

THE EFFECTS OF BILINGUAL EDUCATION ON LANGUAGE,
ACHIEVEMENT, AND SELF-EFFICACY OF HISPANIC STUDENTS

A Dissertation

by

LISA A. LOCKWOOD HEWITT

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2008

Major Subject: School Psychology

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ABSTRACT

The Effects of Bilingual Education on Language, Achievement,
and Self-Efficacy of Hispanic Students. (December 2008)

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Chair of Advisory Committee: Dr. Cynthia A. Riccio

Much controversy exists surrounding the education of Hispanic English Language Learners (ELLs). This large and growing group presents significant challenges to educators. Foremost among these challenges is the question of whether bilingual or English-only education is most appropriate for enhancing ELLs' language proficiency and achievement. Despite decades of controversy and research in the field of bilingual education, the debate is ongoing. Additionally, Hispanic ELLs are profoundly affected by other cultural and educational factors. One potentially important factor with limited research involves the academic self-efficacy of ELLs. This study examined the relationship of bilingual and English-only education to Hispanic ELLs' language proficiency, academic achievement, and academic self-efficacy.

Participants were eighth-grade Hispanic students from a large southwestern school district. Data were collected from school district records, and a self-efficacy questionnaire was administered to a subsample of students. Analyses included t-tests, ANOVA, ANCOVA, and regression procedures to measure relationships between ELL students who received bilingual education (the Bilingual group) or English-only

education (the Mainstream ELL group), as well as a Comparison group of non-ELL Hispanic students. It was hypothesized that the Bilingual group would demonstrate advantages over the other two groups in English proficiency, academic achievement, and academic self-efficacy. Analyses revealed few significant group differences. The Bilingual group did not attain significantly higher English proficiency than the Mainstream ELL group by third grade. The Bilingual group did not demonstrate significantly higher achievement scores than the Mainstream ELL group, but their scores were significantly higher than the Comparison group. There were no significant differences between groups on academic self-efficacy. Regression analyses indicated that the length of time spent in bilingual education did not predict students' language proficiency, achievement, or academic self-efficacy. A final analysis indicated that academic self-efficacy and third grade English proficiency scores were significant predictors of eighth-grade achievement. Conclusions indicate modest benefits for ELL students attending bilingual education, but more advantages may have been evident had more years of bilingual education been provided to students. Clearly, increased attention to academic self-efficacy and English proficiency may be appropriate regardless of the type of educational placement. Further studies should examine other factors affecting the quality of education provided to ELL students.

DEDICATION

To the hope that drives so many to risk so much.

May we endeavor to deserve such blind faith.

*Una vez sentí el ansia
de una sed infinita.
Dije al hada amorosa :
—Quiero en el alma mía
tener la inspiración honda, profunda,
inmensa : luz, calor, aroma, vida.
Ella me dijo : —Vén !— con el acento
con que hablaría un arpa. En él había
un divino idioma de esperanza.
Oh sed del ideal !*

-Rubén Darío, Nicaraguan poet

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CHAPTER I

INTRODUCTION

A significant and ever-growing number of students in the United States are of Hispanic origin (National Center for Education Statistics [NCES], 2005). These students and their families contribute a wealth of talents, potential, and cultural diversity. The term “Hispanic American” may refer to those with origins in any Central or South American country, in effect, anyone with ancestry from Spain (“Hispanic,” 2006). While Hispanic students constitute a valuable asset to the cultural and academic fabric of the U.S., this group also brings its share of challenges to the field of education. For example, the dropout rate among Hispanic American students is higher than among any other ethnic group, especially among immigrants (NCES, 2002). Immigrant and first-generation Hispanic children may begin school speaking Spanish only, with little or no working English knowledge. These individuals, as well as any other non-English-Speaking students, are referred to as English Language Learners (ELLs) by current research. Older literature, as well as many school districts, has referred to these students as Limited English Proficient (LEP) or English as a Second Language (ESL) students. For consistency, the ELL designation will be used throughout this study. To remedy the achievement discrepancy between ELL students and English-speakers, legislation now requires that ELLs be included in any annual testing used to measure the progress of

This dissertation follows the style of *School Psychology Review*.

schools and students (Porter, 2000a). The challenge facing educators seems vast: How can the educational system take into account extensive cultural and linguistic factors in order to best serve its population of Hispanic American students? The degree to which educators are able to effectively serve the ELL population, and indeed all Hispanic students, has significant implications for the academic health and future success of this group, as well as for the entire country.

One of the major issues debated in the education of ELL Hispanic students (as well as other ELL students) is the degree to which these students should be taught in their native language. Throughout the history of the United States, bilingual education has received varying levels of support: at times, educators and lawmakers have allowed or supported ELL students to be taught in their native language in public schools, while at other times bilingual education has been discouraged or even outlawed (Baca & Cervantes, 2004). Currently, bilingual education programs are widely used in many parts of the country, while some states have enacted laws requiring that ELL students be fully immersed in English-only education after a year of limited support (Rolstad, Mahoney, & Glass, 2005). Empirical research examining bilingual education shows a similar controversy. Some research supports the efficacy of bilingual education for English acquisition and achievement (Slavin & Cheung, 2005; Thomas & Collier, 2002; Willig, 1985), while other studies support English-only education as superior to bilingual methods (Porter, 2000b; Rossell & Baker, 1996).

Aside from the type of educational program attended by Hispanic ELL students, many other factors contribute to this group's academic success and must be considered.

One of these influential variables is self-efficacy. Self-efficacy is defined as the belief in one's abilities to perform a certain task (Bandura, 1997). There are many different domains of self-efficacy, and many may strongly impact school success; however, one category very much of interest to educators is academic self-efficacy. Academic self-efficacy has been shown to impact student outcomes in a variety of subjects (Pajares & Valiante, 2006; Shell, Colvin, & Bruning, 1995; Zimmerman, Bandura, & Martinez-Pons, 1992). To date, little research is available on the academic self-efficacy of Hispanic ELL students. There is some research to indicate that children of non-English-speaking parents may develop self-efficacy skills when they act as "language brokers" to help their parents communicate with English-speakers (Buriel, Perez, DeMent, Chavez, & Moran, 1998; Tse, 1995).

Significance of the Problem

The number of school-age children who speak a language other than English doubled between 1972 and 2003, with the majority of this growth attributed to an increase in the number of Spanish-speaking immigrants (NCES, 2005). Meeting these students' educational needs is imperative, and the task is made more urgent because of the many risk factors facing these students: their minority status and their lack of English knowledge not the least among them. Foremost among the educational concerns surrounding Spanish-speaking ELLs' language proficiency and achievement is the question of which type of education is best: bilingual education or English-only immersion. The debate between proponents of each type of education continues to rage, with evidence supporting and condemning both sides of the issue (e.g. Ochoa, 2005;

Rossell & Baker, 1996). In another area of study, students' academic-self-efficacy has shown to be a powerful factor in their success in academic tasks and courses. Little research is available investigating the academic self-efficacy as it relates to Hispanic ELL students, the interaction of students' language proficiency and academic self-efficacy, or of the effects of different language learning methods on self-efficacy.

Purpose of Research

This study, then, will examine the relationship of bilingual or English-only education to the English language proficiency, academic achievement, and academic self-efficacy of Hispanic ELL students. As mentioned previously, the controversy over which type of education is best for ELL students is a vast, longstanding one, and the results of this study are unlikely to settle the question. They may, however, provide one more piece of evidence to support one type of education over another for fostering language proficiency, achievement, and/or self-efficacy. Also, this study will provide information about the potential relationship between educational programming for Hispanic ELLs and their academic-self-efficacy. If a relationship exists between the bilingual education or English immersion and students' sense of self-efficacy about academic abilities, it could provide useful information for improving student outcomes. Such information may also be useful in untangling the complex bilingual-immersion debate by highlighting another area of functioning that these types of education can affect. Specific research questions to be addressed include:

Research Question 1

Are language proficiency scores higher for Hispanic ELL children who attended bilingual education classes or those who attended English-only classes? It is hypothesized that Hispanic ELL students who attended bilingual education will achieve higher language proficiency scores in English than those ELLs attending English-only classes by the time students are in the eighth grade, after controlling for English proficiency levels at school entry.

Research Question 2

Are achievement scores higher for ELL children who attended bilingual education classes or those who attended English-only classes? How does the achievement of ELL children in both these programs compare to that of Hispanic non-ELL children? It is hypothesized that Hispanic ELL students who attended at least two years of bilingual education classes will attain higher achievement scores than those Hispanic ELL students who were placed in English-only classes, by the time they reach eighth grade. It is further hypothesized that Hispanic ELL students with bilingual education experience will reach parity on achievement variables by eighth grade, as compared with their Hispanic non-ELL peers.

Research Question 3

How does the attendance of bilingual or English-only classes affect the academic self-efficacy of Hispanic ELL students? How does the academic self-efficacy of Hispanic ELL students compare to that of Hispanic non-ELL students? It is hypothesized that those Hispanic ELL students who attended bilingual education classes

will exhibit higher academic self-efficacy than those Hispanic ELL students who did not attend bilingual education classes. It is further hypothesized that, due to their bilingual abilities, the Hispanic ELL students will exhibit higher academic self-efficacy than their Hispanic non-ELL peers.

Research Question 4

How does the length of attendance of bilingual education classes predict Hispanic ELL students' language proficiency, academic achievement, and academic self-efficacy? It is hypothesized that the levels of achievement, language proficiency, and self-efficacy attained by Hispanic students will be directly predicted by the amount of time spent by students in bilingual education.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

The Education of Hispanic ELL Students

Hispanic ELL Students

Hispanics comprise the largest ethnic minority group in the country. The Hispanic population of the U.S. nearly doubled between 1990 and 2004 and currently constitutes about 14 percent of the national population. Of the foreign-born population of the U.S., over half (53%) are from Latin American countries, and about 10 million emigrated from Mexico alone. (“Hispanic heritage,” 2005). While the majority of these immigrants are Mexican nationals, many of these Hispanic newcomers come from other countries such as Cuba and the Dominican Republic. Additionally, many Spanish-speakers come from the U.S. territory of Puerto Rico and are not technically immigrants at all. Since many new immigrants are Mexicans who cross the border and settle into the southern United States, Hispanic immigrant populations are greatest in border states such as Texas, Arizona, and California. However, both Mexican immigrants and those from other countries and territories have settled in diverse parts of the country. For example, New York City is home to a large population of Puerto Rican origin, and the Cuban population in Florida, particularly in Miami, is very significant. Additionally, many northern and midwestern states have recently experienced increased populations of Hispanic immigrants, attracted by the availability of unskilled labor positions. For example, Delaware, Nebraska, Indiana, Minnesota, and Idaho have all experienced

increases of over 150% in their foreign-born populations since 1990 (Migration Policy Institute, 2006). In short, Spanish-speakers comprise a significant population in various parts of the country, especially in certain states. Therefore, the education of ELLs, particularly those from a Hispanic background, is of great interest to educators across the nation.

Outcomes for Hispanic Youth

In addition to being a large and growing group, Hispanic students consistently achieve below-average scores on language and achievement measures, failing to match “basic” achievement levels as defined by the National Assessment of Educational Progress (NAEP; Grigg, Daane, Jin, & Campbell, 2003). Also compelling are dropout rates for immigrant Hispanic students, as compared to other groups. More than forty percent (44.2) of immigrant Hispanics between the ages of 16 and 24 had dropped out of high school, according to data from 2000¹ (NCES, 2002). In contrast, Hispanic students born in the United States had dropout rates between 14 and 16 percent, depending on whether they were of the first or second generation to be born in this country (NCES). These statistics clearly illustrate that immigrant Hispanic students are far less likely to complete school than those born in the United States, even those comprising the first generation. This is almost certainly due to a variety of factors: first- and second-generation Hispanic children are different from their non-immigrant peers on many important variables. These include differences in socioeconomic status, parental education and family involvement in education (Crosnoe, 2006). One notable and

¹ In data provided by the NCES, the term “Hispanic immigrant” is used to include immigrants from Spain or Spanish-speaking Latin American countries, as well as Puerto Ricans who moved to the U.S. mainland.

obvious difference between immigrant and first-generation Hispanics is their level of exposure to English, which in turn affects status as an ELL or an English-speaking student. As the immigrant/ELL group has a much higher dropout rate than the groups of Hispanic students who have had more opportunity to learn English, it is important to determine the most effective means of education for these students.

Since Hispanic language-minority students comprise such a significant portion of the overall student population in the U.S., the success of this group is of vital importance not only in itself, but for the outcomes of children in the U.S. as a whole. The question is obvious: Can the educational systems of the country argue that they have left no child behind, if such a substantial group of students continues to experience such low educational outcomes?

Historical Overview of Bilingual Education

Directly related to Hispanic ELL students is the topic of bilingual education. Bilingual education on some level has existed in the United States for hundreds of years, ever since immigrants to the brand-new country had to figure out how to educate their non-English-speaking children (Baca & Cervantes, 2004). From the late 18th century and throughout the 19th century, the state and federal governments did not discourage bilingual education. The federal government did not address the matter, and the policy of the states varied from specific allowance of bilingual education, to simply not prohibiting it. Things changed during the early 20th century, when World Wars I and II sparked sheer xenophobia among Americans. Bilingual education, along with other practices supporting foreign cultures, was prohibited. New immigrants were under

pressure to conform quickly to the culture of the United States, or risk being seen as a subversive or traitor (Baca & Cervantes). The practice of native language instruction in schools, which had enjoyed such a lengthy period of support, was in danger of dying out completely.

In the 1960s, however, policy toward bilingual education began to change as the U.S. became keenly conscious of the importance of civil rights. The Bilingual Education Act, passed in 1968, granted funding to schools to encourage the implementation of native-language instruction in the classroom (Baca & Cervantes, 2004). In 1974, the Supreme Court ruled in the landmark *Lau v. Nichols* case that language should not be a barrier between a child and his or her public education, and that schools should take steps to overcome the obstacle of language in educating their students (Jacob & Hartshorne, 2003). This era of support for bilingual education lasted through the 1970s and 1980s, but then once again the tide began to change. As early as 1981, lobbyists began demanding that English be made the official language of the United States (Baca & Cervantes). In the educational arena, support for bilingual education has waned dramatically since the 1990s, in favor of English-only instruction (Porter, 2000b)

In schools, native-language instruction is no longer the trend, and English-only education has become more popular (Slavin & Cheung, 2005). For example, California's Proposition 227 prohibits bilingual education for ELL students without a special waiver. Instead, ELL students are given one year of structured English immersion before being placed in regular English classes (Valdés, 2004). Following the

trend, Arizona's Proposition 203, and Massachusetts' Question 2 are among other states' policies limiting or prohibit the bilingual education of ELL students, in favor of English-only education (Rolstad et al, 2005). In federal policy, too, bilingual education has lost support in recent years. The passage of the No Child Left Behind act also brought with it the repealing of the 1968 Bilingual Education Act. It was replaced with the English Language Acquisition Act, a term reflective of the current emphasis on English learning, without support of native language instruction (Crawford, 2002).

Theories Supporting Native Language Instruction

It is apparent, then, that the policy favoring English-only or bilingual education has changed dramatically over the past few decades, from one extreme to the other, and now back again. But what is the basis for these educational decisions and policies? Regrettably, for such a political issue, decisions on which type of education to enact and support are often made on the basis of ideologies, without serious consideration of empirical evidence (Hakuta, Butler, & Witt, 2000). For example, the 1968 Bilingual Education Act came in an era of civil rights, when concerned leaders noticed that ELL students, taught only in English, were performing more poorly academically than their native English-speaking peers. The Bilingual Education Act sought to remedy the difference by allowing these students to be taught in their native language (Baker & Rossell, 1993). More recent changes toward English-only education also have a largely political basis (Valdés, 2004).

However strong the role of politics has proven in this debate, researchers have not been silent. About a decade after the Bilingual Education Act, Cummins (1979)

began developing and publishing his theory of second language acquisition to explain why some ELL children, schooled in their native language while learning English, still lagged behind in their linguistic skills. His facilitation theory, developed in a number of papers in the late 1970s and early 1980s (e.g. Cummins, 1979, 1981) postulated that, to learn a second language (known as L2) well, a student must build a strong foundation in his or her first language (L1). Cummins' (1979) theory explained that some students placed in bilingual education still may flounder if not given *enough* L1 instruction—that the failing was not in the bilingual education itself, but in insufficient time given for language development. Similar to the facilitation theory is the threshold hypothesis. This idea asserts that second language learners must reach a certain threshold of language ability in their L1 before they can achieve fluency in L2 (Cummins, 1979; Toukoma & Skutnabb-Kangas, 1977). In a similar vein, the contrastive analysis framework theory suggests that, as much as L1 is similar to L2, instruction in L1 will also facilitate better knowledge of L2 (Fashola, Drum, Mayer, & Kang, 1996).

In contrast to Cummins' facilitation theory is the “time-on-task” theory: the idea that the more time English learners spend learning English, the better they will learn it (Baker, 1992, Baker & Rossell, 1993). This line of thought is the major argument for proponents of English-only education: that time spent learning a student's L1 is wasted, since it is not dedicated specifically to the development of the L2. As mentioned previously, however, most theories of second language acquisition cite the support of the L2 by further development of the L1. Along this vein, De Houwer (2005) states that

there is as yet no empirical basis for the claim that, as a group, bilingual children develop their languages more slowly than monolingual children” (p. 41).

Other theorists’ views on second language acquisition further bolster the case for bilingual education. For example, Krashen (2000), postulated that receiving comprehensible input in a second language is crucial to developing proficiency in that language. In other words, mere exposure to a language is insufficient; a learner must be presented with new language content in a way that he or she can interpret and understand the message. This tenet supports the use of bilingual education, since it is more likely that students will encounter slower, smaller doses of English in such programs, rather than being flooded with large amounts of English while their proficiency is still very limited. Also, building a strong native language base helps make new input in a second language more comprehensible (Krashen, 2000).

Review of Bilingual Education Research

In research as well as ideology and school policy, the superiority of bilingual or English-only education has been hotly contested for decades (Croft & Franco, 1983; Willig, 1985; Slavin & Cheung, 2005; Ochoa, 2005), and hundreds of individual studies of varying scope and integrity have examined these educational programs (Rossell & Baker, 1996). Some of the largest and most notable studies will be discussed here, as well as a number of the most notable literature reviews and meta-analyses on this topic.

The Ramirez Report, 1991. In 1991 the findings were published from a federally-commissioned study examining the effectiveness of various forms of bilingual education. The study followed about 2000 elementary school ELL students who were

placed in either structured English immersion, with no native-language instruction, early-exit transitional bilingual education (TBE), with native language instruction phased out over two to three years, or late-exit TBE, in which students receive native language instruction through the sixth grade. Results of the study indicated that ELL students placed in structured English immersion did not achieve English proficiency faster than their peers in bilingual education; in contrast, by the sixth grade some of their achievement scores lagged behind their bilingually-instructed peers. On a related theme, the study's results did not indicate that students in bilingual education took longer to learn English than their peers in structured English immersion. The data suggested that it took the students in the sample about six years to achieve English proficiency, regardless of the program attended (Ramirez, Yuen, Ramey, Pasta, & Billings, 1991, 1992).

The release of the much-anticipated Ramirez report findings incited a flurry of responses from other researchers. Baker (1992), though usually considered an opponent of bilingual education, conceded that the results suggested that ELLs in the early grades learn better from bilingual education rather than English-only immersion. Some recommended that only conservative conclusions be made from the results of the study, since many variables were different between groups. For example, though students in late-exit programs performed better than those in early-exit programs, definitions of these programs varied across districts. Moreover, the late-exit programs appeared to garner more parental support, which may have affected overall outcomes (Cazden, 1992).

Reports by Thomas and Collier. In the past ten years, Thomas and Collier (1997, 2002) have published two large-scale longitudinal reports on the effectiveness of bilingual education. The first study analyzed over 700,000 student records across several school districts, representing students in bilingual and English as a Second Language (ESL) programs. This large sample size was achieved by aggregating students from a number of sequential years into a “mega-cohort”, for which extant data was examined through the twelfth grade. Findings from the report indicated that students who receive the most native-language instruction, such as in maintenance and dual-language programs, showed the greatest achievement gains, especially toward the end of their secondary education. Students receiving only ESL support made much smaller progress (Thomas & Collier, 1997).

Despite this study’s large sample size and the level of anticipation it received in the research community, it demonstrated significant weaknesses. First, and most seriously, Thomas and Collier did not adequately outline the statistical procedures used in their analyses. While there is some discussion about the relative merits and pitfalls of the ANCOVA procedure and a short description of a complicated matched-groups design employed by the researchers to control for differences, actual statistical procedures are not described. Tables and graphs are presented to illustrate student averages and trajectories, but no specific statistical or procedural data is provided as the basis for these figures. Even participant characteristics are ignored. For example, nothing is reported on the size of the cohorts in the sample or their demographic characteristics. The sample is vaguely referred to as being primarily Spanish-speaking,

with no more specific information given. Second, students in the study were not compared to other comparable students in the area; rather, their achievement gains were compared to norms on national achievement measures. This is not an adequate comparison, since by definition ELL students score below the national average on language measures (Rossell, 1998).

The second large-scale report by Thomas and Collier examined groups of students in various locations across the U.S., including student data utilized in the earlier study (2002). As in the previous study, samples were compiled across multiple years into large, artificial cohorts, in order to increase sample sizes (1997). Also similar to their earlier research, the 2002 report found positive achievement effects for students in long-term bilingual education programs, such as maintenance and 50-50 dual-language programs.

Some improvements were made between the two reports. For example, in this study, Thomas and Collier reported their statistical procedures in far more detail than they had done previously. Some drawbacks are still apparent, however: No pretest measures were administered, and groups of ELL students were again compared to national norms instead of a local comparison group. Also, in the final summary of the outcomes, achievement results for various educational programs are outlined, but these results are not consistent across groups and cannot be compared. For example, the group of students in 50-50 one-way programs (all ELL students, taught half in English, half in Spanish) are described as reaching the 62nd normal curve equivalent for achievement after four years of bilingual education. In contrast, the achievement for students in 50-

50 two-way programs (native-English students and ELL students, taught half in English and half in Spanish) is described by the fact that 58 percent of students met Oregon state reading standards in 3rd and 5th grade (Thomas & Collier, 2002). While both of these statistics suggest that students in both types of programs had made great academic gains, there is no way to compare the efficacy of the two groups, both because the outcome measures are different and the times of testing are different. Not surprisingly, neither the 1997 nor the 2002 report by Thomas and Collier have been included in any major literature reviews or meta-analyses (Slavin & Cheung, 2003, 2005; Rolstad et al, 2005).

Literature Reviews and Meta-Analyses

One of the first literature reviews examining the efficacy of bilingual education was completed by Baker and de Kanter (1981). The review examined 300 studies investigating the effectiveness of transitional bilingual education, and finally included 28 studies which were deemed methodologically acceptable. They concluded that no conclusive arguments can be made in favor of transitional bilingual education, and that the government's reliance on this type of program for educating ELL students is unfounded. Furthermore, Baker and de Kanter argued that significant evidence existed for the implementation of structured English immersion programs. While this review made some progress in aggregating the data on bilingual education, it included some major flaws in its coding of studies' programs, such as labeling a study as "structured immersion" which better fit their own description of "transitional bilingual education" (Rolstad et al, 2005; Willig, 1985). Also, the recommendation for the use of structured English immersion should be taken with caution: In this review, teachers of structured

immersion were defined as being fluent in the ELL students' native language, but in the implementation of programs since then, this is rarely the case (Rolstad et al, 2005). Results of this study, then, must be interpreted with caution, especially as regards to current educational policies.

Owing to the comprehensiveness of the studies found, and the controversial nature of the findings of Baker and de Kanter (1981), a meta-analysis by Willig (1985) sought to synthesize the same group of articles examined in the Baker and de Kanter review. For this meta-analysis the original list of 28 studies was shortened to 23, due to the exclusion of Canadian studies and programs not conducted during regular preschool, primary or secondary educational times. The results of the meta-analysis found significant positive effect sizes for most academic variables in favor of bilingual education programs. These findings, however, were tempered by the fact that many methodological weaknesses were found in the studies analyzed. These weaknesses contributed to low effect sizes, and only after controlling for these flaws were more substantial results able to be drawn. The finding reached was that conclusions from any single research study or synthesis of studies will be tainted by the bias of the researchers and the reviewers involved (Willig, 1985).

Another large-scale literature review conducted by Rossell and Baker (1996) examined 300 studies for potential inclusion and found 72 to be "methodologically acceptable". For inclusion, studies were required to be true experiments, either with random assignment to groups or with statistical controls for differences between groups. Their "vote-counting" strategy found that only a small percentage of the studies found

outcomes for ELL students in transitional bilingual education to be better than outcomes for those in regular education on variables of reading, language, and math. Their methods, however, have been called into question by other researchers. One complaint has been lodged against the methodology used: the vote-counting method utilized in the literature review is far less effective than other methods for amalgamating research results; this method does not consider the strength of effect sizes or the size of confidence intervals for studies' results (Greene, 1998; Ochoa, 2005). In addition, the Rossell and Baker review gave the same data multiple "votes" when it was published more than once in separate articles (Rolstad et al, 2005). In a meta-analysis conducted two years later, Greene (1998) expressed other concerns about the validity of the conclusions drawn by Rossell and Baker's review:

...It is quite clear that the findings of the literature review conducted by Rossell and Baker are simply not reliable. They include studies in their review that do not meet their own standards for inclusion...Some of the studies they include cannot be found, even by them. Some of the studies...are not about bilingual education. (n.p.)

Clearly, then, the conclusions drawn from the Rossell and Baker (1986) review must be interpreted cautiously.

The Greene (1998) meta-analysis, like that of Willig (1985), examined studies that had been included in a previous review of the literature. In this case, Greene included studies that had been recently reviewed by Rossell and Baker (1996). In contrast to the 75 studies found methodologically acceptable by Rossell and Baker,

Greene found only 11 to meet his standards of methodological soundness for the meta-analysis. Studies were excluded that did not actually examine bilingual education, did not allow for at least one year of bilingual education before testing students, did not have a control group taught mainly in English, and that did not control for pre-existing group differences. Not surprisingly, analyses of the group of eleven studies produced quite different results from the conclusions reached in the previous review. Results indicated modest effect sizes for the effectiveness of bilingual education over English-only instruction on most tests administered in English, moderate effect sizes in English reading, and large effect sizes for all testing administered in Spanish. Conclusions are drawn with caution, as the studies included do not comprise a representative sample of all studies of bilingual education, and many of the studies are outdated or have small sample sizes. Nonetheless, the results of this meta-analysis provide definitive support for at least some level of native-language instruction for ELL students (Greene, 1998).

A recent synthesis of the literature reviewed studies comparing reading instruction in English and ELLs' native language (Slavin & Cheung, 2005). Slavin and Cheung utilized a best-evidence approach, involving both a calculation of effect sizes as in a meta-analysis when possible, but with far more emphasis placed on extensive description of the individual characteristics of the studies involved. Studies were selected based on methodological inclusion criteria similar to that of Greene (1998), such as controlling for initial group differences. Of the 17 studies examined by Slavin and Cheung, 12 reported positive effects of bilingual education and the other five found no differences between groups; none of the studies reviewed found positive differences

for English instruction. The review concludes that the available research tends to favor bilingual instruction over English-only instruction for producing more positive language and academic outcomes. The authors caution, however, that with so few quality studies of bilingual education available, any conclusions must be made cautiously (Slavin & Cheung, 2005).

In contrast to the other reviews and meta-analyses summarized here, the study by Rolstad et al. (2005) chose not to preemptively exclude studies from their analysis based on design quality, but excluded outliers which were wildly inconsistent with other results. They included 17 studies completed after Willig's (1985) analysis which included enough details to calculate effect sizes and a description of treatment and control groups. Although studies were selected by a different method than used in the Willig and Greene (1998) meta-analyses, similar results were found, favoring bilingual education over English-only instruction. For studies comparing groups of ELLs, which inherently controlled for other variables affecting ELL success (such as socioeconomic status and family variables), this analysis found a positive effect of .23 favoring bilingual education (Rolstad et al., 2005).

Despite these numerous studies, however, the research examining the effectiveness of various types of bilingual education versus English-only immersion has not been able to silence the debate (Ochoa, 2005). One major reason for the lack of consensus on the efficacy of bilingual education is the fact that bilingual education is inherently difficult to research effectively. To comprehensively study the effectiveness of this type of education, many factors must be considered and accounted for. For

example, variables such as the age of students in a bilingual or immersion program, as well as the length of time spent in such a program, are significant aspects to consider (Slavin & Cheung, 2005). These variables often vary widely between students, depending on the age at which new immigrants entered the country and how soon they entered a specific type of program. Another challenge involves the low socioeconomic status of many ELL students, especially Spanish-speaking ELLs. Since socioeconomic status is a major predictor of school success, this confound is a serious impediment to definitive conclusions about the best course of action for ELL students (Hakuta, 1999).

Variables Affecting Research

Another major factor impacting the research on bilingual education is the fact that programs for ELL students vary widely in their scope and duration, and the term “bilingual education” can mean any one of a number of programs (Greene, 1998). The major types of programs for ELL students include:

1. Pull-out English as a second language, or ESL instruction, is usually utilized when there are few ELL students of a distinct language group in one school district. In this type of program, students are not provided with native language instruction at all; instead, instruction is aimed at developing English skills needed for academic success (Hakuta, 1999). Students receive this support in distinct periods in the school day outside their regular classroom.
2. Structured English immersion, often called sheltered instruction in later grades, is sometimes classified with ESL education (Ochoa, 2005). ELL students in structured immersion are placed together in a classroom. They are not provided

with native language instruction, but with English instruction in a simplified format to foster easier understanding (Hakuta, 1999). This instruction is usually provided for a limited time; for example, in California, ELL students receive about a year of structured English immersion before being placed in regular English classes (Parrish et al., 2006).

3. Transitional bilingual education, also called early-exit transitional bilingual education, involves classrooms composed of ELL students of the same language. Programs begin in kindergarten, when students begin school (Ochoa, 2005). Students receive some academic instruction in their native language, but the major focus of the program is to develop English proficiency as quickly as possible (Hakuta, 1999). Transitional bilingual education usually lasts two or three years, with the amount of English content instruction increasing rapidly from year to year (Ochoa, 2005).
4. Maintenance bilingual education is also known as developmental bilingual education, or late-exit transitional bilingual education. This system bears some similarity to the early-exit transitional method, in that kindergarten students in this begin receiving instruction mostly in their native language, with increasing levels of English instruction in later grades (Hakuta, 1999). Students remain in bilingual education until fifth or sixth grade, before entering regular English education (Ochoa, 2005). Depending on the model, some maintenance programs teach an increasing level of English until exit from the program, up to 90% English and 10% Spanish. Other programs focus on simultaneous development

of both languages and continue to deliver significant amounts of instruction in students' native language throughout the program (Hakuta, 1999).

5. Dual language programs, also known as dual immersion or two-way programs, include an approximately equal number of English-speakers and ELL students in the same classroom (Hakuta, 1999). Emphasis is placed on both English and the second language, with instruction time split between the two languages. All students are considered to be language learners, and all are expected to achieve and maintain proficiency in both their native and new languages (Ochoa, 2005).

Further complicating these varying types of bilingual education is the fact that different states, schools, and even teachers themselves may conceptualize or implement the same type of program in widely diverse ways. As stated by Rolstad et al (2005),

The lack of consistency in program labels and definitions nationwide creates a thorny obstacle to research synthesis. A program labeled 'English immersion' may provide several hours of native language instruction per day, while a program labeled 'bilingual education' may provide no native-language instruction at all but rather a bilingual classroom aide for occasional translation support. (p. 48)

Therefore, a study seeking to comprehensively determine the best form of education for ELL students would have to account for not only student characteristics such as age and length of time spent in certain programs, but also for the type of bilingual education experienced and for site-specific factors of definition and implementation.

Effective research in this field is also hampered by the fact that assessment measures and procedures may be inadequate or erroneous in capturing a students' true proficiency and abilities. Should students in a bilingual program, for instance, be assessed in English during the program, immediately after transitioning to English-only classes, or after having more time to fully adjust to using English? Furthermore, in studies where pretesting is used to compare groups of ELL and English-speaking students, no single test can be administered to both groups, since they speak two different languages (Slavin & Cheung, 2005). Therefore two tests, or one test and its translation, must be used, rendering the results less useful than if a single measure could be used.

Proponents of bilingual education, in addition to arguing its academic superiority to English-only education, also argue that educating students in their native language holds several other advantages to teaching them in English only. First, learning in their native language may help students feel that their culture and language are valued within the larger dominant culture of the United States (Wong-Fillmore, 1996). This is an important factor to consider, given the important role that a sense of belonging can play in students' school success (Sanchez, Colón, & Esparza, 2005). Second, for children of immigrant, non-English-speaking parents, the native language serves as a bridge between the old and new culture. When skills are fostered in ELL students' native language, they are better able to communicate with their parents and other relatives in meaningful ways, but when English is the only language emphasized, students may not develop their native language abilities as well (Hakuta, 1999).

Third, research on bilingual individuals has long demonstrated that bilingualism holds definite cognitive advantages over abilities in only one language, including higher IQ scores on standardized measures (Peal & Wallace, 1962). Research indicates that in children, learning two languages at once speeds the development of the prefrontal cortex, an area of the brain responsible for vital executive functioning abilities (Bialystok, 2005). Bilingual subjects demonstrate higher verbal reasoning skills than their monolingual counterparts, and are able to learn additional languages more easily than those with proficiency in only one language (McLeay, 2003). Children who are bilingual have been found to develop greater cognitive flexibility (Paradis, 2005). They also tend to be better at solving problems which require them to inhibit misleading information (Bialystok, 2005). Similarly, individuals who were proficient at switching between two languages also scored higher on measures of working memory (Michael & Gollan, 2005).

Self-Efficacy

Education, of course, is a complex and multi-faceted entity. Success or failure in any aspect of education depends on multiple factors, so the outcomes of Hispanic ELL students are affected by far more than their placement in a certain educational program. For example, poverty level and parent educational level are among the many factors contributing to a student's likelihood of school success, and Hispanic ELL students experience higher poverty rates and lower parental education levels than other linguistic minority groups (Rumberger & Larson, 1998). Other factors apply as well, including parental involvement levels and cultural attitudes toward education (Crosnoe, 2006). It

is crucial, then, to take other important factors into account when considering the outcomes and success of ELL students. One such crucial factor is self-efficacy. Students' self-efficacy has been shown to be related to socioeconomic status (Borman & Rachuba, 2001), a salient factor for Hispanic ELL students, as well as predictive of academic success. Therefore it behooves researchers to examine the self-efficacy of Hispanic ELL students.

Definition and Historical Perspective

Self-efficacy is defined by Bandura (1997) as "people's beliefs in their capabilities to perform in ways that give them control over events in their lives" (p. 212); in other words, the confidence or lack of confidence an individual has in their abilities. The concept of self-efficacy is itself a fairly new idea. Throughout history, much of prevailing thought and research in the fields of education and psychology have endeavored to explain human achievement in a variety of ways. For a time, behavioral assumptions involving reinforcements and punishments were credited for influencing nearly all human behavior, without significant regard to cognitive processes (Bandura, 2000). Later, human behavior was likened to the processes of a computer, using a logical input-output system to process and weigh information in the decision-making process (Bandura, 2001). Gradually, during the second half of the twentieth century, these behavioral and cognitive lines of thought were synthesized to account for the dynamic give-and-take between environmental reinforcers and cognitive processes that appears to characterize human behavior. Even these theories, however, often left

untouched the remarkable capacities of self-regulation, subjectivity, and other attributes that make us definitively human (Bandura, 2001).

Social learning theory, a line of psychological thought led by Albert Bandura, argued the importance of human agency in learning and behavior (Bandura, 1977). Therefore, in the last several decades the prevailing views of human behavior have undergone an immense shift. While behaviorists like B.F. Skinner viewed the environment as the most important player in shaping human behavior, Bandura (1997) contended that humans choose their own environment and, therefore, have ultimate control over their own lives. In short, neither actual skill level nor reinforcements are sufficient in considering an individual's capability for completing a task or achieving a goal, but their agency must also be considered as a crucial determinant of human behavior. Fundamental to the concept of human agency is the construct of perceived self-efficacy (Bandura).

The concept of self-efficacy is sometimes confused with self-esteem, although the two constructs are actually quite different. An individual's self-esteem has to do with his or her perceptions of self-worth, or value as a person. Self-efficacy, while also involved with a type of self-appraisal, is comprised solely of a person's perceived ability (Bandura, 1997). While these two concepts may intuitively seem linked, they are not necessarily related. One reason for this is that perceived self-efficacy is generally identified as specific to a given activity or ability. In the words of Bandura (1997), "Self-efficacy theory... treats the efficacy belief system not as an omnibus trait but as a differentiated set of self-beliefs linked to distinct realms of functioning" (p. 36). Since a

person's life involves any number of different activities, it is easily conceivable that a low sense of self-efficacy in one area may not necessarily lead to a low sense of self-esteem overall. For example, a talented musician may have a low sense of self-efficacy about her athletic ability, but if she is not concerned with athletic ability as being essential to her worth as a person, her low perceived self-efficacy in this area will not affect her sense of self-esteem.

Since perceived self-efficacy is understood as being related to specific tasks and abilities, one cannot easily speak of a "general" sense of self-efficacy. In fact, some researchers have found evidence that no such global concept exists, or that it cannot be adequately measured and studied (Bandura, 1997, Bracken & Howell, 1991). At the same time, the effects of perceived self-efficacy on individuals' behavior are similar across diverse areas and can be discussed in general terms.

Relation to Outcome

As mentioned previously, higher levels of perceived self-efficacy increase the chances that an individual will be successful in a given endeavor, and its effects occur in a variety of ways. As explained by Bandura (1997):

People's beliefs in their efficacy have diverse effects. Such beliefs influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in

coping with taxing environmental demands, and the level of accomplishments they realize. (p. 3)

More simply stated, the effects of perceived self-efficacy on behavior are explained in the context of four major areas of processing: cognitive, motivational, affective, and selection processes (Bandura, 1993).

In cognitive areas of processing, one's perceived self-efficacy directly affects behavior by affecting appraisals of one's ability. A person's willingness to take on a task is affected by how strongly one believes he or she can perform a given behavior (Bandura, 1977). Also, individuals with high self-efficacy view ability as an acquirable skill, accept errors as a natural part of learning, and tend to be more resilient to failure (Bandura, 1993).

Motivation is also affected by perceived self-efficacy through the goals people set for themselves and the lengths they are willing to go to in order to achieve those goals (Bandura, 1993, 2001). For example, a person with low self-efficacy in a given area is less likely to be motivated to set high goals in that area, and therefore less likely to meet such goals. Similarly, affective processes are related to perceived self-efficacy and also affect the attainment of goals. A person striving toward a challenging goal may experience greater task-related anxiety if she has a low sense of self-efficacy and believes she may not be able to achieve the task. In contrast, an individual with high perceived self-efficacy may be more likely to cope with setbacks and discouragements and experience relatively low anxiety (Bandura, 1977). Such individuals, in turn,

develop higher levels of self-efficacy relative to their coping abilities, increasing the likelihood that they will take on challenging situations in the future (Bandura, 1993).

Finally, levels of perceived self-efficacy also affect behavior indirectly through selection processes (Bandura, 1993). Individuals' self-efficacy levels affect their choice of environments and activities, likely impacting the entire course of their lives (Bandura, 1997, 2001). For example, an intelligent man with low self-efficacy may choose a safe, non-threatening career and living situation, while a similarly intelligent man with high perceived self-efficacy may choose a high-stress, competitive career and pursue challenging hobbies and living situations

Academic Impact. The concept of self-efficacy has often been a subject of investigation for researchers interested in improving students' academic achievement. This is not unexpected, since poor performance on tasks utilizing cognitive skills may be due to poor perceived self-efficacy rather than lack of ability (Bandura, 1993). Additionally, self-efficacy contributes to the difficulty of goals people set for themselves and their expectations for success in undertaking those goals (Bandura, 1997). Therefore, improvements in the performance of low-achieving students may be more dependent upon improving their self-efficacy than improving just academic skills alone. For example, according to one study, measures of middle school students' self-efficacy and their grade goals for the class accounted for nearly a third of the variance in their grade attainment in a social studies class (Zimmerman, Bandura, & Martinez-Pons, 1992). The students' perceived self-efficacy for academic achievement had a significant effect on the eventual course grade directly, as well as indirectly through goal-setting and

variables of parental expectation (Zimmerman et al., 1992). Another study by Bandura et al. (1996) provided evidence that students' academic self-efficacy contributed significantly to students' high scholastic achievement as well as prosocial behavior, peer acceptance, and low levels of behavior problems.

Self-efficacy is usually viewed as task- or ability-specific; rather than being a global trait, it is linked to particular realms of functioning (Bandura, 1997). Not surprisingly given this understanding, researchers have investigated students' perceived self-efficacy relative to several aspects of academic achievement. Studies have examined the impact of specific self-efficacy on students' performance in a given subject such as math (Schunk, 1989, Stevens, Olivarez, & Hamman, 2006), reading (Barkley, 2005), writing (Pajares & Valiante, 2006; Shell, Colvin, & Bruning, 1995), and social studies (Zimmerman et al., 1992). In addition to studying perceived self-efficacy relative to academic skills, researchers have also studied the impact of students' perceived abilities to regulate their own behavior (Bandura & Locke, 2003). Improving self-efficacy has positive implications both specifically for low-achieving students (Zimmerman et al., 1992) as well as for all students in achieving their potential in a fast-paced, information-saturated society (Bandura, 2001).

As explained above, appraisal of one's own ability can strongly impact his or her behavior in a variety of manners and contexts; however, people's perceived self-efficacy is not the sole determinant of behavior. Most obviously, individuals' outcome expectations affect behavior by impacting the decision of whether or not a given behavior will produce the desired outcome (Bandura, 1977). Even if a person fully

believes himself capable of a certain behavior, if he does not expect the behavior to produce a desirable outcome it is not likely he will pursue it (Bandura & Locke, 2003, Schunk, 1989). Similarly, according to expectancy-value theory, a person's motivation to change his or her circumstances is also influenced by beliefs in the environment itself, as to whether it can even be changed at all (Bandura, 1993). It becomes apparent that in researching the causes for motivation levels, it may be difficult to ascertain whether effects are from one's self-efficacy, outcome expectations, or environmental expectations. For instance, if an intelligent woman from a low-income minority background fails to graduate from high school, what is the reason? Does she lack confidence in her own ability, is she unconvinced that graduating high school will make her life easier, or does she believe that her community does not allow minority women to hold well-paying jobs? Obviously, any or all of these reasons could affect her behavior, as well as a whole host of others. Examples such as these are important when remembering that one's perceived self-efficacy is an essential, but not exclusive, determinant of human behavior.

Self-efficacy of Hispanic ELL Students

Considering the need for improving the academic outcomes of Hispanic students, especially ELLs, as well as the apparent power of academic self-efficacy in improving achievement, it is of interest to investigate the academic self-efficacy of these students. Despite this, however, little published research is available examining the academic self-efficacy of Hispanic students. One study investigating the relationship between mathematics self-efficacy and performance surveyed students from elementary through

high school grades. The results indicated that the Hispanic students in the sample exhibited lower levels of both mathematics self-efficacy and achievement than the sample's Caucasian students (Stevens, Olivarez, & Hamman, 2006).

Some research conducted with Hispanic ELL children suggests that bilingual abilities may be related to greater self-efficacy in some areas. Immigrant children, or children of immigrant parents, learn English more quickly than their parents do because of their exposure to the language at school. As a result, they may serve as interpreters between their non-English-speaking parents and the English-speaking world around them (Buriel et al., 1998). Researchers coined the term "language broker" to describe a child who interprets for his or her parents in such challenging situations as business and banking transactions, interactions with employers, landlords and healthcare professionals (McQuillan & Tse, 1995; Tse, 1995). Such translation is a complex process, involving comprehension of complex vocabulary in two languages and transmission of meaning between two parties (Tse, 1995). Thus, rather than simply playing the role of interpreter, children impose their own bicultural understanding of the situation on their interpretations, helping bridge the cultural gap as well as the linguistic one (Tse & McQuillan, 1996). Placing children in the position of language broker is controversial, because this practice can put a child in uncomfortable or even traumatizing situations, such as relaying information about family members' medical conditions (Morales & Hanson, 2005). Nevertheless, nearly all children of immigrant parents report serving as a family language broker at least some of the time (Tse, 1995), so the prevalence of the practice is hardly diminishing.

The research shows mixed findings on the effects language brokering has on children's academic skills and self-efficacy. A study by Buriel et al. (1998) examined the relationship between language brokering, academic performance, and self-efficacy in Hispanic adolescents. The results suggest that language brokering was predictive of students' academic performance, as well as their social self-efficacy. Acoach and Webb (2005) examined the relationship between language brokering and academic self-efficacy in both junior high and high school students. Their results for the high school group indicated a relationship between language brokering and academic self-efficacy, but no such relationship was found for the junior high group. The appearance of the relationship in the high school, but not the junior high sample could be an indication that the relationships was strengthened due to maturational factors, or it may simply reflect the difference in sample sizes in the study (Acoach & Webb). A review of the literature by Morales and Hanson (2005) indicated that research to date provides some evidence that language brokers have increased cognitive skills, but only limited indications of a relationship between language brokering and academic performance. The empirical research in this area is incomplete, however, and no firm conclusions can be drawn (Morales & Hanson).

Statement of the Problem

The Hispanic population of the U.S., and notably the number of immigrants, is steadily growing (United States Census Bureau, 2005). This trend ensures that the number of Spanish-speaking ELL students in schools in the U.S. will continue to be substantial. Regrettably, this large minority group experiences low academic outcomes,

including high dropout rates (NCES, 2002), making educational decisions for this group extremely vital. Throughout the past several decades, policymakers, theorists and researchers have debated whether these ELLs should receive their education in English only, or whether bilingual education is best (Baker & Rossell, April, 1993; Cummins, 1981; Rolstad et al., 2005). While many studies have been conducted in this area, the empirical case for bilingual education is complicated by conflicting and irregular definitions of different programs, and by a lack of well-controlled studies examining its effectiveness (Slavin & Cheung, 2005).

Further confusing the debate over the best course of action for ELL students are the many other factors that contribute to students' educational success. One of these factors, academic self-efficacy, has been shown to be a powerful determinant to academic success (Bandura, 1997; Zimmerman, Bandura, & Martinez-Pons, 1992). Unfortunately, little information is available on the self-efficacy of Hispanic ELL students. Research on language brokering suggests that children who interpret regularly for their parents may develop superior cognitive and linguistic skills, which may influence their self-efficacy (Buriel, Perez, DeMent, Chavez, & Moran, 1998; Tse, 1995). The purpose of this study is to investigate the relationship between bilingual education and language proficiency, achievement, and self-efficacy, in order to further the research concerning which type of educational program is best for Hispanic ELL students.

CHAPTER III

METHOD

This study examined the effects of bilingual education with a two-pronged design. First, extant data contributed information on the past educational program attended by current eighth-grade Hispanic students, as well as their language proficiency and academic achievement. Second, a subgroup of the larger sample was administered questionnaires to gain some demographic information and examine academic self-efficacy. The design of this study is by necessity quasi-experimental, since it utilizes retrospective data and students were assigned to different groups on the basis of factors other than experimental design.

Participants

Participants were selected from a large urban school district in the southwestern United States. School district demographic information indicates that the majority of the district is Hispanic (56.8%), with 26.3% African American, 15.1% Caucasian, and 1.8% other ethnicities. Approximately three-fourths (71.4%) of students in the district are classified as economically disadvantaged (Texas Education Agency [TEA], 2007).

For use in this study, participants were included if they met the following criteria: 1) they were classified as Hispanic by the district; 2) they were in the eighth grade during the 2007-2008 school year; and 3) they had attended the school district every year since the 1999-2000 school year. This final criterion was necessary in order to classify students into the appropriate groups based on their educational history. The

district logs each year's educational data only for those students enrolled in the district at some point during the year. Therefore, in order to obtain important data for all participants, it was necessary to exclude those who had left the district for one or more years since kindergarten. This did not exclude those students who had changed schools within the district, nor did it exclude those students who left the district for part of a school year. Students who were classified as special education or gifted students were not excluded from the study. Their inclusion was intended to minimize the exclusion of students who were potentially misidentified as needing special education, due to their limited English proficiency, as well as truly gifted students who may not have been identified for the same reason.

Originally, 1675 students were identified by the district as meeting necessary criteria. Based on extant data, twenty-six students were born in non-Hispanic countries other than the United States, and were therefore excluded from analysis. Therefore, 1652 students comprised the overall sample. Of these, 50.8% percent were female ($n = 840$), and 49.2 % percent were male ($n = 812$). Of the overall sample of Hispanic students, 42.6% (703) were initially classified as English Language Learner (ELLs) and attended two or more years of bilingual education. An additional 41.4% (684) were classified as ELLs and attended less than two years of bilingual education. The remaining 265 (16%) participants met initial English proficiency requirements and were not classified as ELLs. Students were identified as ELLs or English speakers by the district upon their enrollment in school, usually at age 4 or 5. If parents' responses on the Home Language Survey indicated the child may have spoken a language other than

English, the district administered an oral language proficiency test. Children not achieving proficiency in English, as determined by the test, were classified as ELLs. Criteria for classification as an ELL student were very broad; this factor is partly responsible for over 80% of this sample being classified as ELLs. These ELL students were placed either in bilingual education or in classes with a teacher certified in teaching English as a Second Language (ESL). It is important to note that placement of these students was not entirely random. If parents refused bilingual education, their children were placed in ESL classes. Due to limitations in acquiring adequately-trained bilingual teachers, however, a large number of students were placed in ESL classes, even if their parents did not refuse bilingual education for their children.

Extant data indicated that 67.9% (1120) of participants were born in the United States, 15.3% (252) were born in Mexico, and 0.36% (6) were born in other Latin American countries. Information on country of origin was unavailable for 16.4% (271) of the sample. These participants were primarily composed of the 266 non-ELL participants, for whom the district does not maintain this data; the vast majority of these students were likely born in the United States.

A subsample of 409 participants (24.8%) was selected from the larger group to supply additional information related to self-efficacy and demographic variables. Participants were chosen due to their attendance at one of two middle schools with high numbers of Hispanic students. For these students, parental consent and child assent was obtained for 79 students, representing 4.8% of the total sample. All information was coded and results reported in aggregate form to protect the confidentiality of the

individuals involved. Of these 79 students, 36.7% (29) were male and 63.3% (50) were female. Only 3.8% (3) of the subsample participants were initially classified as English speakers. The remaining students had been categorized as ELLs, with 50.6% (40) attending two or more years of bilingual education, and 45.6% (36) attending less than two years of bilingual education.

Members of the subsample provided some additional demographic information in addition to what was included in the district's background data. This primarily included the participants' generation level and the highest education level of their parents. Generation level is defined as follows: Students who were first generation were born outside the United States, while those of the second generation were born in the U.S., but had at least one parent born in another country. Third generation students were born in the United States along with their parents, but had at least one grandparent born elsewhere; fourth generation students had no parents or grandparents born outside the United States. Of the 79 students, 27.8% (22) were first generation, 65.8% (52) were second generation, 2.5% (2) were third generation, and 3.8% (3) were fourth generation or higher. Students also reported parental education level: 8.9% (7) of students reported that their parents completed primary school, 32.9% (26), had parents who completed middle school, 22.8% (18) of parents completed some high school, and 17.7% (14) completed all of high school. Some college or technical school was completed by 8.9% (7), while 1.3% (1) completed an associate's degree and 1.3% (1) completed a bachelor's degree. It is worthy of note that these figures are based on student

information; also, students were asked to report data for the parent who completed more education.

Students were included in this study during their eighth grade year for specific reasons. First of all, most studies assessing the effects of bilingual or immersion programs on ELL students' language and/or academic outcomes collect data during elementary school (Croft & Franco, 1983; Lopez & Tashakkori, 2004; Ramirez, 1992). In fact, of 17 studies since 1985 included in a recent meta-analysis, only 2 compared students at eighth grade or beyond (Rolstad et al, 2005). Often, studies recommend that other research be conducted to measure variables at a later age than elementary school (Lopez & Tashakkori, 2004). Evidence from Gersten and Woodward (1995) found that collecting data during seventh grade allowed for a more equitable comparison between bilingual and immersion outcomes than testing students in fourth grade. Cummins (1981) has proposed that a minimum of 5-7 years is needed for children to fully learn a second language; testing in eighth grade would give students at least this much time to develop English school. Also, since students' ultimate educational outcomes occur much later than elementary school, measuring success as late as possible is best. It is therefore desirable to measure student variables at the end of high school; however, at this point many students may have dropped out of school, especially considering the high dropout rate of Hispanic students (NCES, 2002). Such attrition would seriously undermine the power of any data analyses or conclusions that could be made. In eighth grade most students are thirteen or fourteen years old, and those who have been retained one or two years could be up to sixteen years old. By collecting data from eighth

graders, therefore, attrition should be minimized by including students who have been retained but are not yet old enough to legally drop out of school.

Measures

For one component of the study, extant retrospective data available through a large urban school district was used. First, approval was obtained through the district's Data and Accountability department. Data obtained from district records was deidentified; therefore, it was not necessary to obtain individual parental consent or assent for the use of this data. This method was employed to ensure that the overall sample remained as representative as possible, without attrition due to failure to obtain consent from all participants. For each student, extant data included: educational history, current scores on the Texas Assessment of Knowledge and Skills (TAKS), most recent student grades, and the last available score on the statewide Reading Proficiency Test in English (RPTE), given to ELL students. Also, for ELL students, scores of oral language proficiency, as rated by district personnel, were used to determine initial group similarity. In the planning for this study, it was hoped that scores would be available from the Texas English Language Proficiency Assessment System (TELPAS), the Stanford Achievement Test (SAT), and the SAT's Spanish counterpart, the Aprenda. Data from these measures, however, was not available and therefore could not be used. Two additional measures were administered to the subsample, including the Self-Efficacy Questionnaire for Children (SEQ-C) and a demographic questionnaire.

Pre-IPT Oral English Language Proficiency Test

To identify ELL students, the district assesses children's English oral language proficiency when they enter school in pre-kindergarten or kindergarten. For this assessment, the Pre-IPT (Ballard & Tighe, 2008), is utilized. The test is a brief, story-based measure which focuses on oral language skills for young children. Students are scored on a six point scale from Non-English speaking to Fluent English speaking (Ballard & Tighe). The district referred to this test as an oral language proficiency test, or OLPT.

Reading Proficiency Test in English

School districts in Texas are required to assess the English learning of ELL students annually with state-developed tests. These tests are administered to ELLs yearly until they achieve fluency in English; after that, the tests are no longer administered. Currently, the Texas Education Agency requires the Texas English Language Proficiency Assessment System (TELPAS) in assessing ELLs' progress toward English fluency (TEA, n.d.). Most students reach the state-defined minimum level of English proficiency (as measured by the tests) around third grade. After they reach this minimum level of proficiency, statewide English proficiency tests are no longer required. Therefore, for the eighth-grade students in this sample, the most recent English assessment data available for the whole group was obtained in 2003. At that time, the district utilized the Reading Proficiency Test in English (RPTE), which has not been incorporated into the TELPAS. The RPTE is comprised of reading passages and answering questions about them. Item difficulty ranges from easily-understood

questions to items requiring a more advanced understanding. Scores from 2003 were reported on a scale from 0 to 3 (TEA, n.d.).

Texas Assessment of Knowledge and Skills

The Texas Assessment of Knowledge and Skills (TAKS) is a criterion-referenced, group-administered, standardized achievement measure given to children in various grades from third grade through high school in the state of Texas. Developed with input from various sources including teachers, parents, professors, and content experts, the TAKS was created to measure students' knowledge of the state curriculum guidelines, the Texas Essential Knowledge and Skills. A Spanish version of the TAKS is available for all testing years through the sixth grade (TEA, 2004).

Eighth grade students are required to take TAKS in the areas of Reading, Math, Science, and Social Studies. Each subject area is administered on different days between March and May (TEA, 2008). Students' raw scores are converted to scaled scores for district and state use. For the purposes of this study, raw scores were used, rather than scaled scores, to create a score out of 100. This was done to ensure that scores would be weighted equally with student grades for an overall achievement measure.

Student Grades

In addition to achievement testing, student grades for the 2007-2008 school year were used as a measure of academic achievement. Grades were recorded as percentages out of 100 and averaged across all subject areas to obtain an overall grade average for the year. The average overall score out of 100 was combined with the TAKS score out of 100 to create each student's achievement variable score.

Self-Efficacy Questionnaire for Children

The Self-Efficacy Questionnaire for Children (SEQ-C) is a measure designed to assess three areas of self-efficacy in children: social self-efficacy, academic self-efficacy, and emotional self-efficacy (Muris, 2001). Of primary interest for this research is the academic area of self-efficacy. The questionnaire is formatted as a self-report, and includes 8 items in each of the three scales, for a total of 24 items. Respondents are asked to indicate how much each statement is true for them using a 5-point scale in which 1 = *not at all* and 5 = *very well*. Internal consistency reliability for the four scales, calculated as Cronbach's α , ranged from .85 to .88, with an overall reliability of .88 for the total self-efficacy score. Other research using the academic scale of the SEQ-C found a similar value for α , at .86 (Shaunessy, Suldo, Hardesty, & Shaffer, 2006). Another study conducted by LaKaye, Margalit, Ziv, and Ziman (2006) utilized the social and emotional self-efficacy scales and found slightly lower α values (.76 and .72, respectively). This particular study used a version of the scales translated into Hebrew for use with Israeli children (LaKaye et al.). In the research conducted by Muris, a significant intercorrelation between the three subscales of the SEQ-C suggests that children's self-efficacy across the three domains covaries to some extent.

Demographic Questionnaire

A demographic questionnaire was utilized to gain some background information from each student in the subsample. Information such as generation level and parent education is helpful in determining the generalizability of the study's results, as well as providing information about potential pre-existing differences between groups.

Procedure

Before beginning, appropriate approval was obtained from the Texas A&M Institutional Review Board, as well as the school district's data and accountability department. Students were selected based on information provided by the district.

Participants were classified into three groups: 1) the **Bilingual ELL Group**, students who began kindergarten classified as ELL students and who attended bilingual education for 2 or more years, 2) the **Mainstream ELL Group**, students who began kindergarten classified as ELL students and who attended bilingual education less than 2 years, and 3) the non-ELL **Comparison Group**, Hispanic students classified as English-speaking who were placed in a monolingual English classroom. Since criteria for classifying students as ELLs were very broad and included most students who heard Spanish at home, it is assumed that students in the Comparison group have limited knowledge of Spanish at best.

For the second part of the study involving direct data collection from students, school principals were contacted for their consent and assistance. Three middle schools were contacted due to their large Hispanic populations; the principal of one school declined consent, leaving two schools. A significant proportion (24.6%) of the overall sample attended one of the two schools, several miles across the district from each other. Meetings were arranged with school principals and they were provided with copies of all information and forms distributed to teachers. Eighth grade English teachers were identified as the best method of distribution and communication with students, since all eighth graders were required to take an English class.

In meetings with teachers, the procedure was explained by the principal investigator and verbal consent for assistance was obtained. Informational flyers and parental consent forms were then distributed to the 409 prospective participants at the two schools via their English classes. The principal investigator met with all classes to explain the purpose of the study and answer any questions. Additional consent forms were distributed to students, and repeated class visits and meetings with teachers were made to encourage higher response rates. Students who agreed to participate in the study were immediately allowed to choose a candy or small prize, were entered in a prize drawing for an iPod Shuffle or a gift card to a store of their choice, and were also invited to a donut party after data was collected. Teachers whose classes were involved were also entered in a prize drawing for a gift card. After two months, 79 students had returned consent forms and more time could not be allowed due to the approaching close of the school year.

Once consents were collected, teachers were consulted and several days were scheduled to administer the SEQ-C and the demographic questionnaires to students. Participants were also given an assent form, which was explained to them and which they were asked to sign. Students were assured of the confidentiality of their responses, as well as the voluntary nature of the study. All questionnaires were administered by the investigator. In some cases, questionnaires were administered to participants in their regular classroom while non-participating students worked quietly on regular assignments. In cases where only one or two participants were together in the same class, the participating students were removed to a quiet, empty classroom and the

questionnaires were administered in a small group setting. Students read and answered the questions individually, and the investigator was available to answer questions at all times. In one case, the questionnaires were read aloud to a student whose reading level was too low for comprehension. Participants generally finished filling out the forms within 10-15 minutes and returned to their regular classroom activities.

To maintain privacy and confidentiality, codes were created and used to label all questionnaires filled out by students. Once completed, responses were entered into a data table for analysis. In scoring the SEQ-C, the Likert-type responses to the eight items measuring academic self-efficacy were averaged, yielding an overall score for each student between 1 and 5.

CHAPTER IV

RESULTS

Statistical procedures and data analyses for this study were completed using the statistical program SPSS, version 12.0. Before beginning analysis, the data were examined for potential entry errors and violations to assumptions of normality. Box plots and histograms were constructed to check visually for unusual outliers and abnormal distribution patterns. Skewness and kurtosis were calculated for all variables involved in analyses comparing means for significant differences: namely, scores from the OLPT, the RPTE, academic achievement, and academic self-efficacy. Calculations indicated that kurtosis was within acceptable limits on all variables. Skewness was within appropriate limits for academic self-efficacy scores from the SEQ-C. For the OLPT scores, RPTE scores, and academic achievement, the absolute value of the skewness of each variable was more than twice the standard error and therefore outside acceptable limits.

To attempt to correct for the skewness of these variables, transformations were performed. A square root transformation corrected the skewness of the OLPT variable to within acceptable limits; therefore, the transformation was used in all subsequent analyses involving OLPT scores. For both the RPTE scores and academic achievement variable, neither a logarithmic (base 10) transformation, nor the square root transformation could adequately correct the skewness. Therefore, the original variables were used in the analyses. These scores likely could not be corrected due to the nature

of the variables themselves, since they are both based on criterion-referenced measures. The RPTE is a measure of reading proficiency in English, on which ELL students must reach a certain score before they are considered proficient in English. Since the scores used are from students' third grade year, when most ELL students reach proficiency, most students have high scores. The academic achievement variable is a combination of academic grades and state criterion-referenced achievement scores. It is not unreasonable for academic grades to be skewed if students are expected to attain high grades, since students cannot earn grades over 100. Also, students are expected to achieve high scores on statewide achievement scores in order to pass on to the next grade. Many students attain high or maximum scores, shifting the distribution of scores overall.

A summary of descriptive statistics for the measures used, including means, standard deviations, and n for each, is shown below in Table 1. In the case of OLPT scores, information in the table describes the original, uncorrected scores.

Table 1
Summary of Descriptive Statistics of Measures

Measure	n	Minimum	Maximum	Mean	SD
OLPT	1652	0	3	1.17	.786
RPTE	1652	0	4	2.24	1.162
Academic Achievement	1565	36.53	98.59	76.49	10.11
Academic Self-Efficacy	79	2.13	4.75	3.58	.597

Note. OLPT = Oral Language Proficiency Test; RPTE = Reading Proficiency Test in English

Treatment of Missing Data

Missing data were not expected to pose a significant threat to validity in most cases of this study. Since school districts are required to report information on the progress of ELL students, most language proficiency data is very complete. The data for academic self-efficacy is also complete for participants who returned consent forms, since the investigator returned to the school multiple times if students were absent on the days of data collection. Most occurrences of missing data were from student grades or TAKS scores. To correct for missing values, scores were averaged across available values. Students missing more than half of their six weeks' grades or TAKS scores were excluded from analysis.

Power Analysis

To determine the power in the subsample for detecting effects of bilingual education on academic self-efficacy, a power analysis was conducted. The program entitled Piface (Lenth, 2006) was utilized. Analysis indicated that, for a moderate effect size of 0.3 to 0.5 ($\alpha = .05$), a sample size of between 18 and 32 participants per group would be necessary for a two-sample t-test. For a similar moderate effect size ($\alpha = .05$) in a three-group ANOVA, a sample size from 8 to 12 participants per group would be required. Given these estimates, the sample obtained was sufficient to detect differences between the Bilingual ELL group ($n = 40$) and the Mainstream ELL group ($n = 36$) using a two-sample t-test. The participation rate from the Comparison group ($n = 3$) was not, however, sufficient to include it in comparative analyses for academic self-efficacy.

Initial Group Comparability

Data analysis began by determining how similar the Bilingual ELL Group and Mainstream ELL groups were when they began elementary school. According to the operational definitions of these groups, all students in these two groups were determined to have limited English proficiency upon their entry into school; however, the level of English proficiency was not necessarily equal between groups. In this study students were not placed in bilingual or English classrooms randomly; rather, placement into classes was determined at school entry by program availability and parental input. Even when utilizing random assignment, two groups may not be equal on important variables, and without random assignment this likelihood is much greater. Since English proficiency is an important variable in this study, it was important to determine whether the groups were equal in their entry-level English levels. Entry-level English proficiency is defined in this case by students' initial of oral language proficiency test (OLPT) score.

A t-test was used to compare the two groups' means on their initial OLPT scores. A Levene's test was conducted first and found that the variance in the two groups was not equal ($p < .01$); therefore the t-test was conducted assuming unequal variance. T-test results indicated that the initial English ability of the Bilingual ELL group was significantly lower than that of the Mainstream ELL group, $t(1229) = -5.92$, $p < .01$. Due to this significant difference, further tests will control for initial English ability, where possible.

Also of importance to these analyses was how well the self-efficacy subsample represented the larger group, especially considering the relatively low return rate of consent forms for prospective participants. A t-test comparing the self-efficacy questionnaire participants with non-participating students revealed no significant differences between the groups on initial OLPT scores or RPTE scores ($p = .05$). The groups were significantly different on the achievement variable, $t(1643) = -2.40, p = .05$. Since this group difference may have been affected by the larger percentage of female students in the subsample than in the overall sample, an ANCOVA was conducted to detect differences in achievement, controlling for gender. Results are reported in Table 2 below. The analysis indicates that, after controlling for differences between males and females, the self-efficacy subsample and overall sample were not significantly different on achievement, $F(1, 1643) = 1.57$.

Table 2
ANCOVA for Achievement Differences Between Overall
Sample and Subsample, Gender as Covariate

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Gender	1	2065.17	20.23*	< .001	.01
Achievement	1	160.11	1.57	.21	.001

* $p < .001$

Research Question 1

Are language proficiency scores higher for Hispanic ELL students who attended bilingual education classes or those who attended English-only classes? It was

hypothesized that Hispanic ELL students who attended bilingual education would achieve higher language proficiency scores in English than those attending Mainstream English classes, by the eighth grade. Unfortunately, as explained earlier, the latest-available English-language measures for this group were RPTE test results from 2003. Therefore, these scores were used as a measure of English proficiency.

To test the hypothesis, a two-group analysis of covariance (ANCOVA) was conducted between the Bilingual ELL and Mainstream ELL groups. Type of education was the independent variable, with English ability (RPTE scores) the dependent variable and initial English ability (OLPT scores) the covariate (see Table 3). Results of the analysis indicated that the covariate, OLPT scores, was significantly related to English proficiency as measured by the RPTE, $F(1, 1377) = 28.31, p < .01$. The effect size of OLPT scores on RPTE scores, as measured by partial Eta squared, was .02. The dependent variable, type of education, was not significantly related to the RPTE score, but it approached significance, $p = .06$.

Table 3
ANCOVA for Effect of Bilingual Education
on RPTE Score, OLPT as Covariate

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
OLPT	1	14.94	33.90*	< .001	.02
Education Type	1	1.51	3.43	.06	.002

Note. RPTE = Reading Proficiency Test in English; OLPT = Oral Language Proficiency Test.
* $p < .001$

Research Question 2

Are achievement scores higher for ELL students who attended bilingual education classes or those who attended English-only classes? How does the achievement of ELL students in both these programs compare to that of Hispanic non-ELL students? It is hypothesized that Hispanic ELL students who attended at least two years of bilingual education classes will attain higher achievement scores than those Hispanic ELL students who were placed in Mainstream English classes. It is further hypothesized that Hispanic ELL students with bilingual education experience will reach parity on achievement variables with their Hispanic non-ELL peers.

A three-group ANOVA was used to investigate this question and compare the Bilingual ELL and Mainstream ELL groups' achievement in the eighth grade. ANCOVA could not be used because initial English proficiency scores were not available for the Comparison group. Post-hoc analyses utilizing a Tukey test were planned to investigate any significant differences found. The achievement variable in this case was a combination of students' TAKS scores and their school grades from the 2007-2008 school year. As described previously, scores from subject areas of Reading, Math, Science, and Social Studies were used. Raw scores were converted to percentage scores out of 100. Class grades were also expressed as percentage scores out of 100, and were averaged over all subject areas for the school year. The mean of the converted TAKS score average and the average grade were then used as the academic achievement variable.

For some cases, data was not available for all grading periods or for all TAKS subject areas. In such cases, available data was used. Students missing more than half of the past year's grades and/or TAKS scores were excluded from analysis. After this exclusion, 1565 participants were included in the analyses.

Table 4
ANOVA Comparing Bilingual ELL, Mainstream ELL, and
Comparison Groups on Eighth Grade Achievement

Source	<i>df</i>	Mean Square	F	<i>p</i>	Partial Eta Squared
Between Groups	2	312.07	3.06	.04	.004
Within Groups	1562	101.93			

* $p < .05$

As shown in Table 4, results of the three-group ANOVA indicated significant between-groups differences ($F[2, 1562] = 3.06, p < .05$). As proposed, a Tukey test was performed to determine the nature of the difference(s). Results of the test are presented in Table 5 below. Results of the Tukey test indicated a significant difference between the Comparison Group and the Bilingual ELL Group on the overall academic achievement score ($p < .05$; partial eta squared = .007). No significant differences were found between the Comparison group and the Mainstream ELL group, nor between the Bilingual ELL group and the Mainstream ELL group.

Using the ANOVA and Tukey test procedures, significant differences were not found between the Bilingual ELL and Mainstream ELL groups. Since these groups had

Table 5
Tukey Test of Differences Between Groups
on Academic Achievement

Groups	Mean Difference	SEM	<i>p</i>
Comparison Group – Bilingual ELL Group	-1.91*	.77	.04
Comparison Group – Mainstream ELL Group	-1.34	.77	.20
Bilingual ELL Group – Mainstream ELL Group	.57	.55	.56

* *p* < .05

significant initial differences as measured by the OLPT, however, later differences may have been obscured. To better measure the effects of the type of education on ELL students, an ANCOVA was performed with initial OLPT score as the covariate (see Table 6). Despite the use of initial English proficiency as a covariate, no significant differences were found in mean achievement scores between the Bilingual ELL and Mainstream ELL groups ($p = .05$).

Table 6
ANCOVA for Effect of Bilingual Education
on Achievement, OLPT as Covariate

Source	<i>df</i>	Mean Square	<u>F</u>	<i>p</i>
OLPT	1	348.90	3.47	.06
Education Type	1	178.98	1.78	.18

Note. OLPT = Oral Language Proficiency Test

Research Question 3

How does the attendance of bilingual or English-only classes affect the academic self-efficacy of Hispanic ELL students? How does the academic self-efficacy of Hispanic ELL students compare to that of non-Hispanic ELL students? It was hypothesized that the Bilingual ELL group would exhibit higher academic self-efficacy than the Mainstream ELL group. It was further hypothesized that, due to their bilingual abilities, the Hispanic ELL students would exhibit higher academic self-efficacy than their Hispanic non-ELL peers (the Comparison group).

To test this hypothesis, data from students' responses to the SEQ-C was used. Of the 79 participants who completed the questionnaire, only 3 belonged to the Comparison group, so the second hypothesis could not be adequately tested. Scores from the eight academic items of the SEQ-C were averaged and compared across the Bilingual ELL and Mainstream ELL groups using a t-test. Results indicate no significant difference between the two groups' academic self-efficacy scores, $t(74) = .253, p > .05$.

Research Question 4

How does the length of attendance in bilingual education classes predict Hispanic ELL students' language proficiency, academic achievement, and academic self-efficacy? It was hypothesized that the levels of achievement, language proficiency, and self-efficacy attained by Hispanic ELL students would be directly predicted by the amount of time spent by students in bilingual education. To examine this hypothesis, three separate regression analyses were conducted between the number of years spent in bilingual education and scores on English proficiency, achievement, and academic self-

efficacy. English proficiency was measured by RPTE scores, the achievement variable was the same variable created by combining TAKS scores and student grades, and academic self-efficacy scores were the average values obtained from the SEQ-C.

Table 7
Regression Analyses of Years of Bilingual Education
Predicting RPTE, Achievement, and Self-Efficacy

Dependent Variable	<i>B</i>	SEb	β	R^2	ΔR^2
RPTE	.01	.01	.02	.001	.001
Achievement	.19	.15	.03	.001	<.001
Academic Self-efficacy	.01	.04	.01	<.001	<.001

Note. RPTE = Reading Proficiency Test in English.

As demonstrated in Table 7, results of the regression analyses revealed no significant prediction of English proficiency, achievement, or academic self-efficacy scores by the amount of time students spent in bilingual education.

Additional Analysis

A final analysis was completed to determine the predictive ability of ELL students' academic self-efficacy on achievement, when combined with their earlier English proficiency scores. A hierarchical regression analysis was conducted, using RPTE scores, then academic self-efficacy scores to predict students' eighth-grade achievement. As shown in Table 8, results of the hierarchical regression analysis indicated that students' third-grade RPTE scores predicted about 5% of the variance in eighth-grade

Table 8
Hierarchical Regression with RPTE and Academic
Self-Efficacy Scores Predicting Academic Achievement

Variable	F Change	<i>p</i>	R	R ²	ΔR ²
RPTE	3.89	.05	.22	.05	.05
Academic Self-Efficacy	4.637	.02*	.32	.10	.06

Note. RPTE = Reading Proficiency Test in English.

academic achievement, a marginally significant amount ($p = .052$). Adding academic self-efficacy scores to RPTE scores enabled prediction of an additional 6% of the variance in academic achievement. Taken together, the R² value for the two variables combined was .10 ($p < .05$).

CHAPTER V

DISCUSSION AND CONCLUSIONS

This study was designed to examine the relationship of bilingual education to Hispanic students' language, achievement, and academic self-efficacy. Educators are faced with significant concerns regarding Hispanic ELL students, and it is critical to learn as much as possible about how different types of education affect their success. Based on a review of research to date, it was hypothesized that ELL students who attended bilingual education would achieve higher scores on language testing than their peers educated in English by the fourth grade. It was also expected that Hispanic ELL students from bilingual education would reach higher levels of academic achievement by the eighth grade, and have higher academic self-efficacy, than their English-educated peers. Furthermore, it was hypothesized that levels of language, achievement, and academic self-efficacy would be predicted by the length of time spent by students in a bilingual program.

Discussion of Results

Analyses indicated that ELL students' English proficiency in the fourth grade, as measured by the RPTE, was not significantly affected by whether students attended bilingual education or mainstream English classes. This finding does not support the hypothesis that bilingual education helped the ELL students in the sample develop higher levels of English proficiency than those in mainstream English education. Power of the analyses may have been limited, however, due to characteristics of the available

data. Cummins (1984, 1999) postulated that ELLs require between 5 and 10 years to develop cognitive academic language proficiency (CALP) in their second language. Since the RPTE scores used to measure English proficiency in this study were administered in 2003, students had only been attending school for about 4 years. According to Cummins' belief, tests administered at a later date may have shown greater difference between the two groups.

The second hypothesis of this study was that ELL students educated bilingually would have better academic achievement than their peers educated only in English, and that the bilingually-educated students would reach academic parity with their non-ELL peers by the eighth grade. While the Bilingual ELL group did show slightly higher achievement scores than the Mainstream ELL group, analyses indicated this advantage was not statistically significant, even after controlling for initial English ability. The sample's bilingually-educated students, however, did attain significantly greater achievement scores than their non-ELL peers. These results suggest that, not only were the ELL students capable of "catching up" to their monolingual peers, but that bilingual education may have helped the sample's ELL students outperform those peers. This finding is not unexpected, given research evidence showing cognitive advantages to bilingualism (Paradis, 2005; Bialystok, 2005). Since only bilingually-educated ELLs showed a significant academic advantage, these results also support previous research pointing to the superiority of bilingual education over English-only classes (Ramirez, 1991).

This study's third hypothesis was that bilingual education would be beneficial to student's academic self-efficacy, and therefore that students educated bilingually would show higher academic self-efficacy scores than their peers educated in regular English classes. Analyses showed no significant differences in academic self-efficacy between these two groups, however. This hypothesis was based on research with language brokers, which indicated that bilingual children who serve as interpreters and go-betweens for their non-English-speaking parents can develop greater academic self-efficacy than monolingual peers (Acoach & Webb, 2004). It may be that bilingual children gain the benefit of increased academic self-efficacy regardless of what type of education they receive. It may also be that, as in the Acoach and Webb study, bilingual students demonstrate higher academic self-efficacy as they mature past middle school into high school.

The final hypothesis proposed in this study was that the length of time spent in bilingual education would be predictive of students' English language proficiency, academic achievement, and academic self-efficacy. Not surprisingly, based on the limited significance of the previous analyses, the time spent in bilingual education was not found to be predictive of these factors for this sample. Several previous studies (e.g. Thomas & Collier, 2002; Ramirez, 1991) have emphasized that the greatest benefit from bilingual education is gained after around 5-7 years of participation. Since almost no students in this sample attended bilingual education for more than 4 years, it is difficult to determine the potential effects of such long-term participation.

One final analysis examined how well academic achievement was predicted by a combination of earlier English proficiency scores and academic self-efficacy. These factors combined proved predictive of eighth-grade academic achievement. This information may be helpful for educators in early identification of students who may be at risk for lower achievement. Also, targeting interventions to raise students' English proficiency and academic self-efficacy may help improve academic outcomes in the future.

Limitations

As with any research, certain limitations are present in this study. Most importantly, conclusions are limited because of the quasi-experimental design and retrospective nature of this research. In order to examine the effects of many years of education, it was advantageous in some respects to draw conclusions based on students' past experiences. As with most bilingual studies, students in this case were not placed in different educational settings based on random assignment, and their placement may have been affected by any number of factors (such as parent preference, geography, and program availability) that could have biased the results.

Using extant data in this study allowed many years' progress to be summarized in a short time period. The usefulness of the data, however, was limited by several factors. Since such data is collected to meet state and district progress requirements, it is not necessarily ideal for the purposes of this study. For example, while the RPTE data was useful as a measure of English proficiency, it would have been better for this study had such a measure been administered during students' eighth grade year. Also, the

RPTE yields a simple score on a scale of one to three, and most students had reached the highest level of proficiency measured by the test by 2003, the last time the test was administered to most of the ELL students. A more sensitive measure of English proficiency would have been much more helpful in accurately describing students' abilities. Additionally, since measures such as the OLPT and RPTE were not administered to non-ELL students, it was not possible to compare all groups on these variables; therefore it was impossible to determine whether students educated bilingually obtained higher English proficiency than their monolingual counterparts.

The usefulness of the extant data was also limited due to having little control over independent variables. For example, it would have been ideal to include students who had received bilingual education for 5-7 years, since this is the optimal amount of time recommended by many researchers (e.g., Cummins, 1981). Also, it was impossible to control for teacher and classroom differences. These variables, along with contextual and sociocultural differences that are even harder to control, account for much of the difficulty in judging the effectiveness of education for ELL students (Dresser & Kamil, 2006).

Other limitations of this study involve the sample used. Selecting participants from only one school district had some advantages, not the least of which was to limit the amount of variability between different types of bilingual education that may be provided across school districts. Including a broader sample, however, would have helped increase potential generalizability of the results. Also, based on investigator observations, the experience of students in bilingual education likely varied widely, even

within the same district. For example, some students in a “bilingual” class may have received instruction mostly in English, while others in the same type of bilingual class may have heard little other than Spanish. Participants were also somewhat non-representative since only students who had attended the same district since the 1999-2000 school year were included. Excluding more mobile students was necessary to know students’ educational background for assigning them to experimental groups. This exclusion, however, undoubtedly left out a very mobile, at-risk population which may have significantly impacted the results of the analyses. This exclusion makes the results of the study less generalizable to some children, such as children of migrant workers and those with less stable, transient families. Also, because students in special education or gifted programs were not excluded, the results are harder to interpret in some ways.

Finally, despite repeated efforts to collect a significant proportion of consent forms back from students invited to complete the SEQ-C, only a small number of students returned their consent forms. Although the number of participants should have been large enough to detect a moderate effect size in most analyses, according to the power analysis, a larger sample size would have been preferable. Also, a larger proportion of responses may have increased the smaller sample’s representativeness of the overall sample. One more disadvantage was that one research question could not be answered due the very small number of students in the Comparison group who returned parental consent forms.

Directions for Future Research

Obviously, the results of this study are not sufficient to settle the debate between proponents and opponents of bilingual education. The many variables inherent to bilingual education, as well as to ELL students themselves, make exhaustive investigation of bilingual education's effects very difficult. To make matters more frustrating, it is unlikely that a true experimental study comparing bilingual and English-only education will ever take place, due to ethical concerns of such a design. It may be more feasible to construct a research design that can account and control for different aspects known to affect educational outcomes. For example, bilingual programs may vary widely on variables such as teacher quality and amount of time spent teaching in Spanish and English. Finding a way to measure and control for such variables may help identify the optimal educational setting for ELLs.

REFERENCES

- Acoach, C.L., & Webb, L.M. (2004). The influence of language brokering on Hispanic teenagers' acculturation, academic performance, and nonverbal decoding skills: A preliminary study. *Howard Journal of Communication, 15*(1), 1-19.
- Baca, L. M., & Cervantes, H. T. (2004). *The Bilingual Special Education Interface* (3rd ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Baker, C., & Rossell, K. (1993, April). *Blinded by theory in the search for effective programs for LEP students: A call for testing new research hypotheses*. Paper presented at the Annual meeting of the American Educational Research Association, Atlanta, GA.
- Baker, K. (1992). Ramirez et al.: Misled by bad theory. *Bilingual Research Journal, 16*(1-2), 63-89.
- Baker, K. A., & de Kanter, A. A. (1981). *Effectiveness of bilingual education: A review of the literature. Final draft report*. Washington, D.C.: Department of Education, Office of Planning, Budget, and Evaluation.
- Ballard & Tighe Publishers. (2008). Pre-IPT—Oral language proficiency tests. In *Ballard & Tighe Products*. Retrieved July 26, 2008, from <http://www.ballard-tighe.com/products/la/oralEng/preipt.asp>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1997). *The Exercise of Control*. New York: W.H. Freeman.
- Bandura, A. (2000). Self-efficacy. In A. E. Kazdin (Ed.), *Encyclopedia of Psychology* (Vol. 5, pp. 212-213). Washington, D.C.: American Psychological Association.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26.
- Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87-99.
- Barkley, J. M. (2005). Efficacy beliefs and reading comprehension: Relations between middle grades teachers' and students' efficacy beliefs, outcome expectations, and students' reading comprehension performance. (Doctoral dissertation, Auburn University, 2005).
- Bialystok, E. (2005). Consequences of bilingualism for cognitive development. In J. F. Kroll & A. M. DeGroot (Eds.), *Handbook of Bilingualism* (pp. 417-432). Oxford: Oxford University Press.
- Borman, G. D., & Rachuba, L.T. (2001). *Academic success among poor and minority students: An analysis of competing models of school effects*. Baltimore, MD: Center for Research on the Education of Students Placed at Risk.
- Bracken, B.A., Howell, K.K. (1991). Multidimensional self-concept validation: A three-instrument investigation. *Journal of Psychoeducational Assessment*, 9, 319-328.

- Buriel, R., Perez, W., DeMent, T. L., Chavez, D. V., & Moran, V. R. (1998). The relationship of language brokering to academic performance, biculturalism, and self-efficacy among Latino adolescents. *Hispanic Journal of Behavioral Sciences, 20*, 283-297.
- Cazden, C. B. (1992). *Language minority education in the United States: Implications of the Ramirez report. Educational Practice Report: 3*. Columbus, OH: National Center for Science Teaching and Learning.
- Crawford, J. (2002). Obituary: The bilingual ed act, 1968-2002 [Electronic Version]. *Rethinking Schools Online, 16*, n.p. Retrieved 11/13/2006 from http://www.rethinkingschools.org/special_reports/bilingual/Bil164.shtml
- Croft, D. B., & Franco, J. N. (1983). Effects of a bilingual education program on academic achievement and self-concept. *Perceptual and Motor Skills, 57*, 583-586.
- Crosnoe, R. (2006). *Mexican Roots, American Schools: Helping Mexican Immigrant Children Succeed*. Stanford, CA: Stanford University Press.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49*, 222-251.
- Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education, 163*(1), 16-29.
- Cummins, J. (1999, January 1). *BICS and CALP: Clarifying the Distinction*. . (ERIC Document Reproduction Service No. ED438551) Retrieved July 31, 2006, from ERIC database.

- De Houwer, A. (2005). Early bilingual acquisition: Focus on morphosyntax and the Separate Development Hypothesis. In J. F. Kroll & A. M. DeGroot (Eds.), *Handbook of Bilingualism* (pp. 30-48). New York: Oxford University Press.
- Dresser, C., & Kamil, M. (2006). First- and second-language literacy. In D. August & T. Shanahan (Eds.), *Developing Literacy in Second-Language Learners: Report of the National Literacy Panel on Language-Minority Children and Youth* (pp. 197-238). Washington, D.C.: Center for Applied Linguistics.
- Gersten, R., & Woodward, J. (1995). A longitudinal study of transitional and immersion bilingual education programs in one district. *The Elementary School Journal*, *95*, 223-239.
- Greene, J. P. (1998). A meta-analysis of the Rossell and Baker review of bilingual education research. *Bilingual Research Journal*, *21*(2), 103-122.
- Hakuta, K. (1999). Commentary: The debate on bilingual education. *Developmental and Behavioral Pediatrics*, *20*(1), 36-37.
- Hakuta, K., Butler, Y. G., & Witt, D. (2000). *How long does it take English learners to attain proficiency?* Santa Barbara, CA: California University, Linguistic Minority Research Institution.
- Hispanic (2006). *Encarta World English Dictionary, North American Edition*, Microsoft Corporation. [Electronic Version]. Retrieved October 4, 2006 from http://encarta.msn.com/dictionary_1861727807/Hispanic.html.
- Jacob, S., & Hartshorne, T. S. (2003). *Ethics and Law for School Psychologists* (4th ed.). Hoboken, NJ: Wiley.

- Krashen, S. (2000). What does it take to acquire language? *ESL Magazine*, 3(3), 22-23.
- LaKaye, T., Margalit, M., Ziv, O., & Ziman, T. (2006). Comparisons of self-efficacy, mood, effort, and hope between students with learning disabilities and their non-LD-matched peers. *Learning Disabilities Research & Practice*, 21(2), 111-121.
- Lenth, R.V. (2006). Piface (Version 1.63) [Computer software]. Retrieved August 4, 2008, from <http://www.stat.uiowa.edu/~rlenth/Power/>
- López, M. G., & Tashakkori, A. (2004). Narrowing the gap: Effects of a two-way bilingual education program on the literacy development of at-risk primary students. *Journal of Education for Students Placed at Risk*, 9(4), 325-336.
- McLeay, H. (2003). The relationship between bilingualism and the performance of spatial tasks. *International Journal of Bilingual Education and Bilingualism*, 6, 423-428.
- McQuillan, J., & Tse, L. (1995). Child language brokering in linguistic communities: Effects on cultural interaction, cognition, and literacy. *Language and Education*, 9(3), 195-215.
- Michael, E. B., and Gollan, T. H. (2005). Being and becoming bilingual: Individual differences and consequences for language production. In J. F. Kroll & A. M. DeGroot (Eds.), *Handbook of Bilingualism* (pp. 389-407). Oxford: Oxford University Press.
- Migration Policy Institute. (2006). U.S. Census data on the foreign born: State data on foreign born updated with 2005 American Community Survey. *Migration Information Source: Fresh Thought, Authoritative Data, Global Reach*.

- Washington, D.C.: Author. [Electronic Version]. Retrieved 11/14/06 from <http://www.migrationinformation.org/USfocus/statemap.cfm>
- Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment*, 23(3), 145-149.
- National Center for Education Statistics. (2002). *Hispanic dropout rates by immigration status* [Electronic Version]. Retrieved Sept. 12, 2006 from http://nces.ed.gov/pubs2002/droppub_2001/8.asp?nav=1
- National Center for Education Statistics. (2005). The condition of education 2005. *Education Statistics Quarterly* 7(1-2). [Electronic Version]. Retrieved Nov. 2, 2006 from http://nces.ed.gov/programs/quarterly/vol_7/1_2/9_1.asp
- Ochoa, S. H. (2005). The effectiveness of bilingual education programs in the United States: A review of the empirical literature. In C. L. Frisby & C. R. Reynolds (Eds.), *Comprehensive Handbook of Multicultural School Psychology* (pp. 329-356). Hoboken, NJ: Wiley.
- Pajares, F., & Valiante, G. (2006). Self-efficacy beliefs and motivation in writing development. In C. A. MacArthur, S. Graham & J. Fitzgerald (Eds.), *Handbook of Writing Research* (pp. 158-170). New York: Guilford.
- Paradis, M. (2005). Introduction to part IV: Aspects and implications of bilingualism. In J. F. Kroll & A. M. DeGroot (Eds.), *Handbook of Bilingualism* (pp. 411-415). New York: Oxford University Press.
- Parrish, T. B., Merickel, A., Perez, M., Linguanti, R., Socias, M., Spain, A., et al. (2006). *Effects of the Implementation of Proposition 227 on the Education of*

- English Learners, K-12: Findings from a Five-Year Evaluation. Final Report for AB 56 and AB 1116.* Washington, D.C.: American Institutes for Research.
- Peal, E., & Wallace, L. (1962). The relation of bilingualism to intelligence. *Psychological Monographs (76)*, pp. 23.
- Porter, R. P. (2000a). Accountability is overdue: Testing the academic achievement of limited English proficient students. *Applied Measurement in Education, 13*, 403-410.
- Porter, R. P. (2000b). The benefits of English immersion. *Educational Leadership, 57*(4), 52-56.
- Ramirez, J. D., Yuen, S. D., Ramey, D. R., Pasta, D. J., & Billings, D. (1991). *Final report: Longitudinal study of immersion strategy, early-exit and late-exit transitional bilingual education programs for language minority children.* San Mateo, CA: Aguirre International.
- Ramirez, J. D., Yuen, S. D., Ramey, D. R., Pasta, D. J., & Billings, D. (1992). Executive summary of the final report: Longitudinal study of structured English immersion strategy, early-exit, and late-exit transitional bilingual education for language minority children. *Bilingual Research Journal, 16*(1-2), 1-62.
- Rolstad, K., Mahoney, K., & Glass, G. V. (2005). The big picture: A meta-analysis of program effectiveness research on English Language Learners. *Educational Policy, 19*, 572-594.

- Rossell, C. H. (1998). *Mystery on the bilingual express: A critique of the Thomas and Collier study*. Washington, D.C.: Research in English Acquisition and Development Institution.
- Rossell, C. H., & Baker, K. (1996). The educational effectiveness of bilingual education. *Research in the Teaching of English, 30*(1), 7-74.
- Rumberger, R. W., & Larson, K. A. (1998). Toward explaining differences in educational achievement among Mexican American language-minority students. *Sociology of Education, 71*, 69-73.
- Sanchez, B., Colón, Y., & Esparza, P. (2005). The role of sense of school belonging and gender in the academic adjustment of Latino adolescents. *Journal of Youth and Adolescents, 34*, 619-628.
- Schunk, D. H. (1989). Self-efficacy and cognitive achievement: Implications for students with learning problems. *Journal of Learning Disabilities, 22*(1), 14-22.
- Shaunessy, E., Suldo, S. M., Hardesty, R. B., & Shaffer, E. J. (2006). School functioning and psychological well-being of international baccalaureate and general education students: A preliminary examination. *Journal of Secondary Gifted Education, 17*(2), 76-89.
- Shell, D. F., Colvin, C., & Bruning, R. H. (1995). Self-efficacy, attribution, and outcome expectancy mechanisms in reading and writing achievement: Grade-level and achievement-level differences. *Journal of Educational Psychology, 87*, 386-398.

- Slavin, R. E., & Cheung, A. (2003). *Effective reading programs for English language learners: A best-evidence synthesis*. Baltimore, MD: Center for Research on the Education of Students Placed at Risk.
- Slavin, R. E., & Cheung, A. (2005). A synthesis of research on language of reading instruction for English Language Learners. *Review of Educational Research*, 75, 247-284.
- Stevens, T., Olivarez Jr., A., & Hamman, D. (2006). The role of cognition, motivation, and emotion in explaining the mathematics achievement gap between Hispanic and White students. *Hispanic Journal of Behavioral Sciences*, 28(2), 161-186.
- Texas Education Agency. (n.d.) *Texas English Language Proficiency Assessment System. Understanding the Confidential Student Report: A Guide for Parents*. [Brochure]. Austin, TX: Author.
- Texas Education Agency. (2004). *Texas Assessment of Knowledge and Skills Information Booklet: Reading, Grade 3* (Revised ed.). Author.
- Texas Education Agency. (2007). *School District Locator*. Retrieved June 28, 2008 from <http://deleon.tea.state.tx.us/sdl/Forms/txtSearch.aspx>
- Texas Education Agency. (2008). *2007-2008 Student assessment testing calendar*. Retrieved July 26, 2008, from http://www.tea.state.tx.us/student.assessment/admin/calendar/2007_2008_revised_01_17_08.pdf
- Thomas, W. P., & Collier, V. P. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement*. Santa Cruz, CA: Center for Research on Education, Diversity, and Excellence.

- Toukoma, P., & Skutnabb-Kangas, T. (1977). *The Intensive Teaching of the Mother Tongue to Migrant Children of Pre-school Age and Children in the Lower Level of Comprehensive School*. Helsinki: The Finnish National Commission for UNESCO.
- Tse, L. (1995). Language brokering among Latino adolescents: Prevalence, attitudes, and school performance. *Hispanic Journal of Behavioral Sciences*, 17(2), 180-193.
- Tse, L., & McQuillan, J. (1996, April). *Culture, language, and literacy: The effects of child brokering on language minority education*. Paper presented at the annual meeting of the American Educational Research Association, New York.
- United States Census Bureau. (2005). Hispanic heritage month 2005: September 15-October 15 [Electronic Version]. *Facts for Features*. Retrieved November 9, 2006 from http://www.census.gov/Press-Release/www/releases/archives/facts_for_features_special_editions/005338.html
- Valdés, G. (2004). Between support and marginalisation: The development of academic language in linguistic minority children. *Bilingual Education and Bilingualism*, 7(2-3), 102-131.
- Willig, A. C. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. *Review of Educational Research*, 55(3), 269-317.
- Wong-Fillmore, L. (1996). What happens when languages are lost? An essay on language assimilation and cultural identity. In D.I. Slobin, J. Gerhardt, A.

Kyratzis, and J. Guo (Eds.), *Social Interaction, Social Context, and Language: Essays in Honor of Susan Evan-Tripp* (pp. 435-446). Hillsdale, NJ: Erlbaum.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29, 663-676.

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