116***	(0.031)	0.114***	(0.029)	0.070***	(0.021)
Persisted in LUCCS w/in 5	0.051***	(0.017)	0.052***	(0.016)	0.040***	(0.012)	0.022	(0.024)	0.024	(0.023)	0.023	(0.014)
Degree or Transfer w/in 3	-0.020*	(0.011)	-0.020**	(0.009)	-0.030***	(0.008)	-0.001	(0.012)	0.003	(0.012)	-0.023**	(0.010)
Degree or Transfer w/in 5	0.002	(0.018)	0.002	(0.015)	-0.021	(0.013)	0.024	(0.023)	0.031	(0.021)	0.016	(0.016)
Sample Size	3,290		3,290		5,132		1,637		1,637		3,180	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

**Table 9. College Outcomes by Race**

Outcomes	Latinos						White, Non-Hispanic					
	(1)		(2)		(3)		(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>												
Took w/in 3	0.030	(0.022)	0.008	(0.020)	-0.011	(0.015)	-0.009	(0.058)	0.026	(0.046)	-0.051	(0.039)
Took w/in 5	0.034	(0.026)	0.007	(0.024)	-0.011	(0.016)	-0.005	(0.064)	0.020	(0.051)	-0.056	(0.040)
Passed w/in 3	0.018	(0.021)	0.003	(0.019)	-0.016	(0.015)	-0.012	(0.057)	0.022	(0.045)	-0.053	(0.039)
Passed w/in 5	0.028	(0.025)	0.007	(0.022)	-0.011	(0.016)	0.003	(0.063)	0.026	(0.049)	-0.055	(0.040)
Earned B or higher w/in 3	0.018	(0.014)	0.011	(0.014)	-0.006	(0.012)	0.001	(0.053)	0.023	(0.044)	-0.066*	(0.036)
Earned B or higher w/in 5	0.030	(0.019)	0.020	(0.018)	-0.001	(0.014)	0.018	(0.059)	0.024	(0.048)	-0.060	(0.038)
<i>Credit Accumulation</i>												
Equated credits w/in 3	-8.090***	(0.883)	-8.498***	(0.771)	-8.749***	(0.414)	-8.694***	(1.749)	-9.085***	(1.466)	-10.291***	(0.961)
Equated credits w/in 5	-7.472***	(0.920)	-7.852***	(0.800)	-8.256***	(0.437)	-8.898***	(1.686)	-9.279***	(1.511)	-10.353***	(0.985)
College level credits w/in 3	-4.756***	(1.020)	-5.458***	(0.938)	-6.752***	(0.681)	-8.988**	(3.490)	-6.102**	(2.416)	-8.451***	(1.981)
College level creditsw/in 5	-1.741	(1.533)	-3.048**	(1.417)	-4.893***	(1.067)	-11.323*	(5.937)	-7.386*	(4.128)	-8.977***	(3.092)
<i>College Progression &amp; Degree Completion</i>												
Dropped out of LUCCS w/in 3	-0.078***	(0.028)	-0.059**	(0.027)	-0.020	(0.018)	0.057	(0.066)	0.040	(0.060)	0.057	(0.042)
Dropped out of LUCCS w/in 5	-0.066***	(0.023)	-0.049**	(0.021)	-0.018	(0.016)	-0.008	(0.063)	-0.046	(0.048)	0.014	(0.040)
Persisted in LUCCS w/in 3	0.080***	(0.028)	0.063**	(0.027)	0.048***	(0.018)	-0.001	(0.064)	-0.033	(0.062)	-0.034	(0.042)
Persisted in LUCCS w/in 5	0.038**	(0.019)	0.031*	(0.018)	0.030**	(0.013)	0.033	(0.042)	0.039	(0.029)	0.020	(0.025)
Degree or Transfer w/in 3	-0.002	(0.006)	-0.002	(0.006)	-0.029***	(0.007)	-0.051	(0.046)	-0.002	(0.033)	-0.025	(0.028)
Degree or Transfer w/in 5	0.027*	(0.015)	0.018	(0.015)	-0.012	(0.013)	-0.023	(0.057)	0.008	(0.041)	-0.035	(0.036)
Sample Size	2,913		2,913		4,366		668		668		1,009	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

**Table 9. College Outcomes by Race, continued**

Outcomes	Black, Non-Hispanic						Asian, Pacific Islander					
	(1)		(2)		(3)		(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>												
Took w/in 3	-0.025	(0.057)	0.008	(0.057)	0.021	(0.042)	-0.014	(0.044)	-0.042	(0.037)	-0.034	(0.029)
Took w/in 5	-0.066	(0.062)	-0.026	(0.060)	-0.021	(0.045)	0.043	(0.047)	0.011	(0.039)	-0.015	(0.031)
Passed w/in 3	-0.011	(0.057)	0.024	(0.056)	0.054	(0.041)	-0.010	(0.042)	-0.033	(0.037)	-0.019	(0.029)
Passed w/in 5	-0.048	(0.061)	-0.006	(0.059)	0.013	(0.044)	0.032	(0.046)	0.006	(0.039)	-0.012	(0.031)
Earned B or higher w/in 3	-0.034	(0.043)	-0.028	(0.047)	-0.023	(0.033)	-0.038	(0.037)	-0.052	(0.035)	-0.047*	(0.026)
Earned B or higher w/in 5	-0.079	(0.052)	-0.061	(0.056)	-0.036	(0.038)	-0.020	(0.041)	-0.033	(0.037)	-0.050*	(0.029)
<i>Credit Accumulation</i>												
Equated credits w/in 3	-9.343***	(1.687)	-8.811***	(1.555)	-8.678***	(0.977)	-8.800***	(1.308)	-9.379***	(1.046)	-9.185***	(0.669)
Equated credits w/in 5	-8.917***	(1.800)	-8.162***	(1.641)	-8.107***	(1.054)	-8.259***	(1.406)	-8.867***	(1.139)	-8.678***	(0.707)
College level credits w/in 3	-4.808*	(2.730)	-3.563	(2.306)	-3.952**	(1.741)	-2.113	(2.665)	-1.657	(2.069)	-2.671*	(1.504)
College level creditsw/in 5	-4.291	(4.191)	-0.781	(3.688)	-1.640	(2.808)	0.681	(4.127)	1.672	(3.419)	-0.233	(2.460)
<i>College Progression &amp; Degree Completion</i>												
Dropped out of LUCCS w/in 3	-0.003	(0.064)	-0.036	(0.064)	0.022	(0.048)	-0.050	(0.055)	-0.042	(0.047)	-0.032	(0.032)
Dropped out of LUCCS w/in 5	-0.083	(0.053)	-0.147***	(0.055)	-0.090**	(0.043)	-0.054	(0.048)	-0.035	(0.044)	-0.047	(0.031)
Persisted in LUCCS w/in 3	0.014	(0.063)	0.028	(0.063)	-0.010	(0.048)	0.068	(0.052)	0.061	(0.046)	0.045	(0.032)
Persisted in LUCCS w/in 5	0.060	(0.038)	0.093**	(0.043)	0.045	(0.035)	0.076***	(0.027)	0.053*	(0.029)	0.053***	(0.022)
Degree or Transfer w/in 3	-0.021	(0.021)	-0.006	(0.024)	-0.025	(0.017)	-0.019	(0.024)	-0.021	(0.025)	-0.012	(0.021)
Degree or Transfer w/in 5	0.023	(0.041)	0.054	(0.044)	0.045	(0.033)	-0.022	(0.043)	-0.018	(0.037)	-0.006	(0.029)
Sample Size	334		334		723		678		678		1,547	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.



**Table 10. College Outcomes by Age**

Outcomes	Age 23 or Younger						Age 24 or Older					
	(1)		(2)		(3)		(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>												
Took w/in 3	0.036	(0.024)	0.044**	(0.022)	0.024	(0.016)	-0.011	(0.024)	-0.029	(0.021)	-0.059***	(0.017)
Took w/in 5	0.039	(0.028)	0.055**	(0.026)	0.035**	(0.017)	-0.002	(0.027)	-0.022	(0.023)	-0.066***	(0.018)
Passed w/in 3	0.029	(0.023)	0.040*	(0.021)	0.025	(0.015)	-0.017	(0.023)	-0.034*	(0.020)	-0.059***	(0.016)
Passed w/in 5	0.033	(0.028)	0.052**	(0.025)	0.041**	(0.017)	0.001	(0.025)	-0.018	(0.022)	-0.068***	(0.017)
Earned B or higher w/in 3	0.004	(0.019)	0.017	(0.017)	0.003	(0.013)	0.001	(0.018)	-0.019	(0.017)	-0.049***	(0.014)
Earned B or higher w/in 5	0.004	(0.024)	0.023	(0.022)	0.015	(0.015)	0.020	(0.020)	0.000	(0.019)	-0.053***	(0.016)
<i>Credit Accumulation</i>												
Equated credits w/in 3	-7.560***	(0.866)	-7.680***	(0.761)	-8.040***	(0.391)	-9.222***	(0.901)	-9.686***	(0.763)	10.168**	(0.457)
Equated credits w/in 5	-7.124***	(0.893)	-7.217***	(0.800)	-7.634***	(0.412)	-8.715***	(0.934)	-9.148***	(0.790)	-9.775***	(0.479)
College level credits w/in 3	-3.850***	(1.341)	-2.814***	(1.064)	-3.491***	(0.732)	-6.305***	(1.227)	-7.285***	(1.041)	-8.631***	(0.790)
College level creditsw/in 5	-1.244	(2.217)	0.424	(1.749)	0.027	(1.180)	-5.003***	(1.809)	-6.340***	(1.539)	-8.968***	(1.204)
<i>College Progression &amp; Degree Completion</i>												
Dropped out of LUCCS w/in 3	-0.100***	(0.029)	-0.108***	(0.028)	-0.065***	(0.018)	0.006	(0.032)	0.019	(0.028)	0.044**	(0.020)
Dropped out of LUCCS w/in 5	-0.052*	(0.028)	-0.068***	(0.025)	-0.071***	(0.017)	-0.048**	(0.023)	-0.039*	(0.021)	0.024	(0.018)
Persisted in LUCCS w/in 3	0.121***	(0.028)	0.119***	(0.027)	0.083***	(0.018)	0.003	(0.031)	-0.006	(0.028)	-0.012	(0.019)
Persisted in LUCCS w/in 5	0.023	(0.023)	0.024	(0.021)	0.039***	(0.013)	0.058***	(0.014)	0.062***	(0.013)	0.030**	(0.013)
Degree or Transfer w/in 3	-0.021	(0.015)	-0.011	(0.011)	-0.019**	(0.009)	-0.008	(0.009)	-0.011	(0.009)	-0.034***	(0.009)
Degree or Transfer w/in 5	0.028	(0.021)	0.044**	(0.017)	0.031**	(0.014)	-0.009	(0.019)	-0.023	(0.017)	-0.053***	(0.014)
Sample Size	2,475		2,475		4,907		2,448		2,448		3,401	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

**Table 11. College Outcomes by Immigrant Generation Status**

Outcomes	1st Generation						1.5 Generation						2nd Generation					
	(1)		(2)		(3)		(1)		(2)		(3)		(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>																		
Took w/in 3	-0.018	(0.025)	0.000	(0.022)	-0.035*	(0.018)	-0.015	(0.033)	-0.035	(0.028)	-0.045**	(0.020)	-0.072	(0.100)	-0.160	(0.103)	-0.085	(0.079)
Took w/in 5	-0.021	(0.029)	0.001	(0.026)	-0.042**	(0.019)	0.007	(0.036)	-0.024	(0.031)	-0.028	(0.022)	0.021	(0.116)	0.011	(0.146)	-0.009	(0.094)
Passed w/in 3	-0.024	(0.025)	-0.005	(0.021)	-0.032*	(0.018)	-0.023	(0.032)	-0.040	(0.027)	-0.045**	(0.019)	-0.071	(0.097)	-0.086	(0.123)	-0.042	(0.077)
Passed w/in 5	-0.017	(0.029)	0.006	(0.025)	-0.040**	(0.019)	0.002	(0.035)	-0.025	(0.030)	-0.024	(0.021)	-0.010	(0.112)	0.078	(0.149)	0.018	(0.093)
Earned B or higher w/in 3	-0.026	(0.020)	-0.013	(0.018)	-0.044***	(0.016)	-0.011	(0.023)	-0.025	(0.022)	-0.029**	(0.015)	-0.011	(0.067)	-0.012	(0.079)	0.024	(0.060)
Earned B or higher w/in 5	-0.020	(0.025)	-0.000	(0.021)	-0.045***	(0.017)	0.002	(0.026)	-0.020	(0.025)	-0.029	(0.017)	0.002	(0.081)	0.049	(0.076)	0.013	(0.068)
<i>Credit Accumulation</i>																		
Equated credits w/in 3	-9.835***	(0.894)	-9.886***	(0.862)	-10.425***	(0.465)	-7.160***	(1.259)	-7.614***	(0.952)	-8.367***	(0.533)	-1.568	(3.304)	-3.495	(3.295)	-9.119***	(1.735)
Equated credits w/in 5	-9.607***	(0.914)	-9.620***	(0.888)	-10.209***	(0.484)	-6.678***	(1.298)	-7.093***	(0.991)	-8.111***	(0.558)	-0.742	(3.625)	-3.270	(3.880)	-9.154***	(1.960)
College level credits w/in 3	-7.824***	(1.437)	-6.837***	(1.243)	-7.462***	(0.882)	-3.317**	(1.421)	-4.598***	(1.203)	-5.335***	(0.918)	-1.883	(4.934)	-2.252	(4.966)	-8.918**	(3.486)
College level credits w/in 5	-8.581***	(2.310)	-6.610***	(1.936)	-7.010***	(1.392)	-0.380	(2.045)	-2.852	(1.763)	-4.286***	(1.394)	2.032	(7.268)	5.131	(7.889)	-6.438	(5.500)
<i>College Progression &amp; Degree Completion</i>																		
Dropped out of LUCCS w/in 3	0.009	(0.033)	-0.014	(0.031)	0.017	(0.020)	-0.068*	(0.037)	-0.027	(0.033)	0.014	(0.023)	-0.048	(0.136)	-0.101	(0.170)	0.038	(0.091)
Dropped out of LUCCS w/in 5	0.014	(0.029)	-0.012	(0.026)	0.009	(0.019)	-0.080***	(0.028)	-0.053**	(0.025)	-0.020	(0.021)	-0.099	(0.090)	-0.144	(0.122)	-0.044	(0.082)
Persisted in LUCCS w/in 3	0.020	(0.032)	0.029	(0.031)	0.024	(0.020)	0.070*	(0.036)	0.035	(0.032)	0.005	(0.023)	0.086	(0.133)	0.154	(0.163)	-0.033	(0.091)
Persisted in LUCCS w/in 5	0.022	(0.022)	0.025	(0.020)	0.024*	(0.014)	0.049**	(0.020)	0.040**	(0.019)	0.025	(0.016)	0.128**	(0.060)	0.248**	(0.101)	0.061	(0.064)
Degree or Transfer w/in 3	-0.029**	(0.015)	-0.015	(0.012)	-0.039***	(0.011)	-0.006	(0.011)	-0.010	(0.011)	-0.024**	(0.010)	-0.020	(0.032)	-0.034	(0.040)	-0.006	(0.033)
Degree or Transfer w/in 5	-0.036	(0.023)	-0.013	(0.020)	-0.033**	(0.017)	0.031	(0.019)	0.013	(0.019)	-0.005	(0.016)	-0.029	(0.070)	-0.104	(0.093)	-0.018	(0.063)
Sample Size	2,499		2,499		3,561		1,294		1,294		2,791		89		89		320	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used. 1<sup>st</sup> Generation is defined as foreign-born individuals, 1.5 Generation is defined of foreign-born individuals who graduated from a U.S. high school, 2<sup>nd</sup> Generation is defined as individuals born in the U.S. and have at least one parent that is foreign-born.

**Table 12. College Outcomes Full Sample Results, Conditional on LUCCS Enrollment**

Outcomes	Post-Match				Pre-Match	
	(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>						
Took w/in 3	0.069***	(0.019)	0.065***	(0.017)	0.038***	(0.012)
Took w/in 5	0.111***	(0.020)	0.103***	(0.018)	0.056***	(0.013)
Passed w/in 3	0.058***	(0.018)	0.053***	(0.016)	0.032***	(0.012)
Passed w/in 5	0.106***	(0.019)	0.099***	(0.017)	0.054***	(0.013)
Earned B or higher w/in 3	0.035**	(0.015)	0.030**	(0.013)	0.010	(0.010)
Earned B or higher w/in 5	0.064***	(0.017)	0.060***	(0.015)	0.027**	(0.011)
<i>Credit Accumulation</i>						
Equated credits w/in 3	-5.795***	(0.610)	-6.040***	(0.537)	-6.868***	(0.306)
Equated credits w/in 5	-4.895***	(0.631)	-5.131***	(0.559)	-6.248***	(0.322)
College level credits w/in 3	-0.841	(0.961)	-1.338*	(0.790)	-2.441***	(0.553)
College level credits w/in 5	4.402***	(1.438)	3.594***	(1.189)	1.388	(0.878)
<i>College Progression &amp; Degree Completion</i>						
Dropped out of LUCCS w/in 3	-0.159***	(0.022)	-0.154***	(0.020)	-0.104***	(0.014)
Dropped out of LUCCS w/in 5	-0.124***	(0.019)	-0.119***	(0.017)	-0.089***	(0.013)
Persisted in LUCCS w/in 3	0.165***	(0.021)	0.163***	(0.020)	0.121***	(0.014)
Persisted in LUCCS w/in 5	0.087***	(0.013)	0.086***	(0.012)	0.064***	(0.010)
Degree or Transfer w/in 3	-0.006	(0.009)	-0.009	(0.008)	-0.019***	(0.007)
Degree or Transfer w/in 5	0.038**	(0.016)	0.033**	(0.014)	0.025**	(0.011)
Sample Size	4,137		4,137		7,615	

Source: Restricted use database covering placement test takers at LUCCS community colleges.

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

## CHAPTER 5

### A QUALITATIVE STUDY OF THE ESL PATHWAYS AT THE COMMUNITY COLLEGE

This chapter presents findings from the qualitative phase of the explanatory mixed methods design. The qualitative phase was meant to follow up the quantitative results to help explain the quantitative results. To summarize, in the quantitative phase of this study, I found no evidence that participation in ELIP versus traditional ESL leads to significant impacts on college English course-taking and performance. The only exception was for male ELIP participants: after five years, male students who participated in ELIP are found to take college English at slightly higher rate than had they began in the traditional ESL sequence. I also found consistent evidence for the full sample and across most subgroups that students who participate in ELIP versus traditional ESL earn fewer college level credits; with the exception of males, younger students, and generation 1.5 students, the negative and significant effect persists after five years. For males who participated in ELIP, I found no statistically significant effect on college level credits after three and five years; for younger and generation 1.5 students I found no statistically significant impact on college level credits completed after five years. For the full sample and across all subgroups I also found that ELIP students earn significantly fewer equated credits over three and five years—suggesting they spend less time on remedial coursework. Finally, I found that ELIP participants are more likely to persist and less likely to drop out, but find no effect on graduation and/or transfer to a LUCCS four-year college—the only exception is for female ELIP participants, they are 2 percentage points less likely to earn a degree and/or transfer after three years—this negative effect is no longer statistically significant after five years.

One of the six colleges in LUCCS was selected for participation in the qualitative phase of the study. The college was selected because it was the first college in LUCCS to offer ELIP. At the college, interviews with ELIP and traditional ESL instructors (N=4) and staff (N=2) as well as focus groups interviews with current (N=11) and former (N=6) ELIP and traditional ESL students were conducted to better understand student's motivation for engagement in ELIP and the traditional ESL sequence. The interviews also explored how the ELIP and traditional ESL sequence components—such as the program design, structure, and curriculum—might influence program impact. Student focus group interviews with former program participants also provided information relating to their perceptions of how their respective ESL pathway influenced their preparedness for college programs. Faculty, staff, and students also reflected on how other factors help or hinder success in college. In particular, the research questions addressed in this chapter were:

2. How do students, instructors and administrators describe the experience of learning about and enrolling in ELIP and traditional ESL sequence?
3. How do the ELIP and traditional ESL sequence designs facilitate the acquisition of knowledge, skills, and abilities perceived to be necessary for success in college programs?
4. What other factors help or hinder participants' success in college programs?

The following five findings emerged from this phase of the study:

### ***Perceptions of program enrollment***

1. A primary motivator for enrolling in ELIP was the lower cost, compared to the traditional ESL sequence. The college enrollment experience was a primary motivator for enrollment in the traditional ESL sequence.

***Perceptions of how the ESL pathway facilitates success in college programs***

2. Both ESL pathways identified theme/content-based instructional activities as an important program design feature that promotes the acquisition of knowledge, skills, and abilities necessary for success in college programs.
3. Participants in both ELIP and traditional ESL identified features of their respective program structure as important in influencing student success in college programs.

***Perceptions of other factors that help and/or hinder success in college programs***

4. Both current and former ELIP and ESL students indicated that professors can positively or negatively influence their college experience.
5. Participants identified personal and background characteristics, such as family and work responsibilities, age, and prior educational experience, as factors that can either help or hinder success in college programs.

This chapter is organized as follows: first, it provides a discussion of the qualitative analysis methods used. Next, it presents the findings for each of the three research questions by highlighting major themes that emerged in the analysis. The themes are accompanied with participants' quotes and a discussion that illustrates and supports each finding. Throughout this discussion, differences and similarities emerging across participants (current and former students, faculty, and staff), across programs (ELIP and traditional ESL sequence), and by demographic group (gender, race/ethnicity, age, or immigrant generation status) are highlighted. The chapter ends with a discussion of the limitations and findings.

## Qualitative Methods

During the qualitative phase of the study, perceptual data was collected over four days during spring and summer 2012 using semi-structured interviews and student focus groups with open-ended questions (See Appendix C). Open-ended questions were used to enable me to collect information based on questions that do not restrict the participants' opinions (Creswell & Plano Clark, 2011). Documents were also collected to better understand the research setting, program policies, and program practices. These documents included college catalogs, program handbooks, reports, pamphlets and/or websites, and other published communications. These documents were used to triangulate the interview and focus groups findings. These documents together with the literature review were also used to inform the conceptual framework (See Appendix D). Finally, demographic and background data was collected from participants to describe the research sample (See Appendix B). This included data on age, gender, ethnicity, native language, educational attainment, as well as work and career. The basis for collecting this information is in support of the overall findings and for exploring differences in perceptions by subgroup.

As proposed by Merriam (1998), the data collection and data analysis were carried out simultaneously to avoid the collection of repetitive, unfocused, and overwhelming amounts of data. Particularly, after each interview and focus group was conducted, I debriefed with colleagues, reviewed detailed data notes and audio recordings and kept notes to capture reflections, emerging themes, and points that I needed to pursue further. Subsequent interviews were informed by this process of review and reflection. In such a way, data collected from each interview and focus group was continuously compared and informed each other until data collection was complete.

The formal data analysis began by creating a coding legend by assigning alphanumeric codes to the categories and descriptors of the conceptual framework (See Appendix E). Using the coding legend, the detailed field notes were coded manually and electronically on Microsoft Word. During this process, themes that had emerged during the initial data collection and analysis (as described above) were corroborated by reviewing audio recordings and triangulated using documents and field notes. Next, to organize the data I created two separate Microsoft Excel files, one for ELIP and one for traditional ESL. Each Excel document contained seven tabs holding the following: (1) background information for faculty and staff, (2) background information for former students, (3) background information for current students, (4) data from research question two, (5) data from research question three, (6) data from research question four, and (7) notes and other important data points not falling directly under the research questions. Appendix F through Appendix I present examples of each of these Excel tabs. The data from each of the three research questions was organized in the following way: (1) the top row of the sheet contained identifiers for each group of respondents (i.e. ELIP staff, ELIP faculty 1, ELIP faculty 2, ELIP current students, ELIP former students); (2) the first column on the left contained the research questions' main categories from the conceptual framework (i.e. "Learning about the program" and "Motivation for enrolling in the program") and under each was its respective descriptor or code (i.e. M1 Cost, M2, Schedule, M3 College Enrollment Experience, etc.), and (3) each corresponding cell contained notes and coded participant quotations. Finally, in the last two columns to the right, I added notes and preliminary findings based on patterns and themes, noting similarities and differences arising between respondents and across programs (See Appendix G-I). During the analysis process, I shared and discussed the data tables and preliminary findings with fellow doctoral colleagues and with participants of the Qualitative



research group at the Community College Research Center. This was helpful to confirm my qualitative approach and interpretations.

Overall, this approach was used to come up with a number of patterns and themes for each of the research questions. The patterns and themes emerged when I examined data in the following ways: (1) first, by comparing participant responses within categories for each program; (2) second, by comparing and connecting patterns and themes across categories, and (3) by comparing these patterns and themes across programs. At each stage of this process, the data could confirm, support, or contradict each other. This approach allowed me to identify differences and similarities across participants (current and former students, faculty, and staff), across programs (ELIP and traditional ESL sequence), and by demographic group (gender, race/ethnicity, age, or immigrant generation status).

## **Findings**

### **Perceptions of program enrollment**

The majority of participants indicated that they learned about ELIP and traditional ESL from an advisor upon receiving results from LUCCS placement tests. In particular, this happened at an advising session where students were informed about their performance on LUCCS's writing placement exam. An ESL faculty member describes the ESL identification and placement process as: "students are advised as to what [ESL] level they place into when they register...If the reader sees certain errors, the reader may flag the test [as ESL] by putting an E next to their score." The ELIP program director notes that "students placing into the two lowest levels [of the traditional ESL sequence] are recommended to the [ELIP] program." At this college, a score of four or less on the LUCCS writing placement exam places students into the two lowest ESL levels. This finding confirms program documents which state that the primary

method for identifying students for participation ELIP and the traditional ESL sequence is their performance on their writing placement exam. Furthermore, this finding is highly significant because it provides additional support for the quantitative sample restrictions made in the quantitative phase of this study.

Students on the other hand, simply described this experience as being “placed into ESL by a counselor when I failed the tests.” None of the students spoke about resisting or challenging placement into an ESL pathway. All current and former ELIP and traditional ESL students who participated in this study said they were aware that both ELIP and the traditional ESL sequence were options for acquiring academic English language and literacy skills—motivation for enrolling in one versus the other, however, varied as follows.

**Finding 1: A primary motivator for enrolling in ELIP was the lower cost compared to the traditional ESL sequence. The college enrollment experience was a primary motivator for enrollment in the traditional ESL sequence.**

A review of ELIP’s websites, reports, and brochures finds that the low-cost of participating in the program has been consistently highlighted as one of its benefits. For example, in describing the program to prospective students the ELIP website writes:

ELIP is **a low-cost program**. Most students pay a fee of \$180 for a 15-week semester (25 hours a week). Students do not use their financial aid while in ELIP. Instead, they save their financial aid for subsequent college coursework [emphasis in original source].

Given that students with the highest ESL needs would likely face lengthy traditional ESL sequences—which charge regular LUCCS tuition but do not bear college credit—the reference to saving financial aid have also been central in these documents. Interviews with faculty, staff, and students confirm that the low-cost and the ability to save financial aid are indeed working to attract students to the program. Across the board, ELIP faculty and students as well as ESL

faculty indicated that the low-cost of ELIP was a primary factor motivating enrollment in the program. Faculties in both programs noted that price differences between both ELIP and traditional ESL were enormous and are considerably influencing students' program choice. During the 2010-2011 academic school year, a New York State resident paid \$180 to participate in a full semester of ELIP, while this same student paid \$1,575 to participate full-time in the traditional ESL sequence (ELIP, 2010; LUCCS 2011). In reference to these striking differences in cost, a traditional ESL faculty member noted that ELIP can be "more cost-effective for students. They get intense instruction for less money."

Students also perceived the low-cost of ELIP and tended to associate the program intensity as receiving more for their money. For example, a current ELIP student voiced a point to which all others in the focus group agreed: "we take the same [ESL] classes as on the main campus but they charge more than \$180 and it is less intensive." A former ELIP student also highlights that "cost was part of the decision, but when you hear that it is 25 hours a week, that is a big factor. If you really want to learn, it is worth the time." Students also expressed that when informed about program options advisors explained that if they participate in ELIP they would not have to pay that much and that they would be saving their financial aid for credit bearing courses.

Given the substantial investment in student time that is required to participate in ELIP, students also voiced cost in terms of opportunity cost. Their perception of opportunity cost appeared to be associated with whether they felt the program was or was not effective for them. These perceptions appeared to vary by age. For example, two former traditional aged students voiced that originally, they thought "ELIP would be a waste of time" but decided to give it a try because it was affordable and thought that if they did not like it they "could always go back to

the main campus.” Both former students felt the program was “worth it” because it reduced the number of non-credit courses they needed to take upon exiting ELIP: one student placed into college English and the other passed the writing placement exam but failed the reading and only needed to fulfill a developmental reading requirement. Two women over the age of 35, on the other hand, did not share the feeling that ELIP was “worth it.” These two women participated in the current ESL focus group because they placed into the second level of ESL upon exiting ELIP. While both agree that ELIP is a “good idea” they say that the program is probably more useful for students who have intermediate English skills. When they began the ELIP they did not know much English and upon exiting they were frustrated because they spent “one year, five hours per day in ELIP and didn’t learn” what they needed for college. One of the women expressed that she does not “have time to waste.” These quotes illustrate how background factors related to age may influence the cost of acquiring English language skills--suggesting that learning a second language in a sense does get more expensive as a student gets older. For instance, for older students compared to younger students, time is an increasingly scarce resource: in addition to learning English their time is more likely to also be allocated to family and work responsibilities.

The fact that ELIP is a pre-college program appears to influence students’ decision to enroll in the traditional ESL sequence. Faculty, staff, and students in the traditional ESL sequence agree that a primary motivator for enrolling in traditional ESL instead of ELIP is the perception that ELIP is “not really college”. The perceptions of faculty, staff and students are captured well in the following words of a traditional ESL faculty member:

Many students are so ready to be in college, so they think that coming here [traditional ESL] means that they are in college. Some students have a perception that ELIP is not really college. Even some ELIP students don’t like being in it for that reason.

One major reason being “in college” stood out for those who participated in the traditional ESL sequence is that enrolling as degree-seeking students provided access to other college courses. Particularly, students spoke highly of the opportunity to take college level courses while completing their ESL requirements. Faculty, staff, and students mention that as ESL students attain higher levels of English language and literacy skills, as indicated by reaching the top levels of ESL, they are able to concurrently enroll in courses such as Health, Art, Music, Speech, Chemistry, and Photography. Students spoke enthusiastically about their experience in credit courses noting that being in “class with native speakers... challenges you; you have to talk and be engaged if you want to get a good grade.” They also note that concurrent course-taking helps them feel “more confident as a college student” because it enables them to develop and practice their skills in a non-ESL setting. One student recommends that “ESL students take a speech class because [it] helps you overcome fears, makes you more confident in speaking and at the same time in writing.” The student also adds that interacting with native students also helps improve their listening skills and courses like chemistry help expand vocabulary. Faculty and staff in traditional ESL feel students are generally doing well in their concurrent college level courses. An ESL faculty member shared that the students’ performance in these courses largely depends on how much reading and writing students are required to do.

In sum, while students in both ESL pathways report different motivations for enrolling in their respective program—a significant finding here is the importance given to the cost when choosing ELIP. Furthermore, these findings also highlight potential reasons why outcome differences arise for younger versus older students. Namely, upon exiting ELIP, older students who participated in this study did not fare as well in the exit exam and only advanced one or two levels in the college’s four level ESL sequence. Older students’ experiences suggest that they

face a more restrictions to their time and thus have a higher opportunity cost when learning English. Finally, findings suggest that an important reason why ELIP students experience significant negative impacts in their accumulation of college credits is that upon reaching the two top levels of traditional ESL, students in the sequence have access to an array of college courses. Faculty, staff, and students in the traditional ESL sequence all spoke of the benefits of taking advantage of these offerings: they challenge students, they boost confident in their English skills and helps students develop their listening skills.

### **Perceptions of what promotes success in college programs**

Faculty, staff, and students in ELIP and traditional ESL identified reading, writing, grammar, and critical thinking to be among the most important knowledge, skills, and abilities needed to be successful in college. A current ESL student captures the importance of acquiring this skill set when she keenly articulates that: “When we go to English 101 or other college courses, the level is very high. We need to know critical thinking. How to write the perfect sentence...[as well as] subject-verb agreement.” In addition, faculty, staff, and students also acknowledged that confidence in English language skills is critical to college success. Both ELIP and ESL state that among its program goals is to have students exit with “confidence in their ability [to communicate] in English” and as “confident and competent writers” –noting this skill is essential as students will need to communicate in both ways with professors and peers in the college setting. Finally, ELIP faculty and staff also identified time-management as an essential non-academic skill necessary for success in college programs. They expressed the importance of this skill in relation to a students’ ability to balance their academic, work, and family obligations. Curiously, students themselves did not directly mention “time-management,” per say. They instead described the challenges they faced as they balanced their participation in ELIP with

work and family responsibilities. The following quote from an ELIP faculty member captures these perceptions well while illustrating how these skills are important beyond the classroom setting:

Time-management is also key. Some students have full-time jobs, are married, and have children. Many students don't understand deadlines: declaring a major, financial aid...It does go beyond their regular skills.

Interestingly, time-management was not identified as an important skill by participants in the traditional ESL sequence. Given the significantly greater time commitment involved in ELIP compared to the traditional ESL sequence, it is possible that this particular skill is not overtly perceived to be as critical for students pursuing the traditional ESL route.

In sum, qualitative data suggests that faculty, staff, and students in both ESL pathways are on the same page when it comes to identifying the types of skills, knowledge, and abilities that are perceived to be necessary for success in college programs. As I will describe in Finding 2, the approach used to help students acquire these skills is rather similar and mostly appears to vary by the traditional ESL level. The main difference that arose between the groups was in the identification of time-management as an important skill. Given ELIP faculty and staff awareness of the importance of this skill and its connection to meeting important academic and financial aid deadlines, if ELIP faculty and staff aid their students hone and build this skill, it is possible this may be one reason why students ELIP students experience increased likelihoods of persistence and lower likelihoods of dropping out.

### **Perceptions of how the ESL pathway facilitates success in college programs**

**Finding 2: Both ESL pathways identified theme/content-based instructional approach as an important program design feature that promotes the acquisition of knowledge, skills, and abilities necessary for success in college programs.**

Faculty, staff, and students identified the thematic/content-based instructional approach as fundamental in promoting the development of reading, writing, grammar, and critical thinking skills. In ELIP, the content-based instructional approach is greatly emphasized as a key design feature on the ELIP website, program reports, and recruitment brochures. In describing this approach, the ELIP program director notes that the instruction in ELIP is “holistic and thematic” – where each faculty member chooses a theme or content area they are “interested in and they know that they can enthuse students into.” Under this model, academic English language and literacy is taught in direct reference to topics such as history, the arts, literature, gender, and the City, to name a few. Faculty members create the content-based curriculum by selecting readings, writing assignments, grammar activities, and field trips that are woven together by the chosen theme.

ELIP faculty, staff, and students were enthusiastic in speaking about their experience with the content-based instructional approach. In describing the type of learning that takes place under this approach, one faculty member shared an example of her experience integrating art and grammar: “[we] go to the Met, [we] do grammar exercises based on descriptions of the art. We have fun, but there is always a goal.” This quote illustrates how the field trip component within the ELIP content-based approach incorporates opportunities to learn by doing while at the same time exposes students to key cultural venues in the city. Students in particular spoke highly about this experience. For example, a former ELIP student shared a positive experience with the history theme when she said:

I had to go to the museums; I loved it because I didn’t know anything about [the City]. I went to Native American Museum, Ellis Island...So I went to the places and then wrote about them. So I could have a conversation about history with someone who went to high school [in the United States].



These student experiences illuminate the sentiment that was present among current and former ELIP students—they were appreciative of having the opportunity to construct knowledge in spaces they would not normally go to. Although museums have long been used for educational purposes, especially by those of higher socio-economic status, many immigrant students do not know about them or do not feel comfortable going to them alone. One ELIP faculty member noted that some students are “even scared to go into the park” and are generally “not aware of what is out there.” Together, these quotes illustrate how a content-based approach—which thematically links reading, writing, and grammar exercises to field trips -- may help strengthen student engagement by fostering enthusiasm around the opportunity to learn both in and out of the classroom. As was noted by the program director, together, these activities are intended to “educate students in a broad sense.”

Faculty in the traditional ESL sequence also identified using theme based instruction to help students acquire reading, writing, grammar, and critical thinking skills. However, the themes they use are not necessarily directly tied to a content area. Rather, each instructor spoke about selecting themes—such as sleep, *machismo*, grades and student expectations, gender, technology, and obesity, to name a few—and then constructing lesson plans with reading, writing, and grammar assignments around the chosen theme. For example, one faculty member described her use of theme based instruction as follows:

I usually have a theme for a week or two, starting with one reading. That reading may be the basis for the grammar activities for the week. If they are working on gerunds or noun clauses I'll have them look at the reading and have them work on stuff in class and at home.

While both faculty members who participated in this study shared that they have always used a theme based instructional approach, in speaking with the department chair, it was evident that

not all instructors follow this method. The department chair noted that at the lower levels of traditional ESL and developmental reading, instructors are more likely to be teaching reading, writing, and grammar as decontextualized skills—more akin to the skills and drills approach that is typical of basic skills courses (Grubb, 1999). To address the fact that this approach may not be the most effective for students, the department recently began developing content-based modules that are linked to the type of topics and vocabulary students might encounter in general education courses. The department chair noted that ELIP’s content-based instructional approach served as the model for this initiative—in particular, she said: “I know what ELIP does.... and I’ve always thought it was a great idea... content-based but structured learning.” As such, over the last year modules that include reading, writing and grammar activities were assembled on a variety of themes that included criminology, psychology, physics, theater, and philosophy. ESL faculty members noted given that given that many of the instructors teaching at the lower levels are adjuncts, over the longer-term these modules are intended to provide them with instructional guidance.

The ESL pedagogical literature presents theoretical reasons in support for the use of content-based ESL courses. In particular, drawing on Krashen’s (1985) theory of learning and acquisition and Cummings (1981) two-tiered model of skill acquisition, Kasper (2000) argues that content-based ESL courses offer students with contextualized language curricula that is both meaningful and relevant to the students’ personal and educational goals while at the same time providing them with opportunities to acquire “*basic interpersonal language skills*” (functional literacy skills) and “*cognitive academic language proficiency*” (academic literacy skills) (p. 4-5). As such, scholars have highlighted that providing ELLs with content-based courses shows promise for providing ELLs with a more stimulating and challenging course than the traditional

grammar-based ESL classes (Kibler, Bunch & Endris, 2012). In the same way, the literature on the contextualization of basic academic skills lends further support for the use of a content-based approach. In a recent review of the literature on contextualization, Perin (2011) highlights that contextualization has been used in the teaching of basic skills as a means to engage students, develop content knowledge, and promote the transfer of skills. Perin (2011) concludes that while there is little rigorous research on the topic, the evidence that is available suggests that contextualization has the potential to improve student outcomes.

Taken together, the findings that both ESL pathways tend to emphasize the same skill sets and use similar instructional approaches (at least at the top levels of traditional ESL) to help students acquire these skills, provides suggestive evidence as to why I find no significant differences in college level English enrollment and performance. Successful completion of college level English is a requirement for graduation; it is the course where reading, writing, grammar, and critical thinking skills might first be employed and evaluated at the college level. Null quantitative findings suggest that both academic ESL pathways may be providing students with a comparable opportunity to acquire the skills needed for success in college English. The finding that only males who participate in ELIP experience an increase in the likelihood of taking college English after five years, however, may be partly explained by the environment fostered by the ELIP program structure—as will be discussed in the next finding.

**Finding 3: Participants in both ELIP and traditional ESL identified features of their respective program structure as important in influencing student success in college programs.**

Faculty, staff, and students identified activities and interactions facilitated by the programs structure--including faculty, student, and peer engagement, the delivery of

supplemental supports, and the length and structure of the ESL writing and developmental reading sequence—as important in influencing the acquisition of the knowledge, skills, and abilities perceived to be important for college success. Together, these features may partially explain findings for equated credit accrual, persistence, and drop out; they may further help explain differences in outcomes for various subgroups.

***Faculty, student, and peer engagement.*** In a given semester, ELIP students meet five days a week, five hours a day with the same instructor and peers. Faculty and students in ELIP tended to associate the high number of contact hours with an increased ability to develop more meaningful student, teacher, and peer relationships. The perceptions of the level of student-faculty engagement that can take place in a high-intensity classroom are captured well in the following quote by an ELIP faculty member as she describes why students choose ELIP:

The individual attention. I mean, they are with me...five hours a day, five days a week, I know everyone's weakness and everyone's strengths. That is so helpful... I am there rooting them on. Reminding them of what they need to focus on...I get to know them on an academic and personal level. You are like a counselor too. They trust me.

This quote exemplifies the role of the faculty member as not just teacher, but counselor too. Students appreciated having this deeper relationship with faculty members because it made them feel like faculty cared about their wellbeing both in and out of class. Two young male ELIP students, one former and one current, both noted they especially appreciated having this extra contact with ELIP faculty because it enables faculty to understand their “problems” and because faculty “can even help with things outside of class.” A young female former ELIP student also recalled an instance when she wrote a paper saying she was “hopeless” and the ELIP faculty member spent an hour trying to encourage her so that she would not feel that way.

Faculty and staff also shared that the structure of ELIP is such that students may be benefiting from a form of the “cohort model.” Particularly, in spending five days a week, five

hours a day with a single teacher and the same peers, students are said to “build stronger relationships” with each other. Faculty and staff also believe that students tend to create friendships they take with them to college. Furthermore, having more classroom time also allows more opportunities for group work. Faculty and staff think this is important because it allows students to teach grammar lessons to each other; students also practice oral skills through group presentations; and students are also able to collaborate on group research projects. Additionally, students also go on field trips as a class allowing students to engage with faculty and peers both in and out of the classroom. Finally, students are believed to work well together because they share the immigrant experience; the diversity of immigrant backgrounds is considered to be helpful in facilitating students’ learning and acceptance of diverse cultures.

The environment created in ELIP as a result of being with the same faculty and peers may help explain differential outcomes for males, younger students, and for foreign born, U.S. educated students (generation 1.5). The literature suggests that immigrant youth have been traditionally underserved and underprepared in K-12 education (Callahan & Shifter, 2012; Nuñez & Sparks, 2012; Gándara & Contreras, 2009). Further, the literature examining differential educational outcomes of male and female immigrant youth suggests that among the reasons female immigrants outperform males is that males tend to have fewer meaningful relationships with teachers; males also tend to perceive their school environment as less supportive than their female peers (Suárez-Orozco & Qin-Hilliard, 2004; Way & Chen, 2000). If males, younger students, and generation 1.5 students are coming from schools where they are not well supported, ELIP may well be providing them a welcome second chance to re-engage in their education. Thus, if ELIP is functioning as a space that facilitates the development of more meaningful relationships with teachers and peers, these qualitative findings may point to possible

reasons why the impact of ELIP participation was found to be more positive for males, younger students, and for generation 1.5 students.

***Delivery of supplemental supports.*** Compared to ELIP students, traditional ESL students spend less time in the ESL classroom. Students placing into the lowest level of ESL, for example might take two or three ESL and/or remedial reading courses which meet for a total of about twelve hours each week with different instructors and peers. Both ELIP and traditional ESL faculty noted that the instructional time allotted may not be sufficient to help students acquire and practice academic English language and literacy skills. ESL faculty and students suggested that these instructional hours could potentially be supplemented by meeting with faculty during office hours and by seeking the services provided by the colleges' tutoring center and ESL learning lab. In these spaces students can obtain help with developing their reading, writing, grammar, and oral language skills. Students particularly expressed liking the support provided at the writing lab. Both current and former traditional ESL students shared that the writing lab has been "very helpful" with providing them assistance with term papers and grammar issues. One student in particular noted the writing center helped her obtain "an 'A' in writing intensive Developmental Psychology course, even though [she] hadn't passed ESL." Despite what appear to be positive perceptions of students' use of the colleges' supplemental supports, it is important to note that these quotes also suggest that the students participating in the focus group are likely to be among the most motivated individuals and thus may not be representative of the traditional ESL students. In fact, faculty noted that it is their perception that in general it is not easy to get students to go to office hours and it is difficult to have "students seek resources out."

In ELIP on the other hand, faculty and students tended to feel that the high number of contact hours enabled them to integrate supplemental teaching and learning within the allotted

class time. Faculty spoke, for example, of providing students with individualized writing support during their daily lab hour. During the designated lab hour, faculty and students meet in a computer lab where students typically write and revise essays; during this time students may also use instructional technology to practice English language skills. ELIP faculty mentioned that after reviewing students writing, they usually provided comments on the writing and grammar issues that needed to be improved; when it is necessary to discuss issues in person, students are asked to meet with faculty during lab hour. In addition to scheduled instructional lessons, faculty also mentioned spending additional class time reviewing reading, writing, or grammar issues that come up in students' assignments. One ELIP faculty noted that the act of being with students "five hours a day, five days a week" enables her to "know everyone's weakness and everyone's strengths" –she goes on noting that when many students are facing similar challenges, she is able to devote additional time to ensure students know the material before moving on.

The differences that arise in the way supplemental supports are delivered provide suggestive evidence as to how future college outcomes may be impacted. Given that ELIP students are asked to speak to faculty during lab when particular issues need to be addressed, students may grow accustomed and comfortable with approaching the teacher when they need assistance. For students in the traditional ESL sequence, extra help is only generally available outside of regular class hours, during office hours, at the tutoring center or the ESL lab. Therefore, it is not difficult to see why only the most motivated traditional ESL students would benefit from these supplemental activities.

***Length and structure of the ESL writing and developmental reading sequence.*** At the college where the qualitative work was conducted, the length of the ESL of the sequence was found to be a factor influencing students' success in college. When asked to recommend changes

to the traditional ESL sequence, one faculty member noted that “those that start at the lower level...don’t complete in four semesters.” She describes that in theory, a student who starts at the lowest level who then proceeds to the highest level sequentially, should be able to do it in four semesters. However, she adds that “in reality I don’t think it happens that way. A lot of students end up repeating, particularly [the top two levels].” This suggests that what should be a one and a half to two year course sequence can end up taking over two years. After such long sequences, ESL faculty and staff believe that some students may get discouraged and leave. On this issue, one ESL faculty shared that over the years she has lost students “because they are really frustrated with the course, they’ve failed a few times and just lost the motivation.”

For students placing into the lower levels of traditional ESL, instructional time is many times spread across different courses. A faculty member notes that at the college, if an ESL student fails both the reading and writing placement exams, as is “typical” for students placing into the lowest levels of ESL, they are assigned to both ESL writing and developmental reading. What is more, these lower level reading and ESL writing courses are generally taught using decontextualized skills and many times by different faculty. Therefore, for many, the hindrance imposed by the long ESL sequence can be further exasperated by the need enroll and complete entirely separate developmental reading sequence; an additional burden may be posed if the work done in remedial reading is in no way linked to the writing done traditional ESL.

Interestingly, students in the traditional ESL sequence did not question the reasoning behind having to take a separate reading course. However, for one former ELIP student, this was not the case—he managed to pass the more difficult writing exam, but not the reading exam. In speaking about this, former ELIP students uttered in sheer frustration that that they did not understand why “on main campus, they divide reading and writing...[in ELIP] it is just English.”



The literature has widely documented that lengthy non-credit remedial sequences hinder students' college progression (Bailey, et al., 2010; Blumenthal 2004; Kuo 1999, 2000; Gray et al, 1996). The qualitative evidence presented here too suggests that the length of the ESL sequence together with the separation of reading and writing point to probable reasons why for those placing into the lowest levels of ESL, starting in ELIP versus the traditional ESL sequence, may lead to the accumulation of significantly fewer remedial course credits and higher persistence and lower drop out rates. At this college, students who place into the lowest ESL sequence and who also fail the reading placement exam must complete both the ESL writing and developmental reading sequences in order to enroll in college English. Upon exiting ELIP, students who participated in this study typically passed the reading exam and either to place into ESL writing only or college English—thus avoid having to take the two course developmental reading sequence and part of the ESL writing sequence.

### **Perceptions of other factors that help and/or hinder success in college programs**

#### **Finding 4: Both current and former ELIP and ESL students indicated that professors can positively or negatively influence their college experience.**

Students across all focus groups indicated they experienced both positive and negative circumstances with professors in both ESL and college level courses—noting that these experiences affected them in various ways. Students shared, for example, that they get enthused about things like reading if the professor shares their passion for the subject. This feeling comes across when an ESL student enthusiastically shares that: "the [ESL] professor needs to make the subject fun for students, because not all of us like to read, it is tedious, so you have to share your passion for reading." In the same way, two former ESL students jointly spoke about their

experience with one of their ESL instructors whom they say “inspired them to think and not be so robotic...She asked us to speak and think and share our opinion” it helped them feel more “confident speaking English” even though they thought they had “a horrible accent.”

Importantly, ESL faculty and students both indicated that because ESL students are learning many things for the first time, professors must also be patient. One faculty member noted that students have mentioned to her that “it’s really helped to have a smiling face who is patient with them—especially those who start at the lower level.” Students in both ELIP and traditional ESL particularly like when a faculty member patiently goes over the details, for example by taking their time help them understand the reading and encouraging them to find the “meaning of each word.”

The importance of having instructors who “look” like their students was also considered to be important among ELIP faculty and students. One student spoke about her experience having an ELIP instructor who also shared her cultural background saying “she was so understandable... there was a connection with her.” A ELIP faculty member complements this by noting that because she comes from a similar background as her students she understands the challenges many of them face—particularly as they navigate college with limited resources. She notes she is from the same neighborhood as some of her students and her parents could not help her navigate college, so she sees why “[students] need someone pointing them in the right direction.” As was noted in the previous finding, this faculty member also spoke of being there to encourage and support students with the issues they face both in and out of the classroom. Another example of the type of faculty and student interactions that can positively influence students is provided by a former ELIP student. She enthusiastically spoke of the time when she received a confidence boost when sharing that: “my marketing professor took my paper and told

the class that “[unless you] do work like hers you not going to get an A” – she then added that this “felt good” because it made her feel like she “was at the level of native speakers.” Together these quotes provide insight into how positive experiences and interactions with faculty can serve to encourage and build confidence in students over the short and long term.

Unfortunately, students also spoke of having negative experiences in the classroom. For example, one former ESL student described feelings of discrimination toward ESL students in the college level classroom in the following way: “you raise your hand because you want to talk and then they give you the chance but then they stop you, and move on...I know I have an accent, but I’m smart and I’m here and I want to say what I’m thinking.” Similarly, a former ESL and ELIP student recalls an instance when her English 101 professor said that “if you are not a native speaker, you cannot expect to get an A. You can expect to get a B or a B- or a C or maybe a B+ because you don’t speak English—you’re not a native speaker.” These words sparked shock and disbelief among the group. Especially, when the student shared that she did everything the professor asked for and she got a “B.” As the student describes this experience she laughs, but notes that at the moment this all happened it “was pretty bad.” She laughed at the situation mostly because she also had a contrasting experience with her marketing professor who on the other hand, took her work and used it as an example of what an “A” paper should look like.

In other pre-college classrooms students also faced challenging situations with professors. In several instances, students noted that they sensed that having a certain degree, for example, influenced the teaching and learning. In regards to her developmental reading class, a current ESL student shared the following with great frustration:

I had a bad experience with [my] reading professor. I don’t blame her, she is great. But some of them don’t know how to teach at all. Even though they have a Ph.D. doesn’t

mean they know how to teach. Because as ESL students we came here because we don't know, we are here to learn English, you are supposed to help us like you teach a baby how to walk.

In addition to suggesting that students realize that degrees do not equate good teaching—it highlights the importance they place on professors being patient with them because they are there to learn. This student further adds that in some instances, professors may not care too much about their learning because they will get paid regardless of the student's performance. The student expresses these feelings in the following way: "Some professors don't care if you fail or pass because they are still getting their paycheck. 'We are losing our money and our time but we are not getting any knowledge from you, professors, do you understand that.'" In these quotes, the student took the opportunity to openly express her feelings about professors—it was as if she was speaking directly to them. There was a clear sense of frustration in her tone of voice. All throughout this dialogue, other students in the focus groups concurred.

Students' early experiences with both ELIP and traditional ESL faculty highlight consistent positive interactions that suggest the existence of a positive learning environment in the classroom. However, students also spoke of not so positive experiences with professors in other pre-college and college level courses. In some instances, they felt discriminated; in others they felt the instructor did not really know how to explain things well. These mixed experiences, are important but the current evidence does not provide clear indications as to whether these positive and negative experiences cancel out or if the positive impacts might be stronger in such a way that help support the longer term positive outcomes for ELIP students.

**Finding 5: Participants identified personal and background characteristics, such as family and work responsibilities, age, and prior educational experience, as factors that can either help or hinder success in college programs.**

Students, faculty, and staff in ESL and ELIP noted that personal and background characteristics can both help or hinder student success in college programs. First, family and work responsibilities were thought to generally hinder student college success: faculty indicated that absences are relatively common among students who have children and are single mothers. Faculty also shared that every semester they lose at least one student because of “personal needs or concerns.” Students in ELIP describe the challenges associated with having to balance their ELIP responsibilities with work and family. Consistently, students who shared that they balanced these responsibilities noted being “tired” as a result. This affected how much out-of class time they could devote to their program responsibilities as well as their energy levels in-class. A young male student who helps his uncle with his business describes this experience in the following way: “I work after I get off here. When I get home I am so tired. I fall asleep reading. Trying to work and do the program is hard.” Similarly, an older student who works as a pizza maker describes his experience as follows:

Work is not easy for me. I work from 6 to 12 or 1. Then I sleep for 5 or 6 hours. Then wake up at 6... I wake up crazy because I have to go to school. Sometimes in class I fall asleep. It is not easy... [I] try to do many things [i.e. homework] on weekends... when I don't have work.

The latter quote illustrates how students do their best to use time off to catch up on their out-of class program responsibilities. It also illustrates that when in class, performance may also be affected by the sleepiness and fatigue that comes as a result of balancing multiple responsibilities. Interestingly, students in the traditional ESL sequence did not speak about balancing school, work, and family responsibilities—this is possibly a result of the lower in-class time commitment required.

Participants also shed light on the influence of prior educational experience on college success. In particular, they described differences arising among those who were educated in

United States compared to those who were educated in foreign schools. First, faculty note that students themselves have said that the rigor of an education acquired in a foreign high school is higher than that acquired in New York City. In particular, one faculty shares that students feel that “foreign schools were much stricter...they were pushed much more than the students who go to high school here, especially [in] math and science.” Faculty members share that many of their U.S. educated students may be immigrants coming to the U.S. when they were in ninth or tenth grade—so “they are coming with not just ESL problems, but literacy problems too” – noting they generally do not read or write well. The experience of a recent New York City public high school graduate in ELIP provides a window into why this might be when he says: “[in ELIP] we do a lot of reading. In my high school, we read no books. Here we read all the time.” This finding suggests that that English language learners coming from U.S. high schools are not being prepared for the academic and linguistic demands of college. This has been well documented by the literature on linguistic minorities in secondary education (Callahan, 2005; Callahan, et. al, 2009; Gándara & Contreras, 2008; Gándara & Rumberger, 2009; Nuñez & Sparks, 2012).

Finally, faculty and staff also noted that age might influence students’ college success. Particularly, faculty members feel that older students are more “driven,” “serious,” and “mature.” For these students, they say, what usually gets in the way is their need work or the feeling that they are too old for school. Younger students, on the other hand, tend to be more immature and still in the “high school mentality.” These younger students may not always “take school seriously.” One ESL faculty noted that younger students “don’t understand college yet. It takes them a little while... [for them] it’s a social scene.” These quotes provide insight into how age might play a role on college student success—age can either help or hinder. For older students, the effect can potentially be mixed—while they are thought to be more “driven,” “serious,” and

“mature” they are also more likely to be affected by increased constraints on their time, for example by needing to balance work with school. Finally, while faculty perceived that younger students may not yet fully understand how to be a college student—quantitative findings indicate that over the longer term younger students may possess certain characteristics (possibly fewer restrictions on time) that enable them to close the gap in college credits and drop out at lower rates than their peers who began in the traditional ESL.

### **Limitations**

The qualitative phase of this study contains certain limitations, including those common to qualitative research methodology and others that are inherent in the research design. Careful thought and consideration was given to ways in which these limitations could be minimized.

The most prominent limitation inherent in the research design lies in the fact that the data collected relied heavily on retrospection. First, qualitative data is being collected in 2012 to help explain quantitative results from cohorts of students who participated in the programs between 2001 and 2005. It is possible that there existed both internal and external conditions that impacted outcomes during this time period that a staff member, faculty, or student in 2012 would not be able to reflect upon. For those participating in 2001, for example, it is possible that the attacks of September 11 impacted the programming, curriculum, or the degree to which students could engage. In 2001, LUCCS also implemented a series of policies that affected enrollment at its two and four-year colleges. Namely, its 11 senior colleges were no longer going to offer remediation—meaning that all students who did not place into college level English or math needed to first fulfill remedial requirements at a LUCCS community college. While there were concerns that this change would affect racial/ethnic minorities and non-native English speakers,

it is not likely that this policy change directly affected students placing into the lowest levels of remediation or ESL. Nevertheless, it is possible that the campus may have changed in ways that we cannot observe due to the presence of a group of students who may otherwise have entered a LUCCS four-year college.

It is also possible that ELIP and traditional ESL programming may have changed over time. While the program descriptions and course offerings, as evidenced by the interviews and college catalogs, have generally remained consistent over time, one must keep this limitation in mind. To help lessen this potential limitation, I was fortunate to speak with faculty members who had been involved with the program since its inception. In ELIP, the faculty member who had been with the program for 17 years noted that most changes to the program have been related to its increasing size and the students served (more Asian students); the core of the curriculum, a content-based approach with experiences in the field, has remained the consistent over time. For traditional ESL, I spoke with the department chair that helped found the traditional ESL program almost 40 years ago. She noted that over time, one of the major trends has been that students have come in knowing much more English than before—she hypothesized this could possibly be due to increased exposure to English in their communities and their home countries via television and the internet.

The small sample size represents another limitation of the study. The restricted sample size limits the possibility of generalizing this study to other groups and other programs. Relatedly, the data was only collected at one of the six LUCCS community colleges. It is possible that student, staff, and faculty perceptions as they related to the research questions might have been different had the data been collected at one of the other colleges. One of the clearest differences may arise from the fact that the selected site held ELIP at an offsite location, while



the other colleges held ELIP on the college campus. Similarly, the ESL and developmental reading sequences also vary by campus and in some campuses, the ESL writing feeds into college English, while in others it does not. Therefore, findings from this qualitative work be most transferrable to campuses where developmental reading and ESL writing are offered as separate sequences and where ESL writing feeds into college English.

Further, remembering that the human factor is both a weakness and strength of qualitative data collection and analysis, I recognize that there is also a subjective aspect to the assertions made regarding the meaning of the data. To address this concern and to strengthen the credibility and reliability of the research, I triangulated methods (quantitative and qualitative) and sources (student, faculty, staff, documents), and discussed findings with colleagues.

Finally, as was noted in Finding 3, it is also important to keep in mind that it is possible that the students participating in the focus group are among the most motivated individuals and thus may not be representative of the traditional ESL or ELIP students. However, the perceptions of these students are extremely helpful, nonetheless. Much can be learned from the perceptions of motivated students—as what helps and hinders their academic progress can potentially help illuminate ways to help others. For instance, findings suggest the role of professors is an important factor influencing student success; those who do not persist may be the group most affected by negative experiences with professors—this finding would imply that more attention needs to be devoted to ensure that faculty are patient and aware of the needs of ELL students.

## Discussion

This chapter presented findings from a qualitative exploration of how ELLs seeking postsecondary education at a Large Urban Community College acquire the knowledge, skills, and abilities they need to be successful in college programs. Keeping in mind the limitations discussed, these findings provide only suggestive evidence of how the ESL pathways may influence college success.

In summary, qualitative findings confirm that the primary method for identifying students for participation in ELIP and the traditional ESL sequence is their performance on their writing placement exam. This finding was highly significant because it provides additional support for the quantitative sample restrictions made in Phase 1 of this study. Findings also suggest that null impacts on college English enrollment and performance could be partially explained by the finding suggesting that both ESL pathways at the participating college provide students a similar instructional experience. Particularly, this qualitative inquiry found that both pathways use parallel approaches to teaching academic English language and literacy skills: both use a thematic/content based approach and emphasize the teaching of reading, writing and grammar concurrently.

Findings also suggest that negative impacts on college credit completion may be due to the programs' respective college enrollment experience. First, the inability to access college course while enrolled in ELIP provide an explanation for why ELIP students experience consistent and significant negative impacts in their accumulation of college credits. Upon reaching the two top levels of traditional ESL, students in the sequence have access to a limited array of college courses. Faculty, staff, and students in the traditional ESL sequence all spoke of the benefits of taking advantage of these offerings: they challenge students, make them more

confident in their English skills and helps students develop their listening skills. Second, the structure leading to college English at several LUCCS community colleges works to effectively make the road to college level longer for students placing into the lowest levels of traditional ESL—some colleges require that students failing the reading exam also complete an entirely separate remedial reading sequence; additionally, lengthy ESL sequences can be made even longer if they do not feed into college level English.

Differences in persistence and drop out as well as differences for subgroups are found to be partially explained by the activities and interactions that are fostered by a high intensity program. First, the sole experience of participating and being successful in an intensive program is in itself indicative of a students' ability to balance school and outside responsibilities—giving ELIP students a possible advantage once they do transition into college coursework. Also, having higher amounts of contact hours enables faculty to more fully cover the material in class; it allows faculty to provide tutoring, feedback, and other support during the class time; and also facilitates the incorporation of activities like class fieldtrips to expose students to the opportunity to create knowledge in spaces outside of the classroom. Additionally, ELIP faculty and students also spoke highly of their ability to establish relationships at an academic and personal level.

Further, differences in college credits accrued by older versus younger students may be partly explained by differences in opportunity cost higher between these groups. For older students, the negative impact on college credits earned is significant after three and five years, while for younger students this gap fades after five years. The greater restrictions in older students' time effectively make the cost of learning English higher. In particular, older students' in this study tended to have more time constraints due to competing family and work obligations which in turn may lead to the accumulation of fewer college credits if they also enroll in college

on a part-time basis. Younger students on the other, hand may be faced with fewer constraints on their time enabling them to progress through college quicker than their older peers. Likewise, younger students and by definition generation 1.5 students, are more likely to have had prior exposure to English while in high school (although it may not have been the best quality) their enrollment in ELIP provided them with a second chance at acquiring the academic language and literacy skills needed to be successful in college.

## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS

This purpose of this study was to analyze quantitative administrative data and use qualitative data to examine how ELLs seeking postsecondary education acquire the knowledge, skills, and abilities they need to be successful in college programs. It did so by exploring the role of two ESL pathways at a Large Urban Community College System (LUCCS): (1) the English Language Immersion Program and (2) the traditional ESL sequence. It is expected that the findings, conclusions, and recommendations emerging from this study will contribute to an improved understanding of the college outcomes and experiences of ELLs. This final chapter provides a discussion of the major findings and conclusions drawn from the research and ends by providing recommendations for research and practice.

#### Overview of Main Findings

Chapter 4 presented findings from the first phase of the explanatory mixed methods design: a quantitative analysis that addressed a gap in the literature on the effect of academic ESL pathways on college outcomes. In this first phase, I addressed student self-selection into ESL pathways by exploiting a rich longitudinal administrative dataset and by employing a propensity score matching approach. Specifically, for students placing into the lowest levels of ESL, I examined the effect of participating in the English Language Immersion Program versus participating in the traditional ESL sequence on college English enrollment and performance, credit accumulation, and college progression and degree outcomes. Due the high level of

diversity among the sample, this study also explored impact heterogeneity by gender, race/ethnicity, age, and immigrant generational status.

Chapter 5 presented findings from the second, qualitative phase of the explanatory mixed methods design. This phase of the study was conducted as a follow up to the quantitative results to help explain the quantitative results. One of the six LUCCS community colleges was selected for participation in the qualitative phase. At the college, interviews with ELIP and traditional ESL faculty and staff as well as focus groups interviews with current and former ELIP and ESL students were conducted to better understand student's motivation for engagement in ELIP and the traditional ESL sequence. The interviews also explored how the ELIP and traditional ESL sequence components—such as the program design, structure, and curriculum—might influence program impact. Student focus group interviews with former program participants also provided information relating to their perceptions of how their respective ESL pathway influenced their preparedness for college programs. Faculty, staff, and students also reflected on how other factors help or hinder success in college.

The first major finding of this study is that there is no evidence that participation in ELIP versus traditional ESL leads to significant impacts on college English course-taking and performance. The only exception was for male ELIP participants: after five years, male students who participated in ELIP versus traditional ESL were 6 percentage points more likely to take college English. Qualitative findings suggest that null impacts may be a result of the existence of important similarities in the skills taught and the approach used to help students acquire the skills needed for success in college courses. Findings also suggest that males may have experienced improved outcomes by participating in ELIP if the program functioned as a space that facilitated the development of more meaningful relationships with faculty and peers—this may have

happened for example, if this situation helped male students become more engaged with their education by seeking and receiving supplemental support or if they received assistance in coping with non-academic issues which may have otherwise negatively influenced their outcomes. The latter finding is especially important given that males are typically underrepresented in higher education. A conclusion that can be drawn from these findings is that both ESL pathways at LUCCS provide students with similar opportunities to acquire the skills needed to be successful in college English. In addition, ELIP may be providing males with enhanced opportunities to acquire both academic and non-academic skills that further support their college success.

The second major finding was that for the full sample and across most subgroups, students who participate in ELIP versus traditional ESL earn significantly fewer equated credits over three and five years. These findings suggest participation in ELIP instead of traditional ESL is contributing to students spending less time on remedial coursework. A major conclusion from this finding therefore is that one of the central goals of the ELIP program is being met. This finding suggests that by participating in ELIP, students avoid having to navigate a long and complex pre-college English pathway that can be expensive and exhaust financial aid. Had ELIP students enrolled in traditional ESL, they would have faced a lengthy ESL sequence which in some cases would have been accompanied with a separate remedial reading sequence. Further, if the ESL sequence did not feed directly into college level English additional equated credits would have to be passed en route to college level English.

The study's third major finding was that students who participate in ELIP versus traditional ESL earn significantly fewer college level credits over three and five years. The negative impact on college level credits is suggestive of diversion effects—in deferring their enrollment to participate in ELIP, students are unable to accumulate college credits. Students

starting in the traditional ESL sequence, on the other hand, obtain access to a limited set of college courses when they reach the top two levels of the ESL sequence. Over time, however the gaps in college credits for males, younger students, and generation 1.5 students fade and are no longer statistically significant. Qualitative findings suggest that males, younger students, and generation 1.5 students may benefit from having had prior exposure to English while in high school. Even though this exposure may not have been of the best quality, their enrollment in ELIP provides a welcome second chance at helping them acquire the academic language and literacy skills they need to be successful in college. Further, these students may have additionally benefited from the development of meaningful relationships with faculty and peers—as described above. A conclusion that can be drawn from this finding is that while focusing on learning English may potentially develop students’ skills enough to help them avoid some remediation; it may also be hindering their progress toward a degree by not allowing them to accumulate college credits while learning English. A related conclusion is that much can be gained from providing ELLs with access to college credits—qualitative findings suggest that taking non-ESL courses concurrently with ESL helped students practice and hone their English skills while also challenging students, and boosting their confidence.

The fourth finding suggests that for the full sample and across most subgroups, ELIP participants were more likely to persist and less likely to drop out than had they participated in the traditional ESL sequence. Qualitative findings suggest that these longer term outcomes may be attributable to the activities and interactions that are fostered by participating in a high intensity program. Namely, being with the same peer group and the same instructor five-hours a day five-days a week helps students and faculty engage at a level that enables them to foster relationships, both in and out of the classroom. In particular, having higher amounts of contact



hours enables faculty to more fully cover the material in class; it allows faculty to provide tutoring, feedback, and other support during the class time; and also facilitates the incorporation of activities like class fieldtrips to expose students to the opportunity to create knowledge in spaces outside of the classroom. Additionally, ELIP faculty and students also spoke highly of their ability to establish relationships at an academic and personal level. Further, the role professors play both in pre-college and college level courses may potentially influence the student experience in positive or negative ways. A conclusion that can be drawn from this finding is that what goes on in the classroom has important implications for student persistence and degree completion. Given that many students at the community college are commuters and have multiple responsibilities beyond their college studies, for many, their only personal interaction they experience on campus will be with faculty and peers in the classroom setting. Therefore, one cannot underestimate the importance of faculty and peer interactions and the academic and non-academic support that is or is not received during this time.

The final finding of this study is that there is no evidence that participation in ELIP versus traditional ESL leads to significant impacts on graduation and/or transfer to a LUCCS four-year college. The only exception is for female ELIP participants, they are 2 percentage points less likely to earn a degree and/or transfer after three years; however, this negative impact fades after five years. However, it is worth noting that for the full sample and for most subgroups the magnitude of the estimate is positive after five years. This suggests that if the degree and transfer outcome were followed up for a longer period of time a positive impact in favor of ELIP might emerge.

### **Recommendations for Research and Practice**

Next, I provide several recommendations based on the findings, analysis, and conclusions of this study. The first recommendation addresses the finding that ELIP participants earn fewer college level credits. Findings suggest that the inability to access college courses is to a large extent contributing to this gap in credits completed. To address this finding, one policy recommendation would be to integrate credit courses into the ELIP curriculum. To begin, one possibility is to consider integrating a credit bearing student success course. For the last few years, ELIP has begun to incorporate a “College Knowledge” unit into their curriculum that is meant to help ease students’ transition into college. The content taught through the “College Knowledge” curriculum is similar to that of student success courses that are offered for college credit in colleges nationwide. Student success courses typically provide students with college information, assistance with accessing academic supports, career planning, and also opportunities to improve study skills and time-management (O’Gara, Mechur-Karp & Hughes, 2008). Research has found student success courses to be effective in promoting student success and as such many colleges require that students take them (Cho & Mechur-Karp, 2013). In addition, findings from the qualitative work also suggest that ELIP students would benefit if an introductory level speech class were embedded into the curriculum. Students in both ELIP and ESL focus groups stated that taking this course in college greatly helped to improve their confidence in their English oral skills.

A possible way to incorporate credit courses into ELIP is by linking it with LUCCS’s dual enrollment program. LUCCS’s dual enrollment program provides high school students with access to college courses before they enroll in college as degree-seeking students. Therefore, college policymakers should consider providing ELIP students with access to this pre-college

programming option that is intended for students who might subsequently enroll in LUCCS. Dual enrollment programs have shown remarkable impacts on student success by helping them earn higher grades, accumulate more credits, and persist and earn degrees at higher rates (Allen & Dadgar, 2012; Elmers & Mullen, 2003; Karp, Calcagno, Hughes, Jeong, Bailey, 2007; Michalowski, 2007; Rodríguez, Hughes and Bailey, 2012; Speroni, 2012a; Speroni 2012b; Swanson, 2008).

This research also finds that participation in ELIP versus traditional ESL leads to the accumulation of significantly fewer non-credit remedial courses. This finding calls for a recommendation to reform the lengthy ESL sequences. Findings from this study suggest that traditional ESL courses are already integrating reading into the writing courses—it therefore may be possible to reduce the non-credit remedial course load from students who do not pass the reading exam by adding more hours of instruction to the traditional ESL writing course and using that time to teach and learn reading and writing using a contextualized approach. As it stands, qualitative findings suggested that the remedial reading and ESL writing courses are not linked and in fact remedial reading courses typically get “into skills and decontextualized readings” which is not very engaging and helpful if the goal is to help students prepare for college level courses. In fact, this concern was precisely what prompted the development of the content based modules at the college participating in this study. A corollary recommendation would be to continue to support efforts to incorporate the content/based approach in a more formal manner. Improvements in the traditional ESL sequence would likely provide students who are unable to make the 25 hour-a-week commitment with an opportunity to make better progress along the ESL sequence and may subsequently promote better college outcomes.

Finally, this study also highlighted the central role played by faculty. Findings suggest that student interactions with faculty members play an important role in the education of English language learners. When on the college campus, students are likely to have the most contact with faculty members in class. This is especially true at community colleges, where many of those who enroll are only on campus for classes because they have to juggle school with work and family responsibilities. Given that first generation college students are more likely to enroll at the community college, faculty members are often times the individuals with the greatest knowledge about navigating college successfully. This presents a great opportunity for faculty to play a key role in engaging and validating that students can be successful in college.

### **Future Research**

While college and program administrators may be most interested in performance in college English, college credit accumulation, and degree outcomes, participation in postsecondary ESL may have broader impacts. Future research should attempt to examine the impact of ESL pathways on outcomes such as labor market outcomes, actual improvements in English literacy and oral skills, as well as social and political engagement. As noted previously, while performance in college level English may proxy for academic English skills, this study was unable to directly capture whether participation in ELIP improved English oral and literacy skills. The economics literature suggests that improvements in English language skills, even if immigrants only study English and take no other courses, would have important implications for labor market outcomes. In addition, improvements in English language skills may provide individuals added benefits if they become better able to understand complex paperwork or if they become more engaged in the political process and in social activities of their community. Thus,

an important part of the program's success would be captured with the availability of detailed data on English oral and literacy skills, labor market outcomes, and social and political participation.

Next, given the limitations in the ability to identify, among non-enrollees, those who did and did not originally intend to pursue a degree, future research should attempt to include a variable or a proxy for actual degree intentions. While results conditional on LUCCS enrollment (Table 12) indicate that the program has a positive impact for the students who make the transition from ELIP to LUCCS, this positive impact may be an overestimate of the impact of ELIP because it excludes those who intended to pursue a degree but were dropped from the analysis. On the other hand, results from an analysis that includes all students may be attenuated by those who never intended to pursue a degree and thus did not make the transition into LUCCS.

While this study finds that the higher intensity of ELIP broadly contributes to positive outcomes— this study only provides suggestive evidence on the role it plays. Future studies should attempt to obtain detailed quantitative data on the hours of instruction. Further, the field would benefit greatly from a more detailed qualitative study that would explore in more detail how the allocation of time, the types of assignments and readings, and the peer and faculty interactions contribute to students outcomes. Additionally, this exploration should examine why certain subgroups of students benefit more from the higher intensity model than others.

Finally, given the significant amount of time devoted initially to learn English, it is possible that a five-year window may not be enough to capture degree and transfer outcomes for students participating in ELIP. Future research should expand the follow-up period to at least 7 years. On this same token, given the significant investment of time and resources devoted to the

ESL pathways by the institution, students, faculty and staff, future research should also explore the costs and benefits associated with each academic ESL pathway.

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## APPENDIX

### Appendix A. List of Quantitative Data Elements

The dataset contained anonymous student unit record data on all first-time degree seeking applicants, even if they did not ultimately enroll in the college campus. Data in Categories 1 through 6 are available for all enrollees and non-enrollees. Data on Course Enrollments and Credentials is only available for enrolled students. The full data set also contained course enrollment information for students who transferred to a public four-year university located within the same urban area as LUCCS—this enabled me to track four-year college transfers within the same urban area.

Category	Element	By Semester <sup>1</sup>
1. Student Identifier	Unique student record ID	X
2. Program participation status	ELIP status	
	ELIP college site	
	ELIP last term	
3. Demographics	Age	
	Gender	
	Race/ethnicity	
	Language background	
	Citizenship/Country of origin	
	Pell grant recipient status; TAP recipient status;	X
	Zip code or Geocode	
4. Educational Background	High School Attended	
	High School diploma or GED	
	High School Grades/Credits (by discipline) for college prep courses	
	Dual enrollment status	X
	Date of first LUCCS enrollment	
	College Discovery/SEEK status	X
	Primary LUCCS home college	
5. Student Assessments	LUCCS Writing placement exam score(s)	
	ESL flag(s) for writing placement exam score(s)	
	LUCCS Reading placement exam score(s)	
	LUCCS Math placement exam score(s)	
	Date placement exam(s) taken	
	LUCCS Proficiency Exam score(s)	
	SAT scores	
	Regents test scores	
6. Program	Intended major / Program applied to	
	Program major (CIP)	



7. Course enrollments	Name of LUCCS college course was taken	X
	Course name and number	X
	Course CIP code	X
	Credits attempted	X
	Credits passed	
	Grade (including F, W, I)	X
8. Credentials	Credential type and date earned	X
	Credential major field CIP	X
	LUCCS institution granted credential	X

<sup>1</sup> All "by semester" data includes college, quarter/semester, and year.

**Appendix B. College Outcomes Full Sample Results, Comparisons Enrolled in ESL within one year**

Outcomes	Post-Match				Pre-Match	
	(1)		(2)		(3)	
	B	(SE)	B	(SE)	B	(SE)
<i>College English Enrollment &amp; Performance</i>						
Took w/in 3	0.003	(0.019)	-0.006	(0.016)	-0.024**	(0.012)
Took w/in 5	0.023	(0.021)	0.013	(0.019)	-0.016	(0.012)
Passed w/in 3	-0.008	(0.018)	-0.016	(0.015)	-0.023**	(0.011)
Passed w/in 5	0.025	(0.020)	0.016	(0.017)	-0.014	(0.012)
Earned B or higher w/in 3	-0.011	(0.016)	-0.019	(0.013)	-0.024**	(0.010)
Earned B or higher w/in 5	0.015	(0.017)	0.007	(0.014)	-0.017	(0.011)
<i>Credit Accumulation</i>						
Equated credits w/in 3	-8.702***	(0.717)	-8.930***	(0.621)	-9.209***	(0.301)
Equated credits w/in 5	-8.129***	(0.734)	-8.340***	(0.637)	-8.760***	(0.316)
College level credits w/in 3	-6.027***	(1.043)	-6.444***	(0.835)	-6.476***	(0.546)
College level credits w/in 5	-3.575**	(1.469)	-4.354***	(1.205)	-4.658***	(0.860)
<i>College Progression &amp; Degree Completion</i>						
Dropped out of LUCCS w/in 3	-0.047**	(0.023)	-0.045**	(0.021)	-0.021	(0.013)
Dropped out of LUCCS w/in 5	-0.048**	(0.020)	-0.040**	(0.017)	-0.024**	(0.012)
Persisted in LUCCS w/in 3	0.069***	(0.022)	0.071***	(0.020)	0.049***	(0.013)
Persisted in LUCCS w/in 5	0.044***	(0.013)	0.042***	(0.013)	0.036***	(0.009)
Degree or Transfer w/in 3	-0.025**	(0.012)	-0.029***	(0.009)	-0.030***	(0.006)
Degree or Transfer w/in 5	0.004	(0.016)	-0.002	(0.013)	-0.012	(0.010)
Sample Size	4,932		4,932		8,124	

*Source:* Restricted use database covering placement test takers at LUCCS community colleges.

*Notes:* Robust standard errors in parentheses. \*\*\* p<0.01, \*\*p<0.05, \*p<0.1. Each cell (coefficient and standard error) is from a separate regression. Column (1) contains post-match estimates of the difference in mean outcomes for the matched sample (P-score Direct). Column (2) contains regression adjusted propensity matched estimates which controls for all confounding covariates (P-score Regression). Column (3) contains regression estimates of the average treatment effect across the full pre-match sample, controlling for all confounding covariates (Regression). See the variables in Table 5 for a complete list of control variables used.

## Appendix C. Background Inventories for Students, Instructors and Staff

### Background Inventory

(Students)

Code: \_\_\_\_\_

Please answer the following questions. Your responses would be greatly appreciated. The information collected from this inventory is completely confidential and will only be used for the purpose of this research study.

#### Demographic

1. Please indicate your age below:
  - 18 to 24
  - 25 to 34
  - 35 to 44
  - 45 to 54
  - 55 or more
2. Gender:      Male      Female
3. Ethnicity: \_\_\_\_\_
4. Place of birth: \_\_\_\_\_
5. Native language: \_\_\_\_\_

#### Educational Background

6. Please indicate the highest level of education you have completed
  - Less than High School
  - High School diploma/ GED
  - Some college courses
  - Certificate
  - Associates Degree
  - Bachelor's Degree
7. Country where highest level of education was completed \_\_\_\_\_
8. What semester and year did you first enroll at this college? \_\_\_\_\_
9. Have you enrolled in a degree program or major?  Yes  No  
If yes, which one(s) \_\_\_\_\_

#### Work and Career

10. Do you currently work?  Yes  No. If no, skip to question 12.
11. What is your current job title? \_\_\_\_\_
12. Briefly describe your career goals \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Background Inventory

(Staff)

Code: \_\_\_\_\_

Please answer the following questions. Your responses would be greatly appreciated. The information collected from this inventory is completely confidential and will only be used for the purpose of this research study.

### **Demographic**

1. Please indicate your age below:
  - 18 to 24
  - 25 to 34
  - 35 to 44
  - 45 to 54
  - 55 to 64
  - 65 or more
2. Gender:      Male    Female
3. Ethnicity: \_\_\_\_\_
4. Place of birth: \_\_\_\_\_
5. Native language: \_\_\_\_\_

### **Professional Background**

6. What is your current job title at this college? \_\_\_\_\_
7. How long have you been employed in this position? \_\_\_\_\_
8. Briefly describe your job assignments \_\_\_\_\_  
\_\_\_\_\_
9. Do you have other responsibilities at the college?  Yes    No  
If yes, please describe \_\_\_\_\_
10. Please describe other relevant work experience you have at this college, other colleges, and /or other educational levels (i.e. K-12) \_\_\_\_\_  
\_\_\_\_\_

### **Educational Background**

11. Please indicate your highest level of education completed \_\_\_\_\_
12. In what major or field was your training in? \_\_\_\_\_
13. Other comments \_\_\_\_\_  
\_\_\_\_\_

## Background Inventory

(Instructors)

Code: \_\_\_\_\_

Please answer the following questions. Your responses would be greatly appreciated. The information collected from this inventory is completely confidential and will only be used for the purpose of this research study.

### Demographic

1. Please indicate your age below:
  - 18 to 24
  - 25 to 34
  - 35 to 44
  - 45 to 54
  - 55 to 64
  - 65 or more
2. Gender:      Male      Female
3. Ethnicity: \_\_\_\_\_
4. Place of birth: \_\_\_\_\_
5. Native language: \_\_\_\_\_

### Professional Background

6. What is your current job title at this college? \_\_\_\_\_
7. How long have you been employed in this position? \_\_\_\_\_
8. Please indicate the names of courses you teach \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
9. Do you have other responsibilities at the college?  Yes    No  
 If yes, please describe \_\_\_\_\_
10. Please describe other relevant work experience you have at this college, other colleges, and/or other educational levels (i.e. K-12) \_\_\_\_\_  
 \_\_\_\_\_

### Educational Background

11. Please indicate your highest level of education completed \_\_\_\_\_
12. In what major or field was your training in? \_\_\_\_\_  
 \_\_\_\_\_
13. Other comments \_\_\_\_\_  
 \_\_\_\_\_

**Appendix D. Qualitative Protocols****English as a Second Language Programming at a  
Large Urban Community College System****Table of Contents**

Program Instructors and Directors .....	171
Current Student Focus Group .....	173
Alumni Student Focus Group .....	175

## Program Instructors and Directors

### A. Program Enrollment

1. Talk to me about students' experience learning about and enrolling in the *[ELIP Program / Traditional ESL sequence]*.
  - a. How and when do students learn about the *[ELIP Program / Traditional ESL sequence]*?
  - b. What do students have to do to enroll in the *[ELIP Program / Traditional ESL sequence]*?
2. What other English as a Second Language programming options do students have?
  - a. Please describe how different students may benefit from the different options.
  - b. Why do you think students choose enroll in the *[ELIP Program / Traditional ESL sequence]*?

### B. Program Engagement

1. Please describe what a typical day looks like in the *[ELIP Program / Traditional ESL sequence]*.
  - a. What kinds of activities do students engage in?
  - b. How are lessons structured?
  - c. What skills and competencies are emphasized?
2. In your opinion, what skills and abilities do students need to know to be successful in college?
3. What program activities do students engage in that you think help them to develop the skills and abilities they need to be successful in college?
  - a. How do these program activities help promote success in college?

### C. Other Factors

1. Let's talk about how other program factors influence student success in college.
  - a. What other program factors would you say are helpful in facilitating students' success in college? How do they facilitate success in college?
  - b. In your opinion, are there program factors that prevent students from being successful in college? If so, what are they? How do they hinder student success?
2. Let's talk about how other external, non-program factors influence student success in college.

- a. What would you say are some of the most helpful non-program factors, facilitating students' success in college? How do they facilitate success in college?
- b. In your opinion, are there non-program factors that hinder student success in college? If so, what are they? How do they hinder student success?

#### **D. Final Thoughts**

1. In your opinion, what are some of the benefits for students participating in the *[ELIP Program / Traditional ESL sequence]*?
2. If you could recommend changes to the *[ELIP Program / Traditional ESL sequence]*, what would they be? Why?
3. Any other thoughts you would like to share about your experience with the *[ELIP Program / Traditional ESL sequence]*?



## Current Student Focus Group

### A. Program Enrollment

1. Tell me about your experience enrolling in this college.
  - a. How did you learn about the college?
  - b. What motivated you to enroll?
2. You currently participate in the *[ELIP Program / Traditional ESL sequence]*; let's begin by talking about your experience learning about and enrolling in the *[ELIP Program / Traditional ESL sequence]*,
  - a. How and when did you first hear about the *[ELIP Program / Traditional ESL sequence]*?
  - b. Did you have other English as a Second Language programming options?
    - a. If yes, what were those options? Why did you choose to enroll in the *[ELIP Program / Traditional ESL sequence]* over the other options?
3. What did you have to do to enroll in the *[ELIP Program / Traditional ESL sequence]*?

### B. Program Engagement

1. Please describe what a typical day looks like in the *[ELIP Program / Traditional ESL sequence]*.
  - a. What kinds of activities did you engage in?
  - b. What were the teachers like?
2. In your opinion, what skills and abilities do you think you need to know to be successful in college?
3. What program activities do you engage in that you think will help you to develop the skills and abilities you need to be successful in college?

### C. Other Factors

1. Let's talk about how other program factors influence your success in college.
  - a. What other program factors would you say are helpful in facilitating your success in college? How do they facilitate success in college?
  - b. In your opinion, are there program factors that hinder your success in college? If so, what are they? How do they hinder your success?

2. Let's talk about how other external, non-program factors influence your success in college.
  - a. What would you say are some of the most helpful non-program factors, facilitating your success in college? How do they facilitate success in college?
  - b. In your opinion, are there non-program factors that hinder your success in college? If so, what are they? How do they hinder your success?

#### **D. Final Thoughts**

1. In your opinion, what are some of the benefits of participating in the *[ELIP Program / Traditional ESL sequence]*?
2. If you could recommend changes to the *[ELIP Program / Traditional ESL sequence]*, what would they be? Why?
3. Any other thoughts you would like to share about your experience with the *[ELIP Program / Traditional ESL sequence]*?

## Alumni Student Focus Group

### A. Program Enrollment

1. Tell me about your experience enrolling in this college.
  - a. How did you learn about the college?
  - b. What motivated you to enroll?
2. You participated in the *[ELIP Program / Traditional ESL sequence]*; let's talk about your experience learning about and enrolling in the *[ELIP Program / Traditional ESL sequence]*,
  - a. How and when did you first learn about the *[ELIP Program / Traditional ESL sequence]*?
  - b. Did you have other English as a Second Language programming options?
    - a. If yes, what were those options? Why did you choose to enroll in the *[ELIP Program / Traditional ESL sequence]* over the other options?
3. What did you have to do to enroll in the *[ELIP Program / Traditional ESL sequence]*?

### B. Program Engagement

1. Please describe what a typical day looked like in the *[ELIP Program / Traditional ESL sequence]*.
  - a. What kinds of activities did you engage in?
  - b. What were the teachers like?
2. From your experience, what skills and abilities do you need to know in order to be successful in college?
3. What *[ELIP Program / Traditional ESL sequence]* activities did you engage in that you think helped you to develop the skills and abilities you needed to be successful in college?
4. Please describe your college experience after exiting the *[ELIP Program / Traditional ESL sequence]*.

### C. Other Factors

1. Let's talk about how other program factors influence your success in college.

- a. From your experience, what other program factors have been helpful in facilitating your success in college? How did they facilitate success in college?
  - b. In your opinion, are there program factors that have hindered your success in college? If so, what are they? How did they hinder your success?
2. Let's talk about how other external, non-program factors influence your success in college.
    - a. What would you say are some of the most helpful non-program factors facilitating your success in college? How do they facilitate success in college?
    - b. In your opinion, are there non-program factors that hinder your success in college? If so, what are they? How do they hinder your success?

### **3. Final Thoughts**

1. From your experience, what were some of the benefits of participating in the *[ELIP Program / Traditional ESL sequence]*?
2. If you could recommend changes to the *[ELIP Program / Traditional ESL sequence]*, what would they be? Why?
3. Any other thoughts you would like to share about your experience with the *[ELIP Program / Traditional ESL sequence]*?

## Appendix E. Conceptual Framework and Coding Legend

### English as a Second Language Programming at LUCCS Conceptual Framework

#### *Perceptions of Program Enrollment*

##### *Learning about the program*

- Counselor/Advisor
- Word of mouth (family, friends, acquaintance)
- Campus resources/outreach

##### *Motivation for enrolling in the program*

- Cost (direct & indirect/opportunity cost)
- Schedule (traditional vs. intensive/immersion)
- College enrollment experience (pre-college vs. college)
- College or work goals

#### *Perceptions of what promotes success in college programs*

##### *Knowledge, skills, and abilities students need to be successful*

- Reading/Writing/Grammar
- Thinking critically
- Time management

##### *Program features that promote success in college programs*

- Program structure
- Instructional activities/assignments
- Supplemental activities

#### *Perceptions of other factors that help and/or hinder success in college programs*

##### *Factors that help*

- Personal and family background
- Other program features
- Post-program factors in college

##### *Factors that hinder*

- Personal and family background
- Other program features
- Post-program factors in college

## English as a Second Language Programming at LUCCS Coding Legend

### *Perceptions of Program Enrollment*

#### *1. Learning about the program*

- L1** Counselor/Advisor
- L2** Word of mouth (family, friends, acquaintance)
- L3** Campus resources/outreach
- L4** Other

#### *2. Motivation for enrolling in the program*

- M1** Cost (direct & indirect/opportunity cost)
- M2** Schedule (traditional vs. intensive/immersion)
- M3** College enrollment experience (pre-college vs. college)
- M4** College or work goals
- M5** Other

### *Perceptions of what promotes success in college programs*

#### *3. Knowledge, skills, and abilities students need to be successful*

- KSA1** Reading/Writing/Grammar
- KSA2** Thinking critically
- KSA4** Time management
- KSA5** Other

#### *4. Program features that promote success in college programs*

- APS1** Program structure
- APS2** Instructional activities/assignments
- APS3** Supplemental activities
- APS4** Other

### *Perceptions of other factors that help and/or hinder success in college programs*

#### *5. Factors that help*

- HELP1** Personal and family background
- HELP2** Other program features
- HELP2** Post-program factors in college

#### *6. Factors that hinder*

- HIND1** Personal and family background
- HIND2** Other program features
- HIND2** Post-program factors in college

**Appendix F. Student, Staff and Instructors Background Inventory Tables**

<b>FACULTY/STAFF</b>	Age	Gender	Race/Eth.	Place of Birth	Native Language	Job Title	Time in this Position	Name of Courses Taught/ Describe Responsibilities	Other Responsibilities at College	Describe Other Responsibilities	Other relevant work experience	Highest Ed Background	Field of training	Other comments
PARTICIPANT1														
PARTICIPANT2														
PARTICIPANT3														
PARTICIPANT4														

<b>STUDENTS</b>	Age	Gender	Race/Eth.	Place of Birth	Native Language	Highest Ed Background	Country where it was completed	First semester in college	Have you enrolled in a program/major?	Which one?	Currently work	Job Title	Describe career goals
STUDENT1													
STUDENT2													
STUDENT3													
STUDENT4													

**Appendix G. Qualitative Data Tables**

<b>2. How do students, instructors and administrators describe the experience of learning about and enrolling in ELIP and traditional ESL sequence?</b>							
	<b>STAFF1</b>	<b>INSTRUCTOR1</b>	<b>INSTRUCTOR2</b>	<b>CURRENT STUDENTS</b>	<b>FORMER STUDENTS</b>	<b>Preliminary Findings/ Notes</b>	<b>Differences by Gender, Race/Ethnicity, Age, Immigrant Status</b>
<b><i>Learning about the program</i></b>							
L1 Counselor/Advisor							
L2 Word of mouth							
L3 Campus resources/outreach							
L4 Other							
<b><i>Motivation for enrolling in the program</i></b>							
M1 Cost (direct & indirect/opportunity cost)							
M2 Schedule (traditional vs. immersion)							
M3 College enrollment experience (pre-college vs. college)							
M4 College and work goals							
M5 Other							



**3. How do the ELIP and traditional ESL sequence designs facilitate the acquisition of skills and abilities perceived to be necessary for success in college programs?**

	STAFF1	INSTRUCTOR1	INSTRUCTOR2	CURRENT STUDENTS	FORMER STUDENTS	Preliminary Findings/ Notes	Differences by Gender, Race/Ethnicity, Age, Immigrant Status
<i>Knowledge, skills, and abilities students need to be successful</i>							
KSA1 Reading/Writing/Grammar							
KSA2 Thinking critically							
KSA3 Time management							
KSA4 Other							
<i>Activities that promote success in college programs</i>							
APS1 Program structure							
APS2 Instructional Activities/Assign.							
APS3 Supplemental activities							
APS4 Other							

4. What other factors help or hinder participants' success in college programs?							
	STAFF1	INSTRUCTOR1	INSTRUCTOR2	CURRENT STUDENTS	FORMER STUDENTS	Preliminary Findings/ Notes	Differences by Gender, Race/Ethnicity, Age, Immigrant Status
<b>Factors that help</b>							
HELP1 Personal and family background							
HELP2 Other program features							
HELP3 Post-program factors in college							
<b>Factors that hinder</b>							
HIND1 Personal and family background							
HIND2 Other program features							
HIND3 Post-program factors in college							