

EFFECTS OF BILINGUAL AND ESL EDUCATION  
ON ACADEMIC ACHIEVEMENT

by

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## ABSTRACT

Bilingual education has been a topic of much controversy for over 300 years. This paper presents a rationale for exploring the effects of both bilingual and ESL programs on academic achievement. Following the history of bilingual education as well as an extensive review of the research surrounding both bilingual and ESL education, this paper presents practical classroom implications for teaching second language learners. This paper also includes an evaluation of the research articles as well as suggestions for further research. This paper acknowledges the struggles faced by second language learners and makes research driven suggestions as to how teachers can effectively reach their students through both bilingual and ESL programs. Although there are mixed results and contrasting findings in the research, at this point nothing to date shows a negative impact on student performance. This coupled with the positive correlation to increased self efficacy helps to create a strong case for the implementation of bilingual education across the country. These programs have the ability to create a stronger, more literate population while also helping to foster strong cultural ties and positive self images.

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## CHAPTER ONE: RATIONALE

### Rationale

The United States remains one of the only countries in the world without an official language. This may be due to the fact that the United States has been since its beginning a melting pot for diverse cultures, ethnicities and peoples (Freeman, 1998). This is true still today with 12% of the population originating in a foreign country, and 19% of children in schools speaking at least one language other than English at home (US Census Bureau, 2000). This is up 4% from 1990. These numbers tell us that we are a culturally and linguistically diverse population and there seems to be no end in sight (US Census Bureau, 2004). Although to date there are 27 states that have mandated English as their official language, there are three who have multiple official languages and twenty that are linguistically neutral (Crawford, 2000).

Bilingual education has been a topic of much controversy for over 300 years. Since the 1700's people have struggled as to which language holds more importance and even if one language is more valuable than another. When Columbus discovered the Americas in 1492, over 1,000 languages were spoken (Ovando, 2003). This number has decreased significantly since then, but with new populations immigrating to the United States every day we are still one of the most linguistically diverse nations in the world. In 2000 there were approximately 311 languages spoken, not including many of the sub dialects of these languages (US Census, 2000).

Most recently, discussions have taken place regarding bilingual education and its importance. There are two main arguments: the first is that bilingual students attain

higher achievement and are more cognitively advanced, and the other is that teaching students in more than one language is a detriment to their learning and they will become confused between the languages and suffer from lower achievement. With the rapid growth in our population, and the growing number of immigrants with little to no English language skills, teaching our children in dual languages enables them to become more involved and integrated members of a global society. Bilingual education is the first step in creating a culturally accepting and anti-biased community.

### Definitions

There are several varying degrees of bilingualism used most frequently in the research. I will define these:

*High/High* – competent in both languages;

*One dominant*- having high competence in one language;

*Low/Low*- having low competency in both languages (Clarkson, 1992).

Many other key phrases used in the field of bilingual education that have commonly used acronyms are defined here:

*Language Minority*- the group of people who speak a language different than the dominant language of that region.

*English Language Learner (ELL)* - anyone who is learning English; typically as a second or greater language.

*English as a Second Language (ESL)* - the most common type of program offered in schools today as a means of transitioning students from their primary language to English. Also known as English for Speakers of Other Languages (ESOL);

*L1*- a person's primary language, often the language used by the family of origin or home family;

*L2*- any language learned after learning your home language (L1).

*Two Way Bilingual Education (TWBE)*- programs offered in schools that integrate either a 90/10 (90% of the instructional time is spent in the L2 and 10% in the L1 during the first year, and then it gradually evens out to 50% for each language by the fifth year) or a 50/50 model (where both languages are used equally for instruction);

*Transitional Bilingual Education (TBE)*- programs in which students are offered classes in their L1 temporarily while building skill in their L2, after which they receive all of their instruction in;

*Immersion School*- schools that teach 100% of the time in a student's L2.

These categories have caused a focused debate in recent years with some fighting to increase funding for bilingual education while others fight to extinguish even the thought. These arguments are both made using research that specifically caters to their specific argument.

## Statement of the Problem

With over 300 languages spoken and 110 countries represented, our country is more than ever a melting pot of diversity. Although there are conflicting results in the research, in this paper I aim to compare and contrast effects of bilingual education and ESL programs on academic achievement.

## Summary

The United States remains one of the only countries in the world without an official language despite growing numbers of immigrants. Although bilingual education has been a topic of much controversy for over three hundred years, the definitive answer to which method is most effective is still undecided. Over the past three hundred years many changes in legislature have been made in regard to bilingual education. Chapter 2 will more thoroughly cover the history of these changes and their effects on bilingual education. Chapter 3 will examine the research which is broken into four subsections: Lower Elementary; Upper Elementary; Middle School, High School and College; and other. Within this chapter I will compare and contrast what the research reveals about the effects of bilingual education and ESL programs on academic achievement. In Chapter 4 I will review the findings from Chapter 3, implications for classroom practice and suggestions for further research.

## CHAPTER TWO: HISTORICAL BACKGROUND

### Introduction

When the United States was discovered and settled by people from around the world, these people brought with them their own unique cultures, beliefs and languages. The melding of these attributes is what makes our nation such a diverse and symbiotic place to live. The struggles over language, which immigrant people have faced as far back as the 1600's, have ebbed and flowed throughout the centuries, with changing laws, and varying acceptance. This chapter traces the history of bilingual education from 1664 to 2000.

### 1600-1900: The Liberal Era

When the British settled New York in 1664, there were more than 18 different languages spoken. The pilgrims, in addition to their quest for religious freedom, were also seeking linguistic freedom after a brief stay in Holland threatened the longevity of their language. In Philadelphia, as early as 1694, there were German-language schools operating, and although throughout the years there were attempts to convert these schools into English language schools, they remained operational until the early 20<sup>th</sup> century. Among the founders of the United States, bilingualism (the use of more than one language) was an accepted fact of life, and many official documents were often published in multiple languages (Crawford, 2004).

In the late 1790's and early 1800's many schools offered either bilingual or English only instruction. This was in part due to the fact that during this time there was an effort made to slow the influx of immigrants to the United States which caused a

significant gap in the transmission of language. As the repercussions of the Revolutionary War faded, immigration once again increased and the number of bilingual schools increased proportionately. By the mid 1800's bilingualism was not only common but also viewed to be a symbol of affluence, and many families sent their children to private schools to learn multiple languages. By the end of the 19<sup>th</sup> century, over a dozen states had passed laws allowing schools to teach in languages other than English. Although it was not a law in all states, many school boards did offer instruction in diverse languages (Crawford, 2004). These laws were not intended to promote bilingualism, rather to give immigrants the opportunity to hold on to their native culture. This was important because the population was growing each day as new immigrants settled in the United States.

As many more communities began to take advantage of the relaxed attitude of the American government, the government began to take notice and restrict their previously linguistic neutrality. This came about most suddenly after several Native American populations used their linguistic freedom to speak out against the imminent removal of their people from the Eastern half of the United States (Freeman, 1998). This brought about the creation of boarding schools to emphasize and enforce the civilization of the American Indian through instruction in English and Western culture. However, at the start of the 20<sup>th</sup> century approximately 4% of elementary school aged children were still receiving all or part of their instruction in German (Freeman, 1998; Ovando, 2003).

#### 1900-1960: The Conservative Era

The actions of the government in response to dealing with the Native American uprising may have been the catalyst for the Nationality Act passed in 1906. This new law

required all male immigrants to be proficient in English before becoming citizens. This significantly limited the use of languages other than English in schools nationwide. Furthermore, when the United States entered into World War I the use of any language other than English was banned (Faltis & Hudelson, 1998). This Act was disastrous for Puerto Rico, a territory of the United States, because it forced its residents, who were mostly monolingual Spanish, to succumb to a government they had not wanted or asked for. In the schools children were forced to learn through English only instruction, which attributed to the fact that by 1925, 84% of Puerto Rican children dropped out of school by the third grade (Crawford, 2000; Spring, 2007).

The Nationality Act brought about strong feelings of American patriotism and rekindled a previously diminished unity. It also helped to reinforce the Americanization campaign, pushed forward by the Board of Education and the President. For example, the Bureau of Naturalization and the Bureau of Education sponsored a program in which they would match funds dedicated to teaching English to immigrants and illiterate Americans (Ovando, 2003). In this way, the focus was on creating a linguistically homogenous nation. Fueling these ideas was the belief that “[l]inguistic diversity leads to political disunity” (Crawford, 1992, p. 24).

Another pivotal moment for bilingual education came at the start of World War I. As the United States entered into this war the teaching of all languages other than English was strictly prohibited. This prohibition was made official by the passing of statutes and ordinances across the country. Some school districts went so far as to burn, sell or otherwise destroy texts written in foreign languages. At this time people who chose to speak English and also remain faithful to their home culture were referred to as

hyphenated Americans. To this reference, then president Woodrow Wilson said, “[a]ny man who carries a hyphen about with him carries a dagger that he is ready to plunge into the vitals of this Republic whenever he gets ready” (Andrews & Zarefsky, 1989).

#### 1960-1980: Return to the Liberal Era

The teaching of English only in schools continued until the mid 1950’s when Russia launched Sputnik. This sparked a frenzied rush to increase education in science, math and language. At this time the government reversed previous laws regarding the use of language other than English and offered large sums of money to teachers of foreign language. This was done in an effort to promote the skills needed for strengthening our national defense. The government did not however rescind the solely monolingual practices in public schools, nor did they build on the potential of English language learners who immigrated to the United States. These limits allowed the government to maintain control of the language development, ensure American support and resist rebellion from disgruntled immigrants (Freeman, 1998; Ovando, 2003 Spring, 2007).

In 1965 an immigration act was put into place, which revoked the previous Nationality Act of 1906. The passing of this bill opened the borders once again to people seeking a better life and a better education. It also increased the number of language minority students in public school classrooms (Faltis & Hudelson, 1998). This was especially true in southern Florida where thousands of Cuban refugees fled their country during the Cuban Revolution. Many of the refugees assumed their stay would be short, and wanted their native language and culture to remain engrained in their children. With

so many students entering the classroom with little to no English language skills, the creation of more dual language schools spawned the rebirth of bilingual education. The success of many two-way bilingual education programs initiated a change in the thinking of many other communities in Florida and across the US (Ovando, 2003). These changes were seen through the slow but steady growth of dual language and immersion schools throughout the country.

The increase of bilingual schools across the country sparked the Bilingual Education Act in 1968. This was an act which helped to provide the framework for bilingual education today. It also promoted multicultural awareness and gave schools the flexibility to offer bilingual programs without violating anti-segregation laws. Although the law was written somewhat ambiguously, it served as a jumping off point for educators, parents, and politicians to validate dual language learning. Another turning point in bilingual education was the Supreme Court case *Lau vs. Nichols* in 1974. Eighteen hundred Chinese students who were unable to obtain equitable education in the public school system due to language barriers (Faltis & Hudleson, 1998; Freeman, 1998; Ovando, 2003) brought this case forward. The Supreme Court determined that equality in materials did not translate to equality in education and therefore amendments were made to The Bilingual Education Act. The amendments stated that students should be prepared to succeed in an English only classroom while also maintaining their native language (Faltis & Hudleson, 1998; Freeman, 1998; Ovando, 2003). The findings in this court case, although clear in finding inequality, left a substantial gray area for interpretation as far as implementing strategies for success in both language majority and minority students. This was remedied one year later with the Lau Remedies, federal

requirements set forth by the Office of Civil Rights explicitly telling districts what needed to be done in order to accommodate language minority students. It also carried with it the threat of losing funding for failing to comply with these standards (Freeman, 1998; Ovando, 2003).

#### 1980-2000: Return to the Conservative Era

The 1980's brought with it a resurgence of the English Only debate that had simmered off and on for decades. As cities, counties and states began to promote and even pass English Only laws the movement away from bilingualism gained momentum. It began in small towns everywhere in the form of resolutions, amendments and laws as many Caucasian families feared losing the place they called home to new immigrants who brought with them their culture, religion and language. Often passed without much public input or knowledge, these resolutions began to change the atmosphere of cities throughout the country. One of the most publicized debates over the issue took place in California in 1986. It began in a small town in southern California where in an attempt to accommodate the growing number of immigrants one district decided to convert one elementary school into a totally bilingual school. This incensed many Caucasian parents who thought that this would mean a lower quality of education for their child, and began the debate over language rights (Crawford, 1992). As the issue began to divide the town, Senator Hayakawa, a major proponent of English Only, came to lend his support. This political support seemed to give English Only supporters all the ammunition they needed to convince voters that to vote against Proposition 63 was to vote against English. With these thoughts and feelings running wild in California, Proposition 63 passed by 73%, sparking similar measures in 37 other states. This continued on through the 1980's and

into the 90's. It was not until 1999 that support for bilingual education began once again to come to the forefront (Crawford, 1992; Ovando, 2003).

### Summary

The beliefs and policies regarding bilingual education have shifted over the past three hundred years from a liberal, open-minded position to a conservative, fearful one. As major world events have shifted the dynamics of the United States, they have also shifted the laws regarding bilingual education. As the pendulum swung toward national security programs promoting education in any language other than English went away. Many regulations on bilingual education have been passed with little to no regard for the communities they impact most. During a time when bilingual education was at its lowest we have 75% of all Hispanic immigrants speaking English on a daily basis, and 70% of their children becoming dominant or monolingual in English (Crawford, 1992). As we will see in the research presented in Chapter 3 this is at a great cost to their home language maintenance. Chapter 3 will examine the research regarding the effects both bilingual and ESL programs have had on academic achievement. Chapter 4 will explore the implications for further research and the impact this research should have on classroom teaching.

## CHAPTER THREE: CRITICAL REVIEW OF THE LITERATURE

### Introduction

Chapter 1 addressed the many facets of bilingual education and how irrevocably tied language is to culture. This connection has caused much anxiety in the lives of immigrants, consistently persecuted for their strong ties to their heritage. Many different programs exist in schools today to help ease the transition into an unfamiliar culture. These programs all share a basic purpose, teaching English, but it is their implementation, which is significantly different. Chapter 2 discussed the history of bilingual education and the laws dictating its implementation in the school system. How these laws have come to be and how they affect the ever-changing world climate directly relates to current world problems. How these world problems and the ever-changing legislature concerning bilingual education affect the education of minority language speakers is the focus of the research reviewed in Chapter 3. Chapter 3 organizes the research into the following four sections: Lower Elementary; Upper Elementary; Middle School, High School and College; and other. Although there are conflicting results in the research, in this paper I aim to compare and contrast what the research reveals about the effects of bilingual education and ESL programs on academic achievement.

#### Effects on Achievement in Lower Elementary

The initial seven studies in this section analyze the effects of bilingual education on lower elementary grades (P-3). Lopez and Tashakkori (2004) begin this analysis with their study which explored the short-term effects of bilingual programs on English language proficiency in kindergarten and first grade students. Following that is Winsler, Diaz, Espinosa & Rodriguez's study of the effects of bilingual preschool on home

language maintenance in Spanish speaking children. Hofstetter (2004) also conducted a study to determine the long term effects of bilingual programs on English language proficiency. Similarly, Ramirez & Shapiro (2006) investigated how oral fluency rates would change depending on the type of program a student was enrolled in. In an attempt to determine how an English only environment would affect an immersion program within a school, Palmer (2007) conducted observations in Northern California. In order to assess achievement based on content Serra (2007) studied students in Switzerland. Finally, in an effort to address major gaps in the research, Diaz (1985) surveyed kindergarten and first grade students.

In a quasi-experimental study utilizing pre and post tests, Lopez and Tashakkori (2004) explored the short-term effects of bilingual programs on English language proficiency in kindergarten and first grade students with ESOL levels of three or higher to include native English speakers. This study took place at a school in the South where an Extended Foreign Language (EFL) program and traditional ESOL program were compared. There were a total of eighty-seven kindergarten students and 128 first graders in this study. Students split into two groups; the EFL group received instruction in English 70% of the day and Spanish 30% of the time. The ESOL model sought to teach English-only except for the 10% of the school day spent on Spanish language.

The breakdown on language use in the EFL classroom was two hours on language arts in English, a half hour of free reading, half hour of social studies in English, one hour of math in English, one hour of language arts in Spanish, and a half hour of science in Spanish. In the ESOL classrooms, all subjects were taught in English, with two and a half hours per week for language arts in Spanish. All of the teachers worked in

collaborative planning teams, with the only difference in the official curriculum being the amount of time allowed for instruction in English and Spanish.

Both groups were tested at the beginning of the school year to measure literacy development in English. They were tested using different methods and with different criteria. The kindergarteners were tested in the following areas: alphabet knowledge; upper and lower cases letters; letter sounds and letter production; they were also tested on sight words and then asked to draw a picture and write about it. On these pretests, the control group tested significantly higher than the EFL group. A MANOVA with two factors (treatment group and SES level) and three dependent variables (alphabet knowledge, sight word mastery, and writing skill) indicated significant differences between the pretest scores of the experimental and control groups (Wilks Lambda = .28,  $F [3, 81] = 70.251, p < .01$ ). The first graders were also tested on alphabet knowledge, sight words, a writing sample and phonemic awareness to include: matching letter sounds with pictures, a spelling exercise and beginning and end sounds, reading ability (teacher keeps a running record of mistakes, miscues, corrections and general fluency). Pretest scores for the first-grade students, a 2x2 MANOVA with two factors (treatment group and SES level) indicated that the main effect of group was significant (Wilks Lambda=.78,  $F[6,119]= 5.53, p<.01$ ). Neither SES nor its interaction with group was significant. Univariate tests, using a Bonferroni-adjusted  $\alpha$  of .0083 indicated that there were differences between the experimental and control groups in four of the six tests ("Alphabet" and "Running Record" were the exceptions).

For the kindergarteners, a multivariate analysis of variance with the three posttest scores as dependent variables revealed a main effect of group (Wilks Lambda = .79, F

[3,81] = 7.03,  $p < .01$ ). Neither SES, nor its interaction with treatment, was significant ( $F [3,81] = 0.99$ , and  $F [3,81] = 0.76$ , respectively). Univariate tests of the effect of group, using a Bonferroni-adjusted  $\alpha$  of .017 (.05/3) indicated that there were no significant differences between the experimental and control groups in writing ( $F [1,83] = 0.281$ ,  $p > .017$ ) or in sight words ( $F[1,83] = 4.14$ ). However, the experimental group was significantly behind the control group in the alphabet test ( $F [1. 83] = 10.55$ ,  $p < .017$ , eta-squared = .11). The only significant univariate effect of the treatment factor (EFL vs. control group) was in alphabet knowledge ( $F [1,43] = 19.00$ ,  $p < .001$ , eta-squared = .31). The proficient English speakers in the control group scored higher than the proficient English speakers in the EFL group ( $M = 96.14$  vs.  $88.92$ , with  $SD = 13.26$  and  $5.93$ , respectively).

A MANOVA on the six posttest scores of the first-grade students, as well as the SRI (percent of the items answered correctly), pointed to significant differences between the experimental and control groups (Wilks Lambda=.88,  $F [7,118] = 2.32$ ,  $p < .05$ ). Neither SES nor its interaction with treatment group was significant ( $F [7,118] = 0.921$  and  $F [7, 118] = 0.725$ , respectively). In addition, univariate effects were examined, testing each at a Bonferroni-adjusted  $\alpha$  of .007 (.05/7). Results did not indicate group differences in any of the seven dependent variables. In other words, the two groups of children did not differ from each other in any of the seven indicators of achievement.

Lopez & Tashakorri (2004) ran many reliability tests to confirm the results having significance and to ensure that the two groups did not have any significant differences that would bias the study. This along with classroom observations made to ensure that each language was being given equal time in the EFL classroom were the strengths of

this study. However, there were several weaknesses including the fact that because parents had the choice of selecting the type of program for their children, the assignment of children to the experimental and control groups was not random. In addition, a greater percentage of students were classified as ESOL in the experimental group than in the control group (74% vs. 15% in kindergarten, and 67% vs. 55% in the first grade). Furthermore, the kindergarten experimental group included a greater percentage (57%) of children on free or reduced lunch than the control group (44%). The percentage of students on free or reduced lunch has been shown to be a reliable indicator of socioeconomic status (SES), as well as a good predictor of achievement (Lopez & Tashakorri, 2004).

In a similar longitudinal study to determine if Spanish language children attending a bilingual preschool would have higher home language maintenance and accelerated English language skills after two years compared to Spanish language children who did not attend any type of preschool, Winsler, Diaz, Espinosa and Rodriguez (1999) studied 46 Mexican-American children from three preschools in the San Francisco bay area. These 46 students were divided into two groups, determined by the parents. In the first year the preschool group was comprised of 26 children (ages  $M=44.3$  months,  $SD = 4.9$ , 54% female) who were attending a full day subsidized preschool program five days a week. The preschools were located within three elementary schools and each had two mixed age (3 and 4 year old) classrooms. In order to be eligible for the preschool program families had to be at or below the poverty level and have a high need for childcare. The preschool program also consisted of home visits and a family resource center. The curriculum was modeled after the high scope curriculum and required

teachers to spend half the day in English and half in Spanish. The control group was comprised of 20 children (age  $M=40.6$  months,  $SD=5.0$ , 45% female) who did not attend any type of preschool program. However all the children in the control group had an older sibling in one of the participating elementary schools and came from families whose income was at or below the poverty level. Both groups were equivalent in regards to Mexican origin, SES and neighborhood.

Four one-hour long meetings with parent and child were the basis for measuring each student's progress. In these meetings, the parents remained in the room filling out necessary paperwork while their children were tested. Pre-test interviews were conducted during the first two months of the school year and the post-test interviews approximately six months later at the end of the school year. Each child was tested using both an English and Spanish assessment tool, each test being conducted no more than 7 days apart. The order in which the languages were tested was counterbalanced so that if a child tested in English first during the pre-test they then tested in Spanish first during the post-test. This method ensured that a true test of ability was obtained.

Students were tested in both English and Spanish receptive language ability using the Peabody Picture Vocabulary Test-Revised (PPVT-R) and the sentence comprehension subtest of the Language Assessment Scales (LAS). The PPVT-R involves a proctor saying one word, increasing in difficulty, and the student picking the corresponding picture from a group of four pictures. The LAS test requires the proctor to read a sentence in the target language while the child picks the corresponding picture from a group of three pictures. Both these tests measure words correctly identified rather than those incorrect. Students were also tested in English and Spanish productive

language ability using the lexical subtest of the ALS and the number of words in the target language produced by the child in a story-telling task. For the LAS portion of the assessment, students were required to name each of the pictures of simple nouns; this was also graded based on number of words correctly identified. For the story-telling aspect of the assessment the proctor first read a modified-to-ten-page picture book (English- *Berenstain Bears: Too Much Vacation*; Spanish- *Berenstain Bears Go to School*) that had the words on each page covered. The student was then given the book and asked to retell the story in their own words. These sessions were audio taped and transcribed. Finally, English and Spanish language complexity was measured by calculating the number of verbs used in the target language during the story retelling, and calculating the number of words used per verb phrase in the narrative.

For the English language portion of the assessment an analysis of the student's PPVT scores showed significant group,  $F(1, 43)=4.68, p<.05$ , and time,  $F(1,44) = 3.30, p = .07$ , with no interaction. Similar results were found for sentence comprehension scores with a significant group effect,  $F(1, 43) = 3.80, p < .05$ , a marginally significant effect for time,  $F(1, 44) = 3.30, p = .07$ , and no interaction. They also found that as they aged, children in both groups understood more English words and sentences, and that the preschool group showed more receptive English language ability at the pre and posttest. When it came to measuring productive language, the ANCOVA on children's lexical production in English revealed a significant group effect,  $F(1, 43) = 6.66, p < .01$ , a significant time effect,  $F(1, 44) = 57.11, p < .001$ , and a significant group by time interaction,  $F(1, 44) = 6.78, p < .01$ . The preschool group showed a greater ability in comparison to the control group in producing English words for pictures at both pretest

and posttest. Language complexity increased for both groups between pre and posttests, which was indicated by significant time effects for both the number of verbs used in the story-retelling task,  $F(1, 44) = 18.05, p < .001$ , as well as the average number of words per verb phrase,  $F(1, 44) = 10.80, p < .01$ .

When assessing the Spanish receptive language ability, both measures showed significant improvement over time: PPVT,  $F(1, 44) = 31.23, p < .001$ ; LAS,  $F(1, 44) = 11.57, p < .001$ . Using an ANCOVA based on the two measure of the student's Spanish production revealed a significant increase over time in all of the student's lexical production on the LAS,  $F(1, 44) = 38.56, p < .001$ , and a marginally significant time effect,  $F(1, 44) = 3.08, p = .08$ , for the number of Spanish words produced in the story-retelling task. Both groups' Spanish language use became more complex over time as indicated by the growing number of verbs used by the students in the story retelling task,  $F(1, 44) = 4.48, p < .05$ .

Overall, the students in the preschool group showed greater receptive and productive English language skills compared to the control group at pretest. There were some weaknesses to this study including the error in sampling. By allowing parents to choose which group their child would participate in the median age of children in the preschool group was approximately four months older than that of the control group. This difference in age may have accounted for the higher pretest scores. In addition, because the assessment process did not begin until almost two months into the school year, the preschool group had significantly more exposure to English language than the control group. These weaknesses are addressed in the study and suggestions for improvement were made.

During the second year of this same study, the group consisted of 41 students from the original sample. The preschool group consisted of 26 students who continued to attend one of the three bilingual preschool programs. The control group was made up of 15 students from the same community who continued to not attend any formal preschool or childcare program for a second year. The 18% attrition rate was attributed to both families leaving the area and technical difficulties resulting in lost data from the previous year. The two groups were given the same assessments during the second year as the first including English and Spanish assessments of receptive language, productive language and language complexity.

The repeated measures ANOVA for student's PPVT performance in English revealed only a significant effect for time,  $F(3, 108) = 38.57, p < .001$ . Student's English sentence comprehension also showed only a significant time effect,  $F(3, 108) = 11.70, p < .001$ . Both groups made significant gains in English receptive language skills over the two years. Both groups of students also made significant improvement in their productive English skills as indicated on both the lexical production test,  $F(3, 111) = 30.23, p < .001$ , and the number of words produced in their stories,  $F(3, 102) = 14.08, p < .001$ . Student's in the preschool group showed greater expressive abilities in English compared to the control group in both lexical production  $p = .09$ , and words in story  $p = .06$ . The group by time interaction approached significance,  $p = .10$ , for the LAS lexical subtest. Student's language complexity increased significantly in both groups as indicated by the number of words per verb phrase measure,  $F(3, 105) = 6.77, p < .001$ , and the number of verbs produced in their English stories,  $F(3, 105) = 11.93, p < .001$ . The group by time interaction approached significance,  $p = .06$ , for the number of words

per verb phrase, and a significant group effect favoring the preschool children obtained for number of verbs used in the narrative,  $F(1, 35) = 3.97, p < .05$ .

In Spanish receptive language skills both groups of student's made significant gains as indicated by a significant time effect for the PPVT,  $F(3, 11) = 65.62, p < .001$ . Both groups of children made significant gains in Spanish expression as indicated by significant effects for time on both the lexical subtest,  $F(3, 111) = 12.88, p < .001$ , and the number of words used in the story-retelling task,  $F(3, 93) = 11.77, p < .001$ . The level of language complexity in Spanish for both groups increased over time is indicated by a significant time effect,  $F(3, 99) = 12.76, p < .001$ , on the number of verbs produced in the stories. The results for the other measure, average number of words per verb phrase used in the story, were unclear as there was only an overall group effect,  $F(1, 33) = 4.42, p < .05$ , favoring the control group. Both groups of children showed significant gains over the full 2-year period in both Spanish and English language proficiency, with the preschool group maintaining greater gains than the control group in English.

Winsler, Diaz, Espinosa and Rodriguez (1999) ran multiple analyses of variants to ensure that the data they were reporting was accurate. They acknowledged that some of the gains made were possibly due to natural attrition of the students' abilities, and also that by allowing parents to choose the program their child participated in the sample groups were not random.

In a longitudinal study to determine the effectiveness of transitional Spanish-English bilingual programs on enhancing K-5 students' English language proficiency and academic performance compared to transitional immersion programs Hofstetter (2004) studied ELL students in northern California. This study looked at 829 Spanish-speaking

ELL students in grades kindergarten through third who attended a large urban school district in northern California. The students must have enrolled as kindergartners in 1998 in either Academic Language Acquisition (ALA) or Structured English Immersion (SEI) classes, and continued attending through 2003. Students transferring between schools remained in the study sample as long as they continued in the same type of class in which they started. Also playing a role in the achievement of students was their participation or lack of in the Success For All (SFA) program. SFA is a nationally known, widely implemented, school wide, coordinated K–8 reading program for elementary schools, and was offered in eight of the schools with the ALA program and/or SEI process.

The evaluation team, which was made up of two university professors and two graduate students, monitored the students and the schools themselves by conducting interviews and classroom observations; monitoring program implementation through an analysis of program documents. They also collected and analyzed student demographics and test score data. There were three specific tests used in these programs; the first being the California English Language Development Test (CELDT) which is the primary indicator of English proficiency used to identify ELLs. This test provides weighted scores for the skill areas of listening, speaking, reading, and writing. The second test that was used was the Stanford Achievement Test form 9 (SAT-9) a nationally normed test given to students in Grades 2–11, which includes reading, mathematics, and language arts. The final test used in this study was the Spanish Assessment of Basic Education 2 ed. (SABE/2), which is administered to all Spanish-speaking ELLs who have been in the United States for less than 12 months. It is administered annually to students in ALA, but not SEI, classrooms.

When reviewing the scores for content area assessment in English the researcher found that ALA students with SFA scored similarly in reading and mathematics, but lower in language arts, than did ALA students without SFA instruction. They also found that ALA students' performance in mathematics was the highest, with a median National Percentile Range (NPR) of 78 regardless of SFA participation. The biggest difference between SFA and non-SFA students was in language arts, where students in ALA but not SFA (NPR = 78) scored higher than students in both ALA and SFA (NPR = 67). The scores of the CELDT students fall into one of five levels in terms of skill-area proficiency: beginning, early intermediate, intermediate, early advanced, and advanced. For the listening and speaking portion, 27% to 38% of ALA students and 58% to 67% of SEI students scored at or above the early advanced level, with and without SFA, respectively. Also, students performed better on the SAT-9 mathematics tests than on the reading or language arts tests, which was most likely due to lower English language proficiency demands. Scores in reading, listening and speaking did not differ significantly between the groups, however, scores in the writing subtest did with students in both ALA and SFA scoring at a lower CELDT writing level ( $M = 2.21$ ) than students in the other three groups (ALA but not SFA,  $M = 2.89$ ; both SEI and SFA,  $M = 3.00$ ; SEI but not SFA,  $M = 3.13$ ).

In a similar study, Ramirez and Shapiro (2006) studied 165 students in grades K-5 as to how oral reading fluency rates would change over a year's time depending on the type of program they were enrolled in. Of these 165 students in grades 1-5, students were enrolled in both transitional bilingual education and general education programs, and approximately 62% qualified for free/reduced lunch. The gender breakdown was 52%

male, 48% female. There were no initial English proficiency scores or tests done, it was assumed that enrollment in the TBE program indicated lack of English proficiency. No information was available regarding country or origin; however the school was located in a primarily Mexican-American community. The study took place in a school in the Southwest with approximately 695 students in grades K-5. The demographics of the school were 59% Hispanic, 25% White, 8% Asian, and 8% African American.

A stratified sample was gathered from the general education classes and the bilingual classes at the same percentage rate as reflected in the subgroups. First, the English language group was broken into two subgroups: those who met district reading standards and those who did not. From this subgroup a random sample was taken that would mirror the larger group. For students in grades 3-5 the measure used was the TAAS and for students in grades 1-2 DRA scores were used. The same procedure was followed for students in the bilingual classes, including the same assessments. The two groups were both tested in reading using the TAAS and DRA in their native language (English or Spanish). They were also tested on oral reading fluency by using the CBM-R. These tests were done three times during the school year: October, February, May.

The TAAS assessment is a criterion-references statewide test based on the state's essential reading elements. A passing score is a scaled score of 1500 or more. The DRA is a series of leveled books designed to allow teachers to determine the students reading accuracy, fluency and comprehension. This information is then translated into a score that allows teachers to choose books that are at the right level for the student.

CBM-R- oral reading was calculated using the number of words read aloud correctly in one minute. Each student was given the same three passages to read at each

assessment. An individual monitor monitored all of the reading. The median score of the three passages served as the measure in this study. English passages were chosen from AIMSweb, and all of the passages contained similar levels of difficulty. Spanish passages were taken from select stories at each grade level. The readability of these passages was determined by using both the Crawford formula and the Fry formula. All passages fell within the readability scores appropriate to the grade level

The examiners were given training prior to the study taking place in which they had to demonstrate at least 85% accuracy in the administrations and scoring of the assessments. This training lasted for approximately two hours. The examiners were made of educational service personnel to include: school psychologists, teachers, diagnosticians, paraprofessionals, volunteers and speech pathologists. All tests were administered in the students' native language by an examiner who was either a fluent or native speaker of that language. Students were tested individually during regular school hours, in a session that lasted approximately 15 minutes. Data collection took roughly 1.5 days and was completed three times during the school year: October, February and May.

The researchers followed Cohen's guidelines and considered .01 to be small, .09 to be medium, and .25 or larger to be great or large effect. Also, they calculated the slope of performance for each student to obtain a slope that reflected average words gained per day, which was then multiplied by 7 to get an average number of words gained each week. An internal consistency and reliability of both the Spanish and English reading passages was assessed using coefficient alpha. Results ranged from .95 in second grade

to .99 in first grade on the Spanish passages. Results for the English passages ranged from .95 in first grade to .98 in fourth grade.

Comparisons between both groups revealed a significant effect for time [ $F(Z, 238) = 236.01, p < .001, \eta^2 = 0.665$ ], which suggests that all students showed significant growth in English oral reading scores. A significant effect for group was also found [ $F(I, 119) = 42.81, n < .001, \eta^2 = 0.265$ ], which showed the general education students reading more fluently in English than the bilingual students. Finally a significant interaction between time and group [ $F(2, 238) = 10.62, n < .001, \eta^2 = 0.082$ ], which illustrated that the general education students had greater growth in reading fluency than the bilingual students.

The researchers also examined whether or not general education students would have a higher reading rate in English than the bilingual students would in Spanish. A significant effect for time [ $F(2, 230) = 109.88, n < .001, \eta^2 = 0.489$ ] was found which indicated that all students regardless of group made significant growth throughout the year. When examining group, a significant effect was found [ $F(I, 115) = 5.43, n = .022, \eta^2 = 0.045$ ], which suggests that the bilingual students read less fluently in Spanish than the general education students do in English. Overall the results indicated that students in general education classes read more fluently in English than did the bilingual education classes, at every measure of the study. It also indicated that the general education classes read more fluently in English than the bilingual students read in Spanish during every assessment period. This is not to discount the fact that the bilingual students made steady progress in the oral reading fluency assessment throughout the year.

There were several weaknesses to this study. Mainly that only students from one particular type of bilingual education program were chosen to participate in the study. Also, there was no documentation as to what level students were at upon entering into school and how much they had already progressed.

In an ethnographic study to explore how the English-only context of a dual immersion program influences its effectiveness, Palmer (2007) conducted in class observations and in depth interviews in an elementary school in Northern California. This study included an in depth investigation into a second grade dual immersion classroom. This classroom was located within a small, urban, multicultural elementary, which serves approximately 350 students. The dual immersion program is located within an English-dominant school, with one dual immersion class per grade. Within this school 38% of the students were Hispanic, 28% White, and 30% African American. The researcher began her study by conducting interviews and collecting observational data. In addition to these methods, Palmer also interviewed the parents of four Spanish-speaking students and three English-speaking students, and the faculty and staff of the school.

Palmer found results in the three categories which correlated to the three goals of two-way immersion education: bilingualism and biliteracy for all; building cross-cultural understandings; high academic achievement for all. Although there were labels around the school in both languages and all official notices were sent home in both languages, PTA and administration bulletin boards, announcements and school decoration and design were predominantly English only. This was linked to the tendency for students to switch from Spanish to English oftentimes as abruptly as leaving the classroom. While

observations showed Spanish to be a lower tier language this did not appear to bother Hispanic parents.

When cross cultural understandings were examined, the researcher discovered that despite the fact that a stated goal of the program was to build bridges between cultures and promote learning from diversity, there was little to no interaction between dual immersion and mainstream children. This may have been linked to the fact that because there was only one dual immersion class in each grade, the same group of students stayed together year after year. This was exasperated by the strong differences in the class make up of the two programs; the TWI contained a large percentage of white, middle-class students while the English-only program contained almost all of the school's African American students.

In the effort to create high academic achievement for all, Palmer found that the goal of TWI was to help students develop the skills to participate in high-level academics and curricula, and in general language minority students' standardized test scores in reading and mathematics were higher than comparable students in other educational programs. Another goal of TWI was to ensure that students were being empowered by their teachers and the ability to be bilingual; however Palmer found that once students left the classroom they were not receiving those messages. This was reinforced by the stereotypes, which can emerge in different expectations of certain students during lessons and discussions.

Serra (2007) assessed integrative bilingual learning based on Content and Language Integrated Learning (CLIL), on first grade students in Switzerland. This study

compared three first grade classes in three different schools (two classes of L2 Italian, one class of L2 Romansh). The classes were team taught by two teachers, each one responsible for half the curriculum. Although the majority of the school used Swiss German, Italian and Romansh were both nationally accepted languages. The sample for this study was comprised of 44 students (33 German and 11 Italian) who were enrolled in bilingual Italian classes. There were also seven students enrolled in the bilingual Romansh class.

The first test, a conversational test, which was administered three months after the beginning of the school year, demonstrated that all of the students had a good ability to perform descriptive tasks and were able to name some objects and colors. The second test, an oral and written comprehension test, was administered 9 months after the beginning of the school year, and was based on a wordless children's book. For this assessment, comprehension was high and the students were able to perform all the requested activities completely.

The oral narrative test showed that in the beginning, L1 use was limited. This was helpful in preventing teachers from encouraging language alternation (L1/L2), which may increase the use of L1. However, beginning in the fourth grade, competence in the L2 enabled pupils to explore other strategies, such as an analytical strategy. Another aspect of the analysis centered on the syntactic organization of the narrative, and the researcher discovered that bilingual migrant children (between 6 and 10 years), who do not have any school instruction in their L1, might have delays in the use of complex forms in narratives, by the age of nine. The final analysis of the data showed that much

of the cognitive development occurs the same in bilingual students as with monolingual students.

In an attempt to address three gaps in the research concerning bilingual cognitive development, Diaz (1985) conducted a study of 100 students in kindergarten and first grade. Students were given the Peabody Picture Vocabulary Test (PPVT) at the beginning of the school year in both English and Spanish, then 40 students were randomly selected to give speech samples (read a story in English and Spanish and then retell with the aid of pictures) to validate the results of the PPVT. With the exception of the English PPVT and English story, native Spanish speakers gave all measures and instructions in Spanish. These students were tested in the same areas again after six months, minus the speech samples.

Based on English PPVT scores, two groups ( $n = 50$ ;  $N = 100$ ) were then selected from the remaining children. They were grouped into a high (able to speak sentences in English although not grammatically correct) and low (able to speak isolated English words) group. These students were separated equally by grade and gender. With the exception of one or two, none were balanced bilinguals. The High-English-Proficiency (HEP) group included those children who obtained the 50 highest scores on the English PPVT; conversely, the Low-English-Proficiency (LEP) group included those children who obtained the 50 lowest English PPVT scores. This study excluded children who might have difficulties with their first language or who could be classified as either slow language learners or mildly retarded.

In order to measure home language background and socioeconomic status parents/guardians of children filled out questionnaires assessing home language and socioeconomic variables. Three questions measured language use (English and Spanish in both children and adults) and two measured TV watching habits. They also asked for the occupation of head of household, number of people living in the home, number of bedrooms, length of time in United States, and length of time and present address. SES was calculated by dividing the number of bedrooms in the home by the total number of people living in the house.

The first part of the study measured analogical reasoning. For this, students were read ten sentences, each one missing the last word and asked to give that word. They received a 0 for the wrong answer, a 1 for the right; this was transferred into a scale of 10. (Example: the princess is beautiful, the monster is \_\_\_\_\_. (ugly is only correct answer) A reliability of  $\alpha = .74$  was obtained for this measure by using Cronbach's alpha. Also measured was metalinguistic awareness for which the students were tested in three ways. For the first, students were given 8 sentences in Spanish that were not grammatically correct, with several correct ones thrown in. They were given 1 point for detecting which sentences were right or wrong correctly. A reliability of .78 was obtained for this measure (Cronbach's alpha). Secondly they were given 8 Spanish sentences with an English word mixed in. There were also several correct Spanish sentences. They again were given 1 point for detecting bilingual mixing. A reliability of .87 was obtained for this measure (Cronbach's alpha). Lastly, they were asked to correct the sentences in task 1 to make each sentence grammatically correct. They were given 1 point for semantic correction and 2 points for syntactic correction. A reliability of .82 was obtained

for this measure (Cronbach's alpha). The last aspect tested was nonverbal abilities. For this, each student was given the Colored Progressive Matrices (CPM) and visual-relations subtest of the SRA Primary mental Abilities Test. For the CPM they looked at two pictures and then compared and coordinated analogous changes in those pictures. The SRA had them first choose the correct figure that completed a square with a missing part and second draw in the missing lines in a figure by copying from a model. Children's responses to the visual-relations subtest yielded two scores: SRA1 (reliability,  $\alpha = .65$ ) and SRA2 (reliability,  $\alpha = .86$ ), obtained by summing item scores within each set.

Results were captured twice during the study, the first time at the beginning of the school year and then again six months later. At the first testing, Diaz (1985) found the High English Proficiency (HEP) group showed advantages in analogical reasoning,  $F(1,88) = 8.21, p < .01$ , in Raven's performance,  $F(1,91) = 6.32, p < .01$ , and in spatial abilities measured by one SRA subtest (SRA2),  $F(1,88) = 4.96, p < .05$ ; on the SRA1 the differences still favored the HEP group, but the effect was marginally significant,  $F(1, 88) = 3.61, p < .07$ . also, the HEP group was more aware of English and Spanish as being two different language systems, as measured by MLA2,  $F(1,91) = 4.90, p < .05$ . The families of HEP children enjoyed a significantly higher overall socioeconomic situation (SES),  $F(1,62) = 6.46, p < .05$ . The parents of children in this group were most likely to be employed: approximately 50% of the heads of household were employed, versus 23% in the LEP group. In addition, the HEP group had been in the continental United States much longer and showed a relatively high degree of stability for this generally highly (geographically) mobile population. The data suggested that group differences observed

at the beginning of the year were due mostly to differences in socioeconomic status rather than to group differences in second language proficiency.

At the second testing Diaz (1985) found that LEP students caught up to HEP students and were comparable in every category except SRA1. The only significant difference found between the groups was in the SRA1 measure,  $F(1,76) = 3.89$ ,  $p < .05$ , in favor of the HEP group. The catching up of the LEP children after 1 year in the bilingual program was further supported by a repeated-measures ANOVA, using time as the within-subject factor. At the second testing, a total of 17 children had moved away and, therefore, dropped out of the study. Fifteen of these children were from the LEP group and only two of them were from the HEP group. One possible explanation for the observed catching-up effect is that children with the lowest cognitive scores dropped out of the study. In order to test this possible explanation, a series of t tests were conducted on time 1 scores comparing the attrition group with the remaining LEP group. None of the t tests were significant. It was concluded that the catching up was not simply an artifactual effect of attrition.

Diaz (1985) concluded that degree of bilingualism significantly predicted a substantial amount of cognitive variability within the LEP group. However, degree of bilingualism seemed to bear no relation to cognitive variability in children possessing high English proficiency. Bilingualism significantly predicted cognitive ability in LEP students, but did not dramatically affect HEP students. It was also found that bilingual ability directly affected cognitive ability; however cognitive ability did not affect bilingual ability. Lastly, the positive effects of bilingualism were probably related to the

initial efforts required to understand and produce a second language rather than to increasingly higher levels of bilingual proficiency.

The strengths of this study were illustrated in the many t-tests conducted to test the reliability of the data. Also the groups were separated into quasi-equal groups based on gender, grade and level of English proficiency. However, a weakness was that although many of the subjects were familiar with standard native Spanish, this study was conducted in an area where standard native Spanish may not have been the dialect spoken at home, if any language was used *fluently* in the home.

To summarize, the seven studies in this section analyzed the effects of bilingual education on lower elementary grades (P-3). Lopez and Tashakkori (2004) began with their study which explored the short-term effects of bilingual programs on English language proficiency in kindergarten and first grade students and found that the two groups of children did not differ from each other in any of the seven indicators of achievement. Following that, Winsler, Diaz, Espinosa & Rodriguez's (1999) study of the effects of bilingual preschool on home language maintenance in Spanish speaking children found that both groups of children showed significant gains over the full 2-year period in both Spanish and English language proficiency, with the preschool group maintaining greater gains than the control group in English. Hofstetter's (2004) study to determine the long term effects of bilingual programs on English language proficiency showed that scores in reading, listening and speaking did not differ significantly between the groups, however, scores in the writing subtest did. Ramirez & Shapiro (2006) investigated how oral fluency rates would change depending on the type of program a student was enrolled in and determined that students in general education classes read

more fluently in English than did students in the bilingual education classes, and that general education students read more fluently in English than the bilingual students read in Spanish during every assessment period. In an attempt to determine how an English only environment would affect an immersion program within a school, Palmer (2007) conducted observations in Northern California and found that language minority students' standardized test scores in reading and mathematics were higher than comparable students in other educational programs. In order to assess achievement based on content, Serra (2007) studied students in Switzerland and determined that much of the cognitive development occurs the same in bilingual students as with monolingual students. Finally, in an effort to address major gaps in the research, Diaz (1985) surveyed kindergarten and first grade students and found that bilingualism significantly predicted cognitive ability in LEP students, but did not dramatically affect HEP students; and that bilingual ability directly affected cognitive ability, however cognitive ability did not affect bilingual ability.

#### Effects on Achievement in Upper Elementary

To begin this section of studies on the effects on achievement in upper elementary classrooms, is Lopez & Tashakkori's (2006) study on how second language proficiency differed between children enrolled in Transitional Bilingual Education (TBE) and Two-Way Bilingual Education (TWBE) programs. In this same vein we analyze Gersten and Woodward's (1995) study comparing the long-term effects of TBE and TWBE programs. Clarkson (1992) also investigated if proficient bilinguals achieved academically higher than monolingual students in a study in Papua New Guinea. In addition, Jimenez (1997) interviewed low-literacy students about their views on reading. This complimented the

longitudinal study of Schuster (2005) who designed to ascertain which variables had the greatest affect on standardized test scores in an elementary foreign language program. Similarly Droop & Verhoeven (2003) investigated the relationship between language proficiency and learning to read in a second language. Jimenez, Garcia & Pearson (1994) aimed to describe the cognitive and metacognitive knowledge of proficient bilingual readers in their case study. Another case study was Potowski's (2004) investigation as to how much Spanish is used and for what purpose in a dual immersion classroom. Similarly Denton, Anthony, Parker & Hasbrouck (2004) explored the effects two English reading programs had on the development of ELL reading test scores. Finally, Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas.

In a mixed method study to determine how second language proficiency differed between children enrolled in Transitional Bilingual (TBE) and Two-Way Bilingual programs (TWBE) Lopez and Tashakkori (2006) investigated 553 fifth graders from six different schools, all of whom who had been classified as English language learners (ELL) since kindergarten or first grade. Of these 553 students, only 62% returned signed permission slips (334), and from these remaining students 32 were selected at random, resulting in five to six from each of the six schools. The six schools were all located in the South Eastern United States and had similar demographic characteristics including: ethnic composition, percentages receiving free or reduced lunch, percent of students identified as ELL and school size. Three of the schools were TWBE schools and three offered TBE programs. All students classified as ELL received English as a second oral language (ESOL) instruction while at the beginning and intermediate levels (1 & 2

respectively) in the content areas. This instruction continued in the TWBE programs even once the students reached the advanced and superior levels (3 & 4 respectively). In the TBE programs students who had reached level 3 were expected to participate in English only classes.

Given a Likert questionnaire students answered questions in the following eight areas: bilingualism and intelligence; bilingualism and the job market; bilingualism and vocabulary development; bilingualism and the school; the bilingual program and bilingualism; and the transfer of reading skills. Item total correlations ranged from .33 to .61. It also consisted of a self-report by students of proficiency in English and Spanish respectively. A MANOVA with two independent variables (i.e., type of program and ESOL level at kindergarten or first grade) and two dependent variables (i.e., self-reported level of proficiency in English and in Spanish) indicated that the main effect of type of program was statistically significant,  $F(2,325) = 27.88$ ,  $p < .001$ , Wilks' Lambda = .85. The students were also tested using the Florida Comprehensive Assessment Test (FCAT) in English and the Evaluation del desarrollo de la lectura (EDL) in Spanish. Students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. However, students who entered kindergarten with a lower ESOL level scored lower than those with a higher level, who scored lower than those proficient in English.

Structured interviews were conducted with a randomly selected subsample of students. In the TWBE programs, these interviews were conducted in Spanish (with the exception of one native English-speaking student who requested to respond in English). Four themes emerged: (1) bilingualism is an asset for the future. The students were quick

to explain that the ability to read and write, not just speak, two languages would be advantageous to them in the future; (2) bilingualism facilitates communication between groups. Most of the students believed that knowing two languages would allow them to translate for monolinguals and thus ease communication between individuals and groups; (3) bilingualism maintains the cultural heritage; (4) bilingualism is an academic aid. Most TWBE students mentioned that bilingualism helps them read in two languages, and they were able to explain the role of cognates.

Most students enrolled in the TBE schools preferred to conduct the interview in English. Four themes emerged from their interviews: (1) bilingualism is an asset for the future; (2) lack of bilingualism impedes communication between groups. This group of students expressed frustration because they were not able to communicate effectively with Spanish speakers; (3) lack of bilingualism hindered the maintenance of cultural heritage; (4) bilingualism is not an academic aid. In fact, instruction in two languages is confusing for the students enrolled in TBE schools.

One strength of this study was that in order to ensure that the programs were truly bilingual and not classes of ELL students being taught in English, classroom observations were conducted in the TWBE schools. The observations lasted an hour and were conducted during the Spanish Language Arts period. Interactions between teachers and students were recorded based on language used. Ninety-eight percent of the time Spanish was the language being used, and English was used only to clarify terms and for managerial purposes. Students were able to answer in Spanish and it appeared they had been exposed to the language over a long period of time. Another strength of this study was the acknowledgement that the absence of random assignment in educational studies

posed a threat to the internal validity of the conclusion. In order to avoid this Lopez and Tashakkori (2006) tried to match the schools based on age and ethnicity. The chi-square tests indicated no significant differences in: SES, English proficiency, retention, and exceptionality.

Lopez and Tashakkori (2006) found that students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. However, students enrolled in the TWBE program on average were ready to exit the program as English proficient students after four semesters, where students enrolled in TBE programs needed five semesters to achieve English proficiency. Along these same lines are Lopez and Tashakkori's (2004) study regarding the short-term effects bilingual programs have on the development English language proficiency.

Gersten and Woodward (1995) also completed a longitudinal study of transitional and immersion programs where they aimed to determine the long term effects of two different programs in a school district in Texas. This study was comprised of ten different schools in the El Paso area and included students who'd had no English language skills at the beginning of first grade. All the students in this study completed at least five years of bilingual education or transitional bilingual education and took the Iowa Test of Basic Skills (ITBS) in reading, math and vocabulary in grades 4, 5, 6 and 7. The teachers in each of the schools were also surveyed to determine how teacher perceptions affected student performance. Of the teachers surveyed, the mean number of years of experience teaching second language students was comparable (seven years for the bilingual immersion, eight years for the transitional bilingual teachers). All of the teachers were certified bilingual teachers, and over 80% were Hispanic.

Students were tested using the Oral Language Dominance Measure (OLDM) before entering first grade. Mean scores on the OLDMD were 1.24 for the immersion sample and 1.08 for the transitional bilingual sample; standard deviations were .62 and .42 respectively. To compensate for the slight difference favoring the immersion group, ANCOVAs were utilized in all subsequent analyses to control for the original disparity. In the fourth, fifth and sixth grades students in the bilingual immersion schools demonstrated significantly higher achievement in all areas (grade 4,  $F(1,225) = 27.37, p < .001$ ; grade 5,  $F(1,225) = 8.03, p < .005$ ; and grade 6,  $F(1,225) = 3.96, p < .05$ .) By the seventh grade the difference decreased and both groups were achieving at about the same level (ITBS total language percentiles: immersion- 39; transitional- 37.) By the end of sixth grade 65% of the transitional bilingual students had moved into mainstream classes, compared to 99% of those in bilingual immersions programs. This was a statistically significant difference ( $\chi^2 = 46.3, p < .001$ ).

Teachers in both programs were given seven identical questions, two specific to their school and several open ended questions. The questionnaire was set up with a Likert scale, 3 equaling agree, 2 undecided, and 1 disagree. Response was reasonable with 56% (173) of transitional bilingual and 52% (134) of bilingual immersion teachers returning their questionnaires. The teachers' responses on the Likert scale items differed significantly; where 73% of immersion teachers believed that their students would succeed in regular mainstream classes after leaving the program, only 45% of the transitional teacher believed their students would be successful. In the transitional program only 35% of the teachers believed that students were motivated to learn English, where in the immersion program 79% of teachers believed that students were motivated.

These differences were significant to .001. Teachers in the transitional program felt that the large use of Spanish was both the biggest strength and weakness of the program (43%, 38% respectively). In the immersion program the majority of teachers stated the rapid acquisition of English as the greatest strength, followed closely by the inclusion of Spanish language use during the day to help build a strong foundation. Their strongest concern was the lack of instructional models and guides available to teachers.

This study illustrates how both bilingual immersion and transitional bilingual education are equally viable options, although teachers' perceptions of the two programs appear notably different. The greatest strength of this study was the researchers' careful effort to not claim to constitute a formal test of the effectiveness or validity of either approach. This study simply explores the long term effects on students. Also that they took into account students who fell behind a grade, skipped ahead a grade and those who remained on track, and only utilized the scores of those who remained on track (90%). However, despite considerable talk about t testing to ensure that the two groups were the same, they did not explain what variables they tested or what the exact significance of those tests were.

In a study to determine if proficient bilingual students do better academically than monolingual students, Clarkson (1992) investigated students in Papua New Guinea and found that the highest scoring students were proficient bilinguals, followed closely by proficient monolinguals and that the lowest scoring students were those with a low proficiency in either language. The students were broken into two groups, monolingual and bilingual. All of the students were in their sixth year of schooling with the monolingual group attending one of two international schools and the bilingual groups

attending one of five primary schools. The groups differed in a couple of ways including teacher education (2 year diploma past grade nine in the bilingual group, 3 year diploma past grade twelve in the monolingual group) and resources (monolingual schools had computers and enthusiastic parental support, bilingual schools faced a lack of resources especially in mathematics).

The two groups were given identical tests, one which was a general test drawing on a broad range of content, and the other a test of mathematical word problems. All tests were administered in English, with the exception of the Pidgin Language test. The General Mathematics Test (GMT) was comprised of 20 questions from a wide range of topics which both groups were assumed to have covered to include: basic operations with whole numbers, fractions, measurement, knowledge of shapes, bar graphs, and number patterns. The reliability for the test was .78. Students also took the Mathematical Word Problem Test (MWPT), which was also consisted of 20 problems to include: common fractions, the four basic operations on whole numbers, and one number-recognition item. Reliability for the test was .87. The final test given was a language competency test (Cloze tests offered in both English and Pidgin) in which the ability of the bilingual group was measured. The English language test had a reliability of .73, and the Pidgin language test had a reliability of .84.

The monolingual students were divided into three equal groups (high, middle and low) based on English language test results. Bilingual students were first broken into the three equal groups based on their results on the Pidgin language test and then the cutoff scores of the monolingual students were applied to create six overlapping subgroups. From these subgroups only those students who fell into the High/High, one dominant or

Low/Low categories were included in the study. The remaining students were also given the Mathematics Profile Series' Operations Test to measure cognitive levels. Scores were converted to a MAPS (Measures of Academic Progress Score) scale to create a basis for measuring progress in operational thinking. Reliability for this test was .76.

Unadjusted mean scores labeled the monolingual students higher than the fluent bilingual students, but the adjusted scores put the fluent bilingual students higher. In all cases the students with a poor understanding of both languages did worse than any other group. Although these scores were reported, no data was given to the measure of them or how significant they were. Another weakness of this study was in the GMT and the author's assumption that students would have covered certain mathematical concepts; there is no evidence that they verified whether the material was in fact covered, or if the students understood the material. However, they did account for many other extraneous aspects such as father's occupation, quality of housing and SES. This provides a greater reliability of unbiased results based on external factors.

In a qualitative case study, Jimenez (1997) investigated what low-literacy Hispanic students thought about reading. The participants were five Hispanic middle school students who read up to 4 grade levels below their current seventh grade placement at the time the study began. The school was comprised of about 50% Hispanic students, 40% Caucasian with the other 10% a variety of ethnicities. Three of the students had been identified as having a learning disability and were receiving instruction exclusively in English. Also, all three had attended at least five different schools between kindergarten and seventh grade. The other two participants came from an at-risk bilingual classroom. Both came from rural areas of Mexico, and struggled with Spanish

literacy. These students both received instruction solely in Spanish, with 45 minutes of ESL instruction. Due to the migratory nature of the families it was assumed that the students had missed two or three of the elementary grades.

The study included classroom observations, think-alouds and cognitive strategy instruction. Think-alouds included presenting a text to the student, asking them to read each line silently and then having them explain, in as much detail as possible what they were thinking about during and after reading each line of text. Cognitive strategy instruction was comprised of a series of cognitive strategy lessons, intended to document the potential of low-literacy Hispanic students. Teachers hoped to help the students make greater gains from comprehension-based instruction by systematically recording their responses to the lessons. Responses were used to share and modify the experiment to best promote the student's comprehension of the text.

In a longitudinal study designed to find out what happened to standardized test scores when a foreign language is introduced into an elementary school class for four years, Schuster (2005) discovered that the variable that caused the greatest significance was the initial score on the Iowa Test of Basic Skills (ITBS) in the second grade. The study began with a second grade class during the 1995-1996 school year, and concluded with the same class four years later. Students began in second grade with a valid score on the Grade 2 ITBS. In order to complete the study students also had to complete all four years in the same school, advancing as scheduled and have corresponding scores on at least one of the Grade 2 and Grade 6 ITBS scales used. Although 1076 students began this study (747 in English only schools; 326 in FLES schools (128 French, 201 Spanish)) only 702 students completed this study (489 English only schools; 213 FLES schools (94

French, 119 Spanish). The schools selected to participate in the FLES were drawn at random at a school board meeting. This was so that each school had an equal chance and opportunity to participate in the study and also so that the data would not be biased or skewed towards one group of students over another.

All of the teachers were certified by the state to teach elementary foreign language. The FLES curriculum focused on communication proficiency, primarily centering on interactive speaking, listening comprehension and language use in class. There was little to no direct instruction used and grammar was not a focus. One of the primary goals of the program was to focus on cultural awareness and acceptance. The FLES curriculum was taught twice a week for 30 minutes each time. This worked out to be a total of 30 hours each year; 120 for the four years. The time taken for the FLES curriculum was not taken from any specific area of study, instead time was shifted throughout the week to make room for the special curriculum.

The dependent variables for the analyses were reading total, language total, math total and core/survey total scores from the 6<sup>th</sup> grade ITBS. The covariates to these scores were the corresponding scores from the 2<sup>nd</sup> grade ITBS test. Each subsection of the test was scored separately and scores were analyzed using the GLM procedure. These analyses provided z scores which were used to calculate and facilitate the interpretation of the results. An alpha level of .05 was used for all statistical tests. The ITBS is a multiple choice test given to students by their regular classroom teachers. The purpose of the test is to monitor academic achievement from year to year.

The second grade reading test was comprised of picture vocabulary, reading vocabulary and reading comprehension. The sixth grade reading score was calculated from questions on reading comprehension and vocabulary. The second grade language test included choosing the correct picture based on the spoken description, spelling, capitalization, punctuation, correcting errors in sentences and picking the word that did not fit with the other words. The sixth grade test included all the same types of questions. The second grade math test included picture based items, finding the solution to spoken problems, and correctly identifying the meaning of a graph or chart. The sixth grade test also included written problems involving math concepts and problem solving. The reliability of the ITBS test in 1992 for second grade was .919 for reading, .859 for language, .858 for math and .954 for survey total. For the sixth grade test the reliability was .950 for reading, .949 for language, .918 for math and .977 for core total.

The unadjusted z scores showed a reading total of .66 for students who completed the FLES program and .68 for those students who completed a non-FLES program. After adjusting the scores based on the differences between the groups in the second grade z scores the FLES group was found to have a slightly higher z score (.69 and .67 respectively). These differences were insignificant for effect size ( $p = .615$ ) and school ( $p = .193$ ). Gender was significant ( $p = .0170$ ) as was the covariate, second grade reading ( $p = .001$ ), which indicated that the student's ability in sixth grade was more dependent on their ability in second grade than any other factor alone.

Similarly the unadjusted mean scores for language total showed a difference between groups in favor of the non-FLES group (.74 and .65 respectively). However, when adjusted the difference was significantly less (.69 and .71 respectively). Although

both gender and school came close to significance, neither reached the .05 standard. The covariate of second grade score was the only variable that had a significant effect on the sixth grade test scores ( $p = .001$ ).

The unadjusted z scores for math total did not show a significant difference between the two groups (.89 and .83 for the Non-FLES group). When adjusted the scores the FLES group advanced slightly above the non-FLES group, not to a significant level (.91 and .83 for the non-FLES group;  $p = .192$ ). Gender was not significant ( $p = .140$ ) however, school was slightly significant ( $p = .001$ ). Again the only covariate that was both statistically significant and created a substantial effect was the covariate of the second grade score.

Lastly, the unadjusted z scores for the core total were similar to the other areas in that the unadjusted mean for the non-FLES students was marginally higher than the FLES group (.80 and .78 respectively). Once adjusted the difference was flipped and the FLES group was marginally higher than the non-FLES group (.82 and .79 respectively), however the difference was still insignificant ( $p = .471$ ). Again gender was not significantly significant ( $p = .259$ ) and school was significant ( $p = .002$ ) although did not show a substantial effect. The only variable that showed both statistical significance and effect was the second grade scores covariate ( $p = .002$ ).

One of the greatest weaknesses in this study was the implementation of the foreign language. If the language had been introduced more than one hour a week the results may have been greater.

In a comparative study, Droop & Verhoeven (2003) investigated the development and interrelation between the language proficiencies and reading abilities of children in the Netherlands learning to read in either a first language or a second language. This study began with 163 Dutch students, 72 Turkish students, and 67 Moroccan students from 21 randomly selected schools in the Netherlands. All of the minority students were either born in or attended Kindergarten in the Netherlands. By the end of the study there were 143 Dutch students (60 high SES and 83 low SES), 62 Turkish, and 60 Moroccan students remaining, all minority children were low SES.

Standardized tests were used to measure reading comprehension, decoding skills, and oral language proficiency. Whenever possible two or more tests were used. These tests included the Taaltoets Allochtone Kinderen-Onderbouw (TAK-Onderbouw), for minority children in lower elementary grades, and the Taaltoets Allochtone Kinderen – Bovenbouw (TAK-Bovenbouw) for minority children in upper-elementary grades. All of the tests given were carefully controlled for cultural content. The TAK tests measure oral proficiency.

To measure reading comprehension, the participants took three tests. The first being the Text Coherence Test (TCT), which had students read a letter, story, or expository text and answer 25 multiple-choice questions at the word, sentence, paragraph, and general text levels. Second they took the Reading Vocabulary Test (RVT), which gave students a sentence with an underlined word and asked to select the correct definition from four choices. The last test students took to measure reading comprehension was the Text Cohesion Test, which measured the students understanding of text cohesion. For this test the students were expected to read cloze texts and then

fill in the missing connector word. To measure decoding skill a single test was used. This test had students read words, varying in complexity, written on cards. The words varied from monosyllabic, to monosyllabic with consonant clusters, to polysyllabic. This test shows the difference in skill level for first and second language learners in decoding complex words.

To measure oral language proficiency, students took three different tests. The first was an oral receptive vocabulary test, which measured vocabulary knowledge. In this test, a word is spoken while the child is shown four pictures, and the child must point to the picture that represents the meaning of the word. The second test measured morphosyntactic knowledge (plurals, verb conjugates, pronominal reference). In this test, children were provided with sentence starts and asked to finish them with the correct word. The final test measured oral text comprehension. Students were read short stories and pieces of dialogue and then asked to answer questions which were asked orally.

The tests were administered at three points during the year: the start of third grade, the end of third grade and the end of fourth grade. The tests that involved oral reading were administered individually, in a quiet space outside of the classroom and lasted approximately 30 minutes for each student. The classroom teacher in the regular classroom, with no time limit, administered traditional paper tests. The researchers also tested student's non-verbal reading ability by administering Raven's Standard Progressive Matrices (SPM), parts a, b and c. Attitudes about reading were assessed with a questionnaire, which was presented orally. This questionnaire contained items addressing aspects of each student's home life including attitudes about reading at home,

school and while on vacation. This questionnaire tested with a reliability score of  $>.80$  using Cronbach's alpha.

Most Turkish and Moroccan children used their L1 to communicate with their parents; a small minority chose their L2 to communicate with their parents, while about 10% used a combination of both their L1 and their L2. To communicate with siblings and friends, slightly more than half of the Turkish children reported using their L2, about 30% used their L1, with the rest (12%) using a combination of both. To communicate with siblings and friends, a large majority of Moroccan children (between 78 and 91 %) choose their L2, and less than 10% use their L1. This difference between language choice for Turkish and Moroccan children could be a result of the fact that Moroccan is a low-status language in the Netherlands, while Turkish is a high-status language.

In a case study designed to describe and understand the cognitive and metacognitive knowledge of a proficient bilingual reader, Jimenez, Garcia & Pearson (1994) interviewed three female six grade students. Three 6<sup>th</sup> grade girls were chosen to document metacognitive strategies of expert bilingual readers. The students attended a school in a medium-sized district that served working- and middle-class families; 27.5% of the school's population was Hispanic. The students in this case study were selected based on three criteria: student's ranking as proficient and less proficient English readers; their ability to think aloud while simultaneously reading silently; and bilingual student's ability and willingness to read in Spanish. Three students who met the criteria were selected to participate in this study. Pamela, a bilingual Hispanic student and proficient English reader; Michelle, a monolingual Caucasian student and proficient English reader; and Catalina, a bilingual Hispanic student and struggling English reader. Reading ability

was measured using the Science Research Associates test of Basic Skills, a standardized reading test. Pamela scored at the 75<sup>th</sup> percentile; Michelle scored at the 93<sup>rd</sup> percentile; and Catalina scored at the 53<sup>rd</sup> percentile.

The three students performed unprompted think-alouds, in which they were required to read silently while simultaneously verbalizing their thinking for three Spanish and two English texts. In addition, prompted think-alouds (prearranged prompts and questions that focuses on potential comprehension problems) were used. Texts were selected for their length (171 to 503 words), their level of interest, and their potential for invoking cognitive and metacognitive strategies. Spanish texts included two narrative and two expository passages. The English texts included one narrative passage and one expository passage. Prior knowledge tasks were developed for each passage, including an introductory statement describing the topic and genre. Bilingual students were given directions in both Spanish and English, and were encouraged to ask for assistance when writing answers.

Interviews were also conducted; these interviews consisted of 11 questions, some dealing with very general aspects of reading and the rest based on what might influence the reading of proficient bilingual readers. As a monolingual English student, Michelle was only asked the first four questions. Spanish-speaking participants met with the researcher; subjects heard the purpose of the project, filled out questionnaires, and completed measures of prior knowledge. For the individual student sessions, each student met with the primary investigator. Catalina and Pamela came to 3 meetings; Michelle came to two meetings. During these sessions, students engaged in prompted and unprompted think-alouds. After reading each text they were asked to retell it.

Four trends emerged from Pamela's think-alouds and interviews: logo-centricity; a tendency to view comprehension as the goal of reading; an awareness of the relationship between English and Spanish; and a multi-strategic approach to interacting with text. When confronted with unknown phrases, Pamela searched for cognates in the other language, read ahead, and formulated hypotheses. Michelle also implemented a multi-strategic approach to reading, but she demonstrated a global reflection concerning her comprehension. She integrated prior knowledge and made connections between disciplines. She often restated what was in the text and drew inferences when confronted with unknown vocabulary. Three themes emerged from Catalina's think-alouds and interviews including: her belief that bilingualism is cognitively debilitating; a faulty conception of reading; and fragmented use of reading strategies. She demonstrated no clear understanding of how reading in English and in Spanish related to one other. While she believed that knowing English was helpful in reading Spanish, she did not believe the reverse to be true. Also, she never used her knowledge of English when reading Spanish. Catalina reported that although bilingual readers had the ability to read in two languages, monolingual English readers would be better because bilingualism was confusing. She also reported that she rarely read in Spanish. While reading, Catalina made incorrect inferences and did not monitor her comprehension. She could decode text in both English and Spanish and recall key aspects of her reading, but could not resolve comprehension problems. When formulating hypotheses about the meaning of an unknown word, Catalina did not test them to make sure they were right, she continued through the text regardless of whether she had comprehended the text. Catalina also believed that reading

ended when the last word was read; she did no re-reading. Her primary goal in reading was to move through the text; comprehension was secondary.

The greatest weakness in this study may have been in the selection of participants. Although labeled a struggling English reader, Catalina was able to perform think-alouds and scored in the 53<sup>rd</sup> percentile on the Science Research Associates test of Basic Skills, a standardized reading test. This issue was not addressed; however including a student who scored at a lower level would have given more merit to their results.

In a mixed method case study, Potowski (2004) observed how much Spanish was used and for what purposes in a dual immersion classroom. This study took place at Inter-American Magnet School in Chicago, IL. The school was founded in 1975 and is one of the oldest dual immersion programs in the nation. There was a diverse group of students with 69% Hispanic, 19% Caucasian, and 14% African American; 60% qualified for either free or reduced lunch and 35% categorized as LEP. The curriculum was broken down by both grade level and percent of language used. In grades P-3 the curriculum was 80% Spanish and 20% English, in grades 4-5 it shifted to 60% Spanish and 40% English and finally in grades 7-8 it became a 50/50 split between the two languages.

Carolina was a Spanish L1 learner whose parents had immigrated from Ecuador and Honduras. She received a 4.9 out of 5 from the Center for Applied Linguistics (CAL) researchers. She spoke Spanish at home with her family and used both languages with equal fluency at school. She was an active participant who was seen by her peers as competent. Maggie was a Spanish L2 learner who spoke English at home with her parents. She was scored a 4.6 by the CAL researchers, and was able to effectively

communicate in both languages, but sometimes struggled to find words in Spanish. Matt, a Spanish L1 learner, scored a 4.9 by the CAL researchers. He chose to use English more often than Spanish, however, his fluency was excellent in both languages. Otto was a Spanish L2 learner whose parents immigrated from Africa before he was born. He was rated a 3.3 by the CAL researchers which was lower than average for his class. Despite his low score, he still participated fully in both English and Spanish lessons and was seen as competent in both languages.

In order to determine in what context students were using each language, tape recorders were placed on each of the four student's desks as well as a video camera in the corner of the classroom. This resulted in over 53 hours of usable recordings with over 22 lessons being recorded. In addition to the recordings, field notes were also collected and used for further analysis of the interactions. The researcher also conducted interviews with the students to try and gauge their reasons for language use. She also used a questionnaire to explore their feelings and attitudes about Spanish language and its' importance in their lives. These interviews were recorded as well as interviews with each of the student's mothers. The researcher chose to interview only mothers, as one student did not have a father living in the house, and also to maintain consistency. While English was used in all of the student interviews, for the parent interviews, parents used the language most comfortable for them. There were also two recorded interviews with the classroom teacher in which the researcher aimed to discover how decisions were made as to increase students' use of Spanish.

The students used Spanish 56% of the time with the girls averaging 18.5% more Spanish use than the boys, regardless of their L1. When talking to the teacher, these 4

students used Spanish 82% of the time, however the students used slightly more English when speaking privately with the teacher (24%) than they did when speaking to her publicly (16%). When speaking with their friends the students used Spanish 32% of the time. While on task students used Spanish 68% of the time, whereas for management activities Spanish language use was used only 43% of the time, and even less for off task behavior, 17%. These findings suggest that the student's were comfortable in using Spanish as a means of communicating in an academic setting, however the social capital invested in the dominant language, English, prevented them from using Spanish in more social endeavors.

The researcher also investigated the specific reasons each student chose which language to use in different situations. Carolina spoke mainly Spanish at home, and had a great deal of support from her mother who supported bilingualism in not only speaking, but also reading and writing. Carolina's mother also displayed a significant level of concern for her daughter's English language ability, placing her in English tutoring sessions so that her English skills would not fall short of her Spanish language skills. Carolina displayed a positive identity as a Spanish speaker during teacher driven lessons, but in an effort not to be excluded from her peer group, spoke English for the majority of her social interactions.

Matt spoke mainly in English at home and at school despite being named one of the top Spanish language students by his teacher. In interviews his mother also expressed a level of concern for Matt's English ability, which may have contributed to the lack of Spanish use at home. He did indicate on the questionnaire that Spanish language knowledge was an important skill to have for cultural capital and also for other personal

endeavors (future spouse and children, living in Chicago), however felt that too much time was spent teaching and learning in Spanish and that it would be more beneficial to be learning in English as it was the dominant language.

Maggie chose to use Spanish in both her home life and also at school. Although it was her second language, Maggie invested a great deal of her self-identity into her Spanish language identity going so far as to refer to herself as Hispanic and planning a quinceñera. She spoke more Spanish with her peers (50%) than any of the other students in the study, sometimes responding to their English with Spanish or insisting that the group work in Spanish rather than slip into English. This may have caused her some loss of social interactions and friendships. Maggie's mother was proud of her daughter's language ability, but was concerned with the seeming lack of rigor in the curriculum. She had looked into transferring Maggie into a new school, but was met with great resistance from Maggie, who was invested in the language aspect of the curriculum and did not want to compromise that skill.

Otto was also a Spanish language learner, although his language ability was not quite as great as the other students in this study. He struggled between knowing and wanting to share the answer as fast as possible and his fledgling Spanish skills. This probably accounted for him using Spanish less often than any of the other students in the study (71% with teacher; 23% with peers). He also received support from his mother, who felt that his Spanish language ability and academic achievement were both on target. He himself indicated that knowing Spanish was important so that if he were to go somewhere they did not speak English he would know what they were saying.

One strength of this study was that the students changed seats frequently so that interactions with other students would not bias their use of the language. The researcher observed that when seated with highly proficient Spanish speakers some of the students' Spanish language use increased. By changing seats often the study served to ensure that each student was given multiple opportunities to be seated with people who may or may not influence their language use in different ways.

Denton, Anthony, Parker & Hasbrouck (2004) investigated the effects two English reading programs had on the development of ELL reading test scores in a tutoring program in central Texas. This study examined 93 Spanish dominant student enrolled in a transitional bilingual program in grades 2-5. These students were enrolled at one of five schools in central Texas. These students were referred for supplemental tutoring by their classroom teachers because they were having difficulty learning to read in English . There were 22 students in second grade, 37 students in third grade, 28 students were in fourth grade and 6 students in fifth grade. The sample was split evenly by gender (48 males, 45 females) and by treatment group; 19 were in the Read Well treatment group, 14 were in the Read Well comparison group, 32 were in the Read Naturally treatment group, and 28 were in the Read Naturally comparison group.

Students in grades 2-5 were tutored 3 times per week for 40 minutes over 10 weeks, using 2 English reading interventions. Tutoring took place from February through April of one school year. The first method, Read Well, combined systematic phonics instruction with practice in decodable text, and the other, a revised version of Read Naturally, consisted of repeated reading, with contextualized vocabulary and comprehension instruction. These tutoring sessions were conducted by 23 undergraduate

university students enrolled in a class in teaching students with reading difficulties. The major field of study of all tutors was special education. The progress of tutored students ( $n = 51$ ) was compared to that of non-tutored classmates ( $n = 42$ ) using sub-tests of the Woodcock Reading Mastery Tests- Revised (WRMT-R).

The researchers found that students who received systematic phonics instruction made significant progress in word identification but not in word attack or passage comprehension. Scores were unchanged for the Read Well comparison students, however tutored students gained an average of 4.06 standard score points during the 10-week intervention. The interaction between time and group was statistically significant only for the word identification subtest,  $F(1,31) = 5.70$ ,  $p = .023$ . Squared etas indicated that 16% of the variance in word identification growth was attributable to the Read Well program. The modified Read Naturally program did not affect a change of score in word identification, word attack, or passage comprehension as measured by the WRMT-R.

One weakness in this study was the relatively short length of treatment. Also impacting the results was the low intensity of the tutoring and the fact that the tutoring was done by less experienced pre-service teachers rather than veteran reading specialists. By increasing the length and/or intensity of the study and by employing more experienced teachers the effects may have been strikingly different.

Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas. Within the two elementary schools included in this study 57% of all students were considered low income with 76% of the student body identifying as Hispanic. Both schools used a 50/50 model which was fully implemented, in its fifth year. This study focused on 85 fifth grade students in three classrooms.

Enrollment into the program was based on language ability for Spanish speaking students while English speaking students volunteered to participate. Of the students who participated in the study 94% were Hispanic, 4% were White, 1% were Asian, 48% were male and 52% were female.

Four methods were used to measure achievement including: site observations; interviews; IDEA Proficiency Test (IPT); and the Texas Assessment of Academic Skills (TAAS) in reading and mathematics. The selected group was comprised of students who had participated in the program for at least three years (n=56).

For linguistic proficiency the sample consisted of only students who had participated for the full five years which reduced the sample to 32 (15 English speakers, 17 Spanish speakers). The score range for the IPT is A-F, with A signifying the lowest level of oral proficiency and F representing the highest. At initial testing the students were at varying levels for L1 (6 students scored F, 1 student scored was at the Mastery level) and for L2 (10 students were non-proficient, 18 were limited proficient, 4 were proficient).

The TAAS scores in reading and math measured academic achievement. In reading achievement students enrolled in the TWI program scored slightly higher than the control group, with the English dominant students scoring higher than the Spanish dominant students ( $p < .05$ ). For this test also, the English dominant students within the TWI program scored the highest, with Spanish dominant students in the TWI program following close behind. The math scores were also analyzed and no statistically

significant difference was found between the groups. However, English dominant students still outperformed all other groups.

This study utilized multiple forms of observation and assessment which helped to create a more complete set of data and unbiased results. However, by hand picking the Spanish speaking students and allowing English speaking students to volunteer for the study there may have been some inequalities in group effect.

### Summary

In summary, the ten studies in this section investigated the effects on achievement in upper elementary classrooms. Lopez & Tashakkori (2006) studied how second language proficiency differed between children enrolled in Transitional Bilingual Education (TBE) and Two-Way Bilingual Education (TWBE) programs and found that students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. In this same vein Gersten and Woodward (1995) compared the long-term effects of TBE and TWBE programs and discovered that both bilingual immersion and transitional bilingual education are equally viable options, although teachers' perceptions of the two programs appear notably different. Clarkson (1992) investigated to see if proficient bilinguals achieved academically higher than monolingual students in a study in Papua New Guinea and determined that unadjusted mean scores labeled the monolingual students higher than the fluent bilingual students, but adjusted scores put the fluent bilingual students higher, and in all cases the students with a poor understanding of both languages did worse than any other group. In addition, Jimenez (1997) interviewed low-literacy students about their views on reading and those

responses were used to share and modify the experiment to best promote the student's comprehension of the text. Schuster (2005) designed a study to ascertain which variables had the greatest affect on standardized test scores in an elementary foreign language program and found that the FLES group was marginally higher than the non-FLES group, however the difference was insignificant. Similarly Droop & Verhoeven (2003) investigated the relationship between language proficiency and learning to read in a second language and determined that the language choice for Turkish and Moroccan children could be a result of the status placed on the language itself in that community. Jimenez, Garcia & Pearson (1994) described the cognitive and metacognitive knowledge of proficient bilingual readers by completing a case study. Another case study was Potowski's (2004) investigation as to how much Spanish is used and for what purpose in a dual immersion classroom which found that Spanish was used more frequently in academic settings than in social ones.. Similarly Denton, Anthony, Parker & Hasbrouck (2004) explored the effects two English reading programs had on the development of ELL reading test scores and found that students who received systematic phonics instruction made significant progress in word identification but not in word attack or passage comprehension. Finally, Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas and determined that English dominant students outperformed all other groups.

#### Effects on Achievement in Middle School, High School and College

The ten studies contained in this section relate to the effects of bilingual education programs in middle schools, high school and colleges. Hasson (2006) surveyed undergraduate students in education about their elementary experiences with bilingual

education and how those experiences have affected their adult lives. Mouw & Xie (1999) analyzed data from the 1988 National Educational Longitudinal Study (NELS) to investigate the correlation between bilingualism and achievement. Similarly, Kozulin & Garb investigated the effect dynamic procedure has on L3. Also, Lindholm-Leary & Borsato (2005) investigated the effect of a bilingual program on math achievement. In addition, Rumberger & Larsen (1998) sought to explore the differences between different groups of language minority students, which was like the ethnographic study by Michael, Andrade & Bartlett (2007) on recently immigrated Dominican youth. Young, Marsh & Sulman (2000) also studied data gathered in the NELS to compare second language proficiency and home language use. This was comparable to the interviews Cota (1997) held to determine the role of students previous education on current academic achievement. Once again data from the NELS was used to compare achievement inequality between ELL and monolingual students by Carbonaro & Gamoran (2002). Finally, Padilla & Gonzalez (2001) examined how ESL or Bilingual education aided in the academic achievement of immigrant students in California.

In a mixed method convenience sample, Hasson (2006) surveyed 202 Hispanic undergraduate students of education in southern Florida as to whether bilingual or ESOL programs in elementary school had helped them use both languages throughout the rest of their lives. The students represented 15 countries of origin with 67.% born in the United States. Ninety point six percent of all students came from homes where Spanish was the primary language spoken. The breakdown of gender was 87.6% female and 12.4% male, with an average age of 22.3 years. The proportion of females in the sample was consistent with university enrollment in the College of Education. The average GPA for

this group was 3.26 on a 4-point scale, and the average SAT score was 997 out of 1,600. Seventy percent of these students had attended public schools in the area surrounding the college with the majority attending either public or private schools in the area. The group was broken into two subgroups: students who had been enrolled in bilingual programs (68) and those who had been in English only schools (134).

The surveys were given to all Elementary Education majors and those who were English and Modern Language Education majors as well. The surveys were done once in the spring and then again in the fall, and were collected on site to ensure a 100% return. Of the 343 surveys that were collected only 202 were eligible for inclusion in the study. In order to be eligible they had to be a) Hispanic and bilingual at some point in their life; b) completed 3 years of elementary schooling in the United States; c) have Spanish or Spanish /English as their native language; d) complete the survey. Students were given the language use section of the language and education survey. They answered questions as to if, when and for how long they had been enrolled in either bilingual classes or ESOL classes. They were given no definition of what constituted a bilingual or ESOL class so as to let the student determine for themselves the type of education they received. They were asked to circle all the grades they had attended these programs. Only items with a response rate of at least 90% were included in the analysis. The group was then broken into two subgroups depending on their answers to the Language and Education Survey: having had any type of bilingual education or English only classrooms.

Because of the statistical indifference, cross tabulations and descriptive statistics were obtained to make sure the groups were the same in their demographic characteristics and educational backgrounds. A lack of a statistically significant

difference was interpreted as the groups not being statistically dissimilar. The two groups, Bilingual/ESOL and All-English, showed similarities in most demographic areas including age, parents' ages, high school GPAs and SAT scores, university levels and majors. The only variables that showed a statistically significant difference between the groups were gender,  $\chi^2(1, 201) = 4.06, p = .04$ , and country of origin,  $\chi^2(2, 201) = 25.02, p < .001$ , when the countries were coded as "United States," "Cuba," and "Other Spanish speaking country." The lack of difference was very important; it showed that the results were not based on any factor outside of educational program enrolled in.

Of the original 14 items on the survey only those with a 90% response rate were included in the analysis. The remaining 10 items were scored using a Likert scale with English earning a 0, Both languages a 1, and Spanish a 2. This created a scale in which 0 indicated English dominance (language shift), 10 indicated balanced use of both, and 20 indicated Spanish dominance (language maintenance). Students who had participated in BIL/ESOL programs used mostly Spanish in their daily lives (31.3%) followed closely by both languages equally (26.9%) and then Spanish Only (19.4%). Students who were in English only schools used both languages equally 30.6% of the time, mostly English 29.9% of the time and the Mostly Spanish 26.1% of the time. Students from the English only group did not mark Spanish for any item on the list, and English was marked more often than both. However in the BIL/ESOL group students marked English most often for intimate activities such as dreaming, thinking and praying, and both for all over activities except for talking with their parents.

In a forced multiple choice test, 75.7% of the subjects included literacy skills (reading and/or reading and writing) as part of their definition of bilingualism and 23.8%

limited bilingualism to just understanding and speaking two languages. When asked if they considered themselves bilingual, 85.6% (173) circled yes, while 3.5% (7) circled no. For language use responses, "English" was assigned a 0, "Both languages" was assigned 1 point, and "Spanish" was assigned 2 points. An internal consistency analysis conducted with these items showed a result of  $\alpha = .75$ ,  $N = 148$ , which is acceptable for this type of study. A t-test for independent samples was conducted to determine whether there were any differences in language use between the two groups. A highly significant difference in means between the Bilingual/ESOL ( $M = 6.22$ ,  $SD = 2.77$ ) and All-English ( $M = 4.82$ ,  $SD = 2.84$ ) groups was found,  $t(146) = 2.791$ ,  $p = .006$ .

There were several weaknesses in this study including, the sample. This was a very specific group of people, future teachers, it only took into account those students who furthered their education beyond high school, and therefore the results are likely to be skewed toward the positive effects. Also, the sample did not have an even gender split which did not represent the population nor does it take into account the differences in learning patterns between men and women. Finally, in the initial survey which determined the breakdown of the groups, students were asked to mark if they had participated in ESOL or bilingual classes, however these terms were not defined and students were allowed to judge for themselves if they had. This could create some confusion and lead to students being misplaced in groups, altering the results.

Despite these weaknesses the researchers made sure that both groups were not statistically different in background demographics, which would have unfairly biased the study. They also determined there were no statistical differences in first language between the groups. This is important because although the study focused on

bilingualism and Hispanics it is important that they all started with the same home language and were later introduced to English. Had there been differences it would have altered the results of the study and not allowed conclusions to be drawn as to the effectiveness of bilingual programs.

Using data on first and second generation Asian students from the 1988 National Educational Longitudinal Study (NELS) and math test scores, Mouw and Xie (1999) analyzed 24,000 first and second generation Asian-American eighth graders to investigate any correlation between bilingualism and academic achievement. Although this was a nationally diverse group, inter-racial families were excluded from the sample, citing an increased assimilation process which could possibly skew the results of the study. This study also separated and defined balanced bilinguals, English dominant, native dominant and subtractive bilinguals. Mouw and Xie chose to use math test scores as a means of evaluation academic achievement citing their ability to most likely reflect deductive thinking and underlying academic achievement rather than English-language fluency. They also referenced other studies which focused on mathematical reasoning and have found that bilingualism enhances mathematical aptitude including Dawe (1983). Also used were GPA points which according to the researchers account for both motivation and effort that are not reflected in test scores.

Similar percentages of Chinese and Filipino students were first-generation immigrants (57 percent and 49 percent respectively), with about one-half of the Chinese students not learning English before starting school, in contrast to only one-fourth of the Filipino students. The highest level of English-language use in the preschool years was found among South Asians, of whom only 17 percent did not learn English before

starting school. With the exception of the group of students who learned only English before starting school, about 40 percent of the students in the sample were balanced bilinguals regardless of the order in which they learned the two languages. The frequency of native-language use depends on the language abilities of both parents and children. Among the parents of balanced bilingual children, for instance, 71 percent of the parents who were not fluent in English used their native language the majority of the time with their children as opposed to 54.1 percent of those parents who were fluent in English. Although 61 percent of the students in our sample were born overseas, only 24 percent were classified as native-language dominant or subtractive bilinguals. This was evidence of the shift toward English fluency among first- and second-generation Asian Americans.

Model 1 specified the additive effects for the student's eighth-grade language status, whereas Model 2 added native-language use, parents' English proficiency, and the interaction term between native-language use and parents' English ability. An F-test for the incremental improvement in goodness-of-fit showed that Model 2 fits the data significantly better than Model 1 ( $F=8.46$ ,  $d.f. = 3,810$ ).

The effect of balanced bilingualism on academic achievement (math scores) in Model 1 was estimated to be significantly negative. In Model 2, however, the coefficient for native-language use was positive, while the interaction between native-language use and parent's English proficiency was negative and roughly of the same magnitude. This indicated that native-language use has a positive effect on achievement if parents are not proficient in English and virtually no effect if parents are proficient in English. The magnitude of the positive effect for parents with poor English ability is large (coefficient

= 5.32, S.E. =1.15). This means that, if a student's parents are proficient in English, there is no statistically significant positive effect of communication in their native language.

There were several weaknesses in this study the first being that the researchers definition of bilingualism was too narrow and caused there to be an inaccurate measure of true bilingual students. They did however run an analysis with the most restrictive definition of balanced bilinguals possible and the negative association between bilingualism and achievement remained unchanged. Neither these results nor their criteria were included in the study, which could have strengthened their argument.

Kozulin & Garb (2004) investigated the effect of a dynamic assessment procedure on the performance of L3 students and found that treatment significantly, and unequally, improved students' scores. This study was comprised of thirteen female students, all Ethiopian immigrants to Israel. They were all between 20 and 22, and had arrived in Israel between the ages of 5 and 14 with the average age of arrival being 9.6 years. All but one of the women had received no schooling prior to coming to Israel. All students self identified as fluent in oral Amharic; although only four claimed to be fluent in written Amharic. All had studied English as part of their regular school curriculum.

The assessment was conducted in three parts, the first being a pre-test. The pre-test was based on a standard reading comprehension placement exam. There were six questions ranging from simple sentence level questions to complex paragraph and text level questions. Before the test, the experimenter explained the purpose of the procedure and offered some strategies that might help them in the exam. The pre-test was followed by a mediation session, conducted as a detailed analysis of the required pre-existing

knowledge and strategies students should have to be able to complete the test successfully. This session was held two days later and lasted two hours. Students were given their test papers with no scores but correct answers indicated. The experimenter asked a series of questions designed to elicit what categories of pre-knowledge were required to answer the questions (sentence structure, question words, etc.), and which strategies could be employed in order to answer the question. During this session the students were told that these strategies would be necessary for the post-test. The post-test, taken two days later, was identical to the pre-test in structure, but contained different content. The instructions were the same as that for the pre-test, but no mediation was given afterwards.

Although the results of the pre- and post-test were shown to be correlated ( $r = .78$ ) student's improvement was not equal. For some students who started out with similar scores on the pre-test some improved their performance while others remained the same. In an effort to discover if new immigrant students would benefit in the same way as veteran students the researchers compared their learning potential scores (LPS). LPS scores were compiled using a formula that compared pre and post test scores with max score possible ( $LPS = \frac{2S_{post} - S_{pre}}{Max\ S}$  where  $S = \text{score}$ ). After plotting the LPS scores of all the students the researchers found that the new immigrant students scored similarly to veteran students although there were more new immigrant students in the very low range ( $< 0.6$ ). The researchers interpreted this to indicate that although the mediation was sufficient for veteran students it was not enough for new immigrants.

In a study to discover the effects an elementary two-way bilingual program had on attitudes, abilities and achievement of high school math students, Lindholm-Leary &

Borsato (2005) investigated students from three high schools in California. Of the 139 students participating in this study all had attended a two-way bilingual program from Kindergarten or first grade through the end of elementary school. There were 63 boys and 76 girls broken into two equal groups: ninth and tenth graders (51%) and eleventh and twelfth graders (49%). All of the students were classified as bilingual at the time of the study but were grouped for comparison according to their placement when they entered the program: native English or native Spanish. These groups generated three subgroups: Hispanic Spanish-speaking (Hisp-S, 66%), Hispanic English-speaking (Hisp-E, 21%), and Euro-American English-speaking (13%). Of these groups participation in the free/reduced lunch program differed greatly which showed significance (76% of Hisp-S and 55% of Hisp-E compared to 29% of Euro participated,  $F = 15.6, p < .0001$ ).

Students completed a questionnaire on their own and returned it to the regular teacher in a sealed envelope. The questionnaire contained questions regarding attitude towards school, school path and college ambitions, parent/teacher support and average grades in school subjects. The questionnaire was set up as a Likert scale with students choosing an answer from 1 (strongly disagree) to 5 (strongly agree). Also collected were students scores from norm-referenced achievement tests of mathematics beginning in second grade (97), another in sixth grade (n=46) and a final in ninth grade (n=19).

Regardless of background all students agreed that they would like to go to college (M=4.5), that getting a good education was the way to a better life (M=.7), and that good grades were important (M=4.4). Students ranked the importance of doing well in school a 3.6 on the scale of 1 to 5. To determine if language or ethnicity played a role in self-efficacy and study habits students were asked to self-assess their academic performance.

In this aspect there were no significant differences between groups. For the questions regarding being a good student, good at schoolwork and completing any problem by working on it the students were in high agreement about their ability (M=4.0, M=3.9, M=3.9 respectively).

During the ninth and tenth grade years there were no statistical differences in the types of math classes students enrolled in. There were twice as many Euro-American students (63%) than Hispanics (30%) enrolled in Algebra 2, however, the difference was offset by 30% of the Hispanic students being enrolled in Geometry. In contrast, during the eleventh and twelfth grades the difference in upper level math classes did show significance. Although 40% of Hispanic students were enrolled in Geometry, and 30% of the Hispanic students and 30% of the Euro-American students were enrolled in Algebra 2, enrollment in trigonometry and calculus included 28% of Hisp-S students and 50% of Euro-American students, and no Hisp-E students. This difference in math courses across language and ethnic group was significant ( $X^2 = 16.9, p < .05$ ).

Although the Hispanic students entered into the program and the study having scored well below average on standardized tests by the time they were in sixth grade they were scoring above or well above average. By the time they completed ninth grade they were scoring in the above range. Also the students in each group showed no significant difference in grades with 29% of Hisp-S, 36% of Hisp-E, and 39% of Euro students received A's or A's and B's; 31% of Hisp-S, 32% of Hisp-E, and 39% of Euro earned B's and C's; and, 41% of Hisp-S, 32% of Hisp-E, and 22% of Euro obtained B's, C's, and D's. Even though Hispanic students receive more B's, C's, and D's than Euro-

American students, there was no statistically significant difference between the three ethnic or language groups ( $X^2 = 3.7$ ).

The researchers in this study paid special attention to ensuring that the groups were equal in all ways and taking into account the differences in SES. These considerations helped to give the findings credibility and merit. In addition, the findings can be applied tangentially to other groups, for comparison.

Padilla and Gonzalez (2001) examined how ESL or Bilingual education aided in the academic achievement of immigrant students in California. In an initial study of 7,140 students in a California school, 2,167 high school students were selected to participate in this study based on their responses to a questionnaire. This study was comprised of 1,024 males (47.3%) and 1,139 females (52.7%). Of those participating in the study 47.5% (N = 873) reported that they had received some form of ESL or bilingual instruction. The other 52.5% (N = 963) had not received such instruction at any time between the first and twelfth grades.

All students between the ninth and twelfth grades were asked to complete a questionnaire that took approximately one hour to complete. Students' participation was voluntary and took place during one class period. A researcher read the instructions to the class and was available to answer students' questions. Along with the responses to the questionnaire student grade point average (GPA) and Spanish proficiency were also examined. GPA has been shown to be correlated with other aspects of school success, such as academic expectations, homework completion, and school engagement. Spanish proficiency was examined by self-report of the student on a five point Likert scale in order to determine whether bilingualism facilitated or deterred academic performance.

The researchers found that Mexican-born students in the general academic track had a significantly ( $t [591] = -4.66, p < .0001$ ) higher mean GPA ( $M = 2.57$ ) compared to their U.S.-born counterparts ( $M = 2.26$ ). They also found that Mexican-born and U.S.-born youth in college preparatory tracks did not have significantly different GPAs ( $M = 2.87$  for Mexican-born;  $M = 2.80$  U.S.-born). Based on the data collected it was shown that college track students with prior ESL/bilingual instruction had a 2.92 GPA ( $N = 310, SD = .75$ ) and students without such instruction reported a 2.77 GPA ( $N = 416, SD = .71$ ). This may have been due to the fact that the additional help in school in understanding English language gave those students a jump on academic success. The final piece that came through the research was that U.S.-born students who received schooling in Mexico outperformed students without such schooling (3.09 vs. 2.77). Further, even those students who were born in Mexico, but who did not have any school-related experience in Mexico had somewhat higher grades than U.S.-born youth (2.93 vs. 2.77).

The greatest weakness of this study was the use of a secondary source for information. By using the data provided in a separate questionnaire the researchers were unable to ascertain the different degrees of education and the specific types which may have helped to distinguish one educational program over another.

In a study to explain the differences in achievement between different groups of language minority students, Rumberger & Larsen (1998) collected data from a group of students in California. This study was based on a school in Los Angeles, CA which had a population that was 94% Hispanic. The data was based on two cohorts; students who entered seventh grade in 1990 and the ninth graders that left in 1993. This created two independent samples; 574 entering students; 577 exiting students.

The researchers collected information from the school's student database including: enrollment, departure, attendance, grades, language. They also collected GPAs for fall semester of seventh grade and GPAs for spring semester of ninth grade. Also important was whether the student had completed one quarter (55 credits) of their high school credits which indicated they were on track to graduate. Seventy percent of the students leaving ninth grade were on track to graduate. In addition, the researchers measured both educational engagement (work-habits grades) and social engagement (cooperative grades). Both of these grades were on a three point scale ranging from fail to good. They also measured education commitment based solely on attendance on the first day of ninth grade. The final variable the researchers collected was language classification; approximately 40% of the students were classified as Limited English Proficient (LEP), 30% as Fluent English Proficient (FEP) and 30% as English only.

The FEP group was more likely to be on track for graduation and have lower transiency rates than either of the other two groups, LEP or English only. However, the English only group had the lowest poverty rate as seen in the free/reduced lunch program, while the LEP group had the highest poverty rate. Also the FEP group showed more educational commitment than either of the other two groups and was less likely to enroll late or transfer schools midyear. These initial findings showed that the FEP students were more successful in school because they earn higher grades and demonstrated high educational commitment, more stability and a higher likelihood to complete the necessary requirements to stay on track. In fact the odds of an FEP student leaving school before completing the ninth grade were less than half the odds of an LEP or English only student leaving school.

By the ninth grade a similar result was found. This time however, both the LEP and FEP students were more likely to be on track than the English only students. Also, female students and students who participated in the free/reduced lunch program were more likely to be on track for graduation.

This study would have been stronger if the researchers had worked with a group that did not vary so greatly in SES. By ensuring that the groups were equal in all areas including SES the results would have been more believable. Instead it is questionable as to whether language or economic status played a greater role in the failure of the LEP group.

In a longitudinal ethnographic study to discover how recently-arrived Dominican immigrant youth negotiated the new social structures, institutions, and social relations they find upon arrival to the United States, Michael, Andrade & Bartlett (2007) studied the students and faculty at a bilingual high school in New York City. This study included 405 students, 381 who were classified as English Language Learners (ELLs). The school population had an equal number of boys and girls, and the majority of students (67%) were Dominican. The families served by this school had high rates of poverty and low levels of education; 99% of the student body qualified for free lunch. The faculty were well educated with 37.5% holding masters degrees or higher.

The researchers spent three years doing ethnographic research at a bilingual, four-year high school which translated into a four-year longitudinal study of the educational trajectories of students at the school. Each of the researchers held a different role in the study. One conducted an annual interview with a group of twenty students and in-depth -

observation of eight focal students. Another conducted two annual interviews with the group of students, live observations of each of six focal students, eight student focus groups, two teacher focus groups, and approximately 140 hours of general observations at the school. The final researcher conducted eight focus groups with students, two focus groups with teachers, individual interviews with several administrators, and professional development sessions with the faculty over the course of a semester. The research team met biweekly as a team to discuss developments in the data.

There were three main findings from the research the first of which was Spanish being granted a high status. The researchers found that students in the lower levels of English proficiency were less attentive and sometimes less respectful towards teachers who did not speak Spanish. They also found that the school offered a truly bilingual aural and print environment, in which visitors were welcomed into hallways decorated with student work, announcements, and motivational quotes, all in both Spanish and English. Also, when walking through the school you heard both Spanish and English being used equally by students, faculty and families alike. Having most content area courses for low level English speakers taught in Spanish, including English classes, in which teachers often spoke Spanish, supported this. The second finding was that positive teacher–student relationships provided another aspect of success. High levels of teasing and playfulness characterized these student/teacher relationships. The researchers found that teachers were actively engaged with students, knew them by name, and often grew to know their families. They referred to these relationships and the attachments formed by them as ‘authentic caring. The researchers also discovered that the first-generation immigrants were often more accepting of difficult work and living conditions

while maintaining great faith that their schooling would create better opportunities. The students used the opportunity dialogue to reassure themselves that academic achievement would make their sacrifices, and those of their families, worthwhile.

One strength of this study was the collaborative effort of the researchers. By meeting frequently and setting a baseline for observations they created a consistency in their data. This helped to create clear, concise and compelling data.

Young, Marsh and Sulman (2000) studied data gathered in the National Education Longitudinal Study of 1988 to compare the relations of first language proficiency to subsequent use of that language (home language maintenance), English proficiency, and academic achievement. In this study data from the National Education Longitudinal Study of 1988 (NELS88) was used. This survey took into account 5,567 students in eighth grade; 2,209 in tenth grade; and 1,999 in twelfth grade. In order to be considered for the study, the student needed to have data at all three times (N=752). There were a variety of home languages spoken, including: Spanish (56%), Chinese (11%), Korean (5%), Filipino language (4%), Greek (1%), and other languages including Italian, French, German, Polish, and Portuguese (approximately 23%).

There were several areas investigated with the data from this study. Both grades in English, math, science, and history/social studies and their corresponding standardized test scores were used to measure academic achievement. Also considered was home language proficiency, which was gathered from four items on students' self-reported understanding, speaking, reading, and writing of the language used at home ( $\alpha = .86$ ) and

English proficiency which was also self-reported and covered understanding, speaking, reading, and writing of English. ( $\alpha=.87$ ).

The researchers hypothesized that home language proficiency would have a positive relationship to subsequent home language use and found it to be statistically significant (.13). These results showed that the bilingual students' higher proficiency in English did not necessarily result in a lowered likelihood of home language maintenance or lowered first language proficiency. The effects of home language on English showed that the use of first language could have a negative impact on English proficiency, but did not have substantially negative impacts on more objective English achievement measures. There were no additional effects beyond tenth grade and in twelfth grade the effects of home language use were all insignificant.

The final finding showed that bilingual students who were proficient in their first language did not suffer from lowered academic achievement in English or other curriculum areas. However use of their home language might have some negative impact on academic performance, but this negative impact was found only in the earlier years of high school and did not continue over time.

The greatest weakness of this study was the use of a secondary source for information. By using the data provided in a separate questionnaire the researchers were unable to ascertain the different degrees of education and the specific types which may have helped to distinguish one educational program over another.

Cota (1997) conducted interviews and compiled scores on 103 LEP students in California to determine the role of students' previous educational learning experiences on

their current academic performance and second language proficiency. This study focused on 103 LEP students who were enrolled in transitional English classes based on the number of years they had been enrolled in English classes and their scores on the California Test of basic Skills (CTBS). There were 69 seventh graders and 35 eighth graders ranging in age from 12 to 15 (mean age 13 years). There were 48 males and 55 females, and all but one student originated from Mexico. Of those, 95.1% had fathers born in Mexico and 94.2% had mothers born in Mexico.

The majority of the information was gathered in individual interviews which covered several topics including: students' opinions about learning English, students' use of English with parents, siblings and friends, students' plans for after high school, participation in extracurricular activities, who helps them with schoolwork outside of class. The researcher also collected scores from the Student Oral Language Observation matrix (SOLOM) which was given by language arts teachers and the national percentiles from the CTBS.

When asked about how important learning English was for them, 94.2% answered that it was both necessary and important. Also, they reported that 83% of their fathers and 82% of their mothers felt that learning to speak English was necessary and important. However, students' reported that 59.6% of their fathers and 71.3% of their mothers never spoke English, which led to student's speaking Spanish with them 86.2% and 81.2% of the time respectively. Sixty one percent of students reported speaking both Spanish and English with their siblings most of the time and fifty four point four percent reported using both languages when speaking with friends as well.

Although 47.5% of the students reported planning further education after high school only 20.2% of fathers and 30.8% of mothers reported having the same goal for their children. This may have been linked to the fact that 47% of fathers and 64.1% of mothers had not completed high school. Of those that did complete high school 73.3% of fathers and 71.8% of mothers did not attend college. Thirty point one percent of students said that they have received no encouragement to go to college. Also of interest is the fact that 82.5% of students' do not participate in extracurricular activities.

Upon reviewing school records, the researcher found that none of the students had been enrolled in gifted education, 39.8% had been enrolled in migrant education and 15.5% had been automatically transitioned into English instruction because they had received four or more years of Spanish instruction. Also, 34% had been automatically advanced to seventh grade with their LEP status cited as an explanation for their poor performance.

The researchers found a negative correlation between the number of absences and grade point average ( $r = -.41$  F1, 101=7.81,  $p < .05$ ) and between the number of absences and CTBS math score ( $r = -.24$  F1, 95=5.70,  $p < .05$ ). This indicated that the more frequently a student was absent the lower their grade point and CTBS math score. She also found a positive correlations between grade point average and CTBS reading score ( $r = .34$  F 1, 97=12.70,  $p < .05$ ) and between grade point average and CTBS math score ( $r = .42$  F 1, 97=20.47,  $p < .05$ ). This indicated that the higher a student's grade point average the higher their CTBS scores in math and reading.

One strength of the study was that the researchers were very open about possible bias of the sample, and made sure to take measures to avoid biasing the findings. However, there also may have been some ability increase based solely on attrition which was accounted for with multiple ANCOVAs.

Carbonaro & Gamoran (2002) investigated the achievement inequality in high school English between ELL and English speaking students, by studying data from the National Educational Longitudinal Survey of 1988 (NELS88). This study began with 24,599 students surveyed in eight, tenth and twelfth grade, which was then pared down to 5,860 cases in the sample. Data was also collected from tenth grade English teachers, parent and student surveys.

In order to measure reading comprehension and growth in reading skills, students read four or five short passages and answered three to five multiple-choice questions on the content of the passages. The quantity of reading was also measured by both teacher and student questionnaires, which noted how much students read and wrote and how much time they spent on homework. Students' coherence was measured from questions asked to the teachers about the connections between reading, writing, and talk in their classrooms. Assessments of student voice came from both teacher and student questionnaires, while content was obtained from teacher reported items on how much emphasis was placed on grammar, vocabulary, literature study, formal writing, and analytical writing. The final measure of socioeconomic status combined information on family income and mother's and father's education and occupation also the average of the eighth grade math, history, and science test scores to indicate prior achievement.

The researchers found that regardless of group, being female had an initial positive effect on achievement, however there was no gender advantage over time. They also found that SES had positive effects on both initial achievement and growth over time. In addition, they found that more demanding types of writing have stronger effects on reading achievement than less demanding types; an emphasis on literature had slightly smaller positive effects on achievement growth. In contrast, emphasis on grammar had consistently negative effects on achievement. The researchers also discovered that being on the academic or honors track promoted higher levels of growth than being on the general track. They also found that students exposed to more demanding curricular activities learn more than students who are exposed to less demanding curricular activities. Although, instruction and content together account for a little over 10% of the advantage of students in the academic track over those in the general track ( $[\frac{.503 - .450}{.503} = .105]$ ) it raises to 20% of the gap between those in the honors and the general tracks ( $[\frac{.882 - .714}{.882} = .190]$ ).

The greatest weakness of this study was the use of a secondary source for information. By using the data provided in a separate questionnaire the researchers were unable to ascertain the different degrees of education and the specific types which may have helped to distinguish one educational program over another.

### Summary

The ten studies contained in this section relate to the effects of bilingual education programs in middle schools, high school and colleges. Hasson (2006) surveyed undergraduate students in education about their elementary experiences with bilingual

education and how those experiences have affected their adult lives and found that English Only students did not mark Spanish only for any aspect of the survey, they were split between English only and both; BIL/ESOL students marked Spanish only for communication with parents, and English only for the intimate activities (praying, thinking, dreaming) and both for the rest. Mouw & Xie (1999) analyzed data from the 1988 National Educational Longitudinal Study (NELS) to investigate the correlation between bilingualism and achievement and determined that native language use results in positive effects on achievement if parents are not proficient in English, and has no effect if they are. Similarly, Kozulin & Garb (2004) investigated the effect dynamic procedure has on L3 and found that some students who started out with similar scores on the pre-test some improved their performance while others remained the same. Also, Lindholm-Leary & Borsato (2005) investigated the effect of a bilingual program on math achievement and determined that although Hispanic students entered into the program scoring well below average on standardized tests by the time they were in sixth grade they were scoring above or well above average. In addition, Rumberger & Larsen (1998) explored the differences between different groups of language minority students and found that by the end of ninth grade, both the LEP and FEP students were more likely to be on track than the English only students. This was similar to the ethnographic study by Michael, Andrade & Bartlett (2007) who determined that recently immigrated Dominican students used the opportunity dialogue to reassure themselves that academic achievement would make their sacrifices, and those of their families, worthwhile. Young, Marsh & Sulman (2000) also studied data gathered in the NELS to compare second language proficiency and home language use and found that bilingual students who were proficient

in their first language did not suffer from lowered academic achievement in English or other curriculum areas. This was comparable to the interviews Cota (1997) held which determined that the role of students previous education on current academic achievement was significant. Carbonaro & Gamoran (2002) found that being on the academic or honors track promoted higher levels of growth than being on the general track, using data from the NELS to compare achievement inequality between ELL and monolingual students. Finally, Padilla & Gonzalez (2001) examined how ESL or Bilingual education aided in the academic achievement of immigrant students in California and determined that students who were born in Mexico, but who did not have any school-related experience in Mexico had somewhat higher grades than U.S.-born youth.

#### Effects of Bilingual Education Programs

The three studies in this section analyze the differences in bilingual education programs amidst other foreign language programs, stated goals of two way immersion programs and statewide legislation. Sung, Padilla & Silva (2006) begin the analysis by investigating how Academic Performance Index scores change depending on student population. Similarly, Christian, Howard and Loeb (2000) studied the why, where and when of two way immersion programs in the United States. Lastly, Linton (2007) explored the effects of proposition 227 on programs in Southern California.

Sung, Padilla & Silva (2006) investigated how schools with different Academic Performance Index (API) rankings differed in their foreign language offerings and if these numbers changed with a large population of ELL students. This study included 220 public high schools in California located in 161 school districts in 51 counties.

A letter was mailed to all public high school foreign language chairs twice along with a paper copy of the questionnaire and instructions on how to complete the form online. The questionnaire was comprised of questions relating to the total student enrollment in foreign language classes to include: number of foreign language classes offered and levels; study abroad and foreign exchange programs; technology facilities and their use in foreign language teaching; number of students who took the Golden State Spanish Examination, advanced placement tests and SAT II foreign language subjects test. The survey also included questions regarding the foreign language teaching staff to include: number of years with a foreign language credential; number of years they had been teaching; travel to countries where the language they taught was spoken; whether they were native speakers; and their proficiency in the language they taught. The researchers also gathered the API scores for 2002-03, the percentage of ELL students in the state, and the number of students who qualified for free or reduced lunch from the California department of education's website.

Of the schools that participated in the study, API scores were evenly distributed throughout ( $t(182)= 16.28, p<.0001$ .) There were several negative correlations found including the percentage of students with free or reduced lunch and API scores ( $r= -.71, p<.0001$ ); the percentage of students on free or reduced lunch and the percentage of ELL learners ( $r=.60, p<.0001$ ); and the correlation between ELL learners and API scores was ( $r= -.60, p<.0001$ .) Interestingly, there was a significant positive correlation between the number of students who took an AP Spanish test and the percentage of students who received free or reduced lunch ( $r=.22, p<.01$ ). There was also a significant positive correlation between the number of students who took an AP Spanish test and the

percentage of ELL students ( $r=.27$ ,  $p<.001$ ). However, overall fewer students on free or reduced lunch are enrolled in foreign language classes ( $r= -.36$ ,  $p<.0001$ .) The strongest predictor of a school's API score is the percentage of students on free or reduced lunch ( $t= -7.55$ ;  $p<.0001$ ), and the second strongest was the percentage of students enrolled in foreign language classes ( $t= 4.00$ ;  $p<.0001$ ). Schools that sponsored study abroad programs had significantly higher API scores, as did schools that hosted foreign-exchange students. In contrast, these schools had fewer free or reduced lunch students and ELL students.

This study suggests that schools offering more foreign language classes have higher API scores than those that don't. However, further research should be done to measure the impact of funding; schools that can fund such departments may be more affluent than those that don't, meaning that median income of families in a school may affect API scores more directly than the offering of foreign language classes in itself.

Similarly, a study of the two way immersion (TWI) schools in the United States by Christian, Howard & Loeb (2000) investigated why, where and when TWI programs were created, how they are implemented and what effects they are having. A questionnaire was distributed to 181 teachers in Spanish-English TWI programs at 12 schools. Of the teachers who responded a majority were female (86%). The survey of teachers found that 50% were Hispanic, which matched the student population exactly. However on a national scale, this is in stark contrast to the teacher makeup, where the majority of teachers are Caucasian and there are three times as many Hispanic students than teachers. The majority of teachers in these programs hold a higher educational degree or credits towards one, and half have a bilingual certificate or credential.

The majority of the schools in the United States offer only elementary programs at this time, this is due in large part to the amount of time that has passed since first implementing the program. Some programs restrict the amount of students they enroll past a certain grade due to their not being able to acclimate to the changes. Immersion schools work best when the student population is equally divided between native English speakers and ELL, however it can still be effective when up to 2/3 of the students are ELL. If however the majority of students are native English speakers the program will not create truly bilingual students.

The biggest difference in program design is how the language is broken up. Some schools do it by subject, others by time and yet others by teacher. There are also two very distinct models of implementation. In the 90/10 model the minority language is used 90% of the time in the early grades gradually transitioning to a 50/50 model. The 50/50 model begins with both languages being used equally from the beginning of the program. There is no data to support one model over another as of yet, but preliminary findings conclude that intense focus on the minority language in the beginning leads to a greater grasp of that language later.

A strength of this study was the acknowledgement from the researchers as to the severe limitations they faced. By recognizing the lack of data focusing on upper elementary and secondary students, languages other than Spanish and pedagogical methods the researchers were able to develop preliminary findings while allowing room for change.

These findings were further investigated when Linton (2007) studied the effects of proposition 227 on bilingual education in a survey of five Southern California school districts. This study was comprised of the following five districts in Southern California: Long Beach, Los Angeles, Montebello, Santa Monica and Ventura. This study aimed to explore educators' and parents' responses to Proposition 227 and the reasoning behind adjusting their respective programs.

In Santa Monica, kindergarten and first grade children participated in a 90/10 immersion program in which they hear 90% Spanish and 10% English. To begin with, all students learn to read and write in Spanish. As they progress through the grades English language skills are introduced. This leads to a balanced use of the two languages in the fifth grade. By the end of fifth grade, the families who entered school with little or no English skills are scoring at the state average in math and science, and the English speaking students are scoring above average on state tests. A major factor in the success of this program is attributed to high parent support and participation in PTA, bilingual advisory committees and other activities.

The program in Long Beach, located in an upper-middle-class neighborhood, is now a nationally recognized success. Students at this school face two choices: English learners decide between intensive English immersion and two-way bilingual immersion, and English-only parents decide between English-only classrooms or two-way immersion classrooms. Although standardized test scores are among the lowest in the district, it may be due in large part to there being no outside grants and not enough money to fund teaching assistants. Students in this district have the opportunity to continue two-way

bilingual immersion in middle school, although it is harder to get materials for these courses, because many Spanish-language textbooks have been discontinued.

Los Angeles has only a handful of bilingual programs remaining with many having already been phased out because of low test scores, student mobility and/or high staff turnover. The success of two-way immersion at one school can be attributed to a dedicated and stable staff, and parents who are very involved their children's education. In order to succeed students must meet high standards in both languages, taking standard achievement tests in both Spanish and English.

The program at Montebello is referred to as dual-language enrichment, which was originally necessary to recruit Montebello parents; now they learn about two-way immersion via word of mouth and there is a waiting list to enroll. Spanish language parents have been especially enthusiastic of the two-way bilingual immersion program, in which all students take standardized tests in Spanish and English for both language proficiency and academic achievement. Also, written and verbal language assessments allow parents to track their student's progress and monitor achievement.

Ventura viewed two-way immersion as one step better than transitional bilingual education and implemented their program after much research and planning. Their program has now become so popular that admission is by lottery. The parents in this district are open-minded and want more for their children in the way of educational diversity. Although these five districts have come to bilingual education in different ways, the goal remains the same, to educate and serve California's immigrant population. The passing of Proposition 227 has had a dramatic affect on most programs, but now

after several years, schools are bouncing back and immersion programs are once again on the rise.

This study provided a clear overview to the pros and cons of each of the programs offered in these schools. By describing the different programs and how each district is choosing to implement bilingual education the researchers provided a clear and concise analysis of how Proposition 227 has affected some schools.

### Summary

The three studies in this section analyzed the differences in bilingual education programs amidst other foreign language programs, stated goals of two way immersion programs and statewide legislation. Sung, Padilla & Silva (2006) analyzed how Academic Performance Index scores changed depending on student population and found that schools offering more foreign language classes have higher API scores than those that do not. Similarly, Christian, Howard and Loeb (2000) studied the why, where and when of two way immersion programs in the United States determining that intense focus on the minority language in the beginning leads to a greater grasp of that language later. Lastly, Linton (2007) explored the effects of proposition 227 on programs in Southern California and found that it has had a dramatic negative affect on most programs.

### Summary

This section revisits each subsection of the research to discuss the findings. To summarize the seven studies which analyzed the effects of bilingual education on lower elementary grades (P-3) we begin with Lopez and Tashakkori (2004) who studied the short-term effects of bilingual programs on English language proficiency in kindergarten

and first grade students and found that the two groups of children did not differ from each other in any of the seven indicators of achievement. Following that, Winsler, Diaz, Espinosa & Rodriguez's (1999) study of the effects of bilingual preschool on home language maintenance in Spanish speaking children found that both groups of children showed significant gains over the full 2-year period in both Spanish and English language proficiency, with the preschool group maintaining greater gains than the control group in English. Hofstetter's (2004) study to determine the long term effects of bilingual programs on English language proficiency showed that scores in reading, listening and speaking did not differ significantly between the groups, however, scores in the writing subtest did. Ramirez & Shapiro (2006) investigated how oral fluency rates would change depending on the type of program a student was enrolled in and determined that students in general education classes read more fluently in English than did students in the bilingual education classes, and that general education students read more fluently in English than the bilingual students read in Spanish during every assessment period. In an attempt to determine how an English only environment would affect an immersion program within a school, Palmer (2007) conducted observations in Northern California and found that language minority students' standardized test scores in reading and mathematics were higher than comparable students in other educational programs. In order to assess achievement based on content, Serra (2007) studied students in Switzerland and determined that much of the cognitive development occurs the same in bilingual students as with monolingual students. Finally, in an effort to address major gaps in the research, Diaz (1985) surveyed kindergarten and first grade students and found that bilingualism significantly predicted cognitive ability in LEP students, but did

not dramatically affect HEP students; and that bilingual ability directly affected cognitive ability, however cognitive ability did not affect bilingual ability.

The ten studies investigating the effects on achievement in upper elementary classrooms began with Lopez & Tashakkori's (2006) study on how second language proficiency differed between children enrolled in Transitional Bilingual Education (TBE) and Two-Way Bilingual Education (TWBE) programs and found that students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. In this same vein, Gersten and Woodward (1995) compared the long-term effects of TBE and TWBE programs and discovered that both bilingual immersion and transitional bilingual education are equally viable options, although teachers' perceptions of the two programs appear notably different. Clarkson (1992) investigated to see if proficient bilinguals achieved academically higher than monolingual students in a study in Papua New Guinea and determined that unadjusted mean scores labeled the monolingual students higher than the fluent bilingual students, but adjusted scores put the fluent bilingual students higher, and in all cases the students with a poor understanding of both languages did worse than any other group. In addition, Jimenez (1997) interviewed low-literacy students about their views on reading and those responses were used to share and modify the experiment to best promote the student's comprehension of the text. Schuster (2005) designed a study to ascertain which variables had the greatest affect on standardized test scores in an elementary foreign language program and found that the FLES group was marginally higher than the non-FLES group, however the difference was insignificant. Similarly Droop & Verhoeven (2003) investigated the relationship between language proficiency and learning to read in a

second language and determined that the language choice for Turkish and Moroccan children could be a result of the status placed on the language itself in that community. Jimenez, Garcia & Pearson (1994) described the cognitive and metacognitive knowledge of proficient bilingual readers by completing a case study. Another case study was Potowski's (2004) investigation as to how much Spanish is used and for what purpose in a dual immersion classroom which found that Spanish was used more frequently in academic settings than in social ones. Similarly Denton, Anthony, Parker & Hasbrouck (2004) explored the effects two English reading programs had on the development of ELL reading test scores and found that students who received systematic phonics instruction made significant progress in word identification but not in word attack or passage comprehension. Finally, Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas and determined that English dominant students outperformed all other groups.

The ten studies which related to the effects of bilingual education programs in middle schools, high school and colleges began when Hasson (2006) surveyed undergraduate students in education about their elementary experiences with bilingual education and how those experiences have affected their adult lives and found that English Only students did not mark Spanish only for any aspect of the survey they were split between English only and both; BIL/ESOL students marked Spanish only for communication with parents, and English only for the intimate activities (praying, thinking, dreaming) and both for the rest. Mouw & Xie (1999) analyzed data from the 1988 National Educational Longitudinal Study (NELS) to investigate the correlation between bilingualism and achievement and determined that native language use results in

positive effects on achievement if parents are not proficient in English, and has no effect if they are. Similarly, Kozulin & Garb investigated the effect dynamic procedure has on L3 and found that some students who started out with similar scores on the pre-test some improved their performance while others remained the same. Also, Lindholm-Leary & Borsato (2005) investigated the effect of a bilingual program on math achievement and determined that although Hispanic students entered into the program scoring well below average on standardized tests by the time they were in sixth grade they were scoring above or well above average. In addition, Rumberger & Larsen (1998) explored the differences between different groups of language minority students and found that by the end of ninth grade, both the LEP and FEP students were more likely to be on track than the English only students. This was similar to the ethnographic study by Michael, Andrade & Bartlett (2007) who determined that recently immigrated Dominican students used the opportunity dialogue to reassure themselves that academic achievement would make their sacrifices, and those of their families, worthwhile. Young, Marsh & Sulman (2000) also studied data gathered in the NELS to compare second language proficiency and home language use and found that bilingual students who were proficient in their first language did not suffer from lowered academic achievement in English or other curriculum areas. This was comparable to the interviews Cota (1997) held which determined that the role of student's previous education on current academic achievement was significant. Carbonaro & Gamoran (2002) found that being on the academic or honors track promoted higher levels of growth than being on the general track, using data from the NELS to compare achievement inequality between ELL and monolingual students. Finally, Padilla & Gonzalez (2001) examined how ESL or Bilingual education

aided in the academic achievement of immigrant students in California and determined that students who were born in Mexico, but who did not have any school-related experience in Mexico had somewhat higher grades than U.S.-born youth.

The final three studies analyzed the differences in bilingual education programs amidst other foreign language programs, stated goals of two way immersion programs and statewide legislation. Sung, Padilla & Silva (2006) analyzed how Academic Performance Index scores change depending on student population and found that schools offering more foreign language classes have higher API scores than those that do not. Similarly, Christian, Howard and Loeb (2000) studied the why, where and when of two way immersion programs in the United States determining that intense focus on the minority language in the beginning leads to a greater grasp of that language later. Lastly, Linton (2007) explored the effects of proposition 227 on programs in Southern California and found that it has had a dramatic affect on most programs. Chapter 4 will explore the implications for further research and the impact this research should have on classroom teaching.

## CHAPTER FOUR: CONCLUSION

### Introduction

Chapter 1 addressed the many aspects of bilingual education and how language is permanently tied to culture. This connection has caused a lot of unease for immigrants, who are constantly persecuted for their strong ties to their heritage. Many different programs exist in schools today to help ease the transition into an unfamiliar culture. These programs all share a basic purpose, teaching English, but it is their implementation, which is significantly different. Chapter two discussed the history of bilingual education and the laws dictating its implementation in the school system. How these laws have come to be and how they affect the always changing world climate directly relates to current world problems. Beginning in the 1900's the US government began a campaign to rekindle American patriotism and create a more unified country. This campaign was sparked by the Nationality Act of 1906, and devastated the many monolingual Spanish populations living with the United States. Statutes and ordinances being passed throughout the country at the start of World War I prohibited the teaching of any language other than English in public schools. These changes were quickly modified at the start of World War II as the government began to see a need for bilingualism as a means of national defense. These modifications did not reverse the solely monolingual practices of public education, but did allow for the teaching of foreign languages as separate subjects. In 1965 the United States passed an immigration act which once again allowed free passage of foreign born citizens into the country. These new citizens brought with them their culture, customs and language which spawned the rebirth of dual language schools. This act was followed by the Bilingual Education Act in 1968 which

provided the framework for many of the bilingual programs in place today. How these world problems and the changing legislature regarding bilingual education affect the education of minority language speakers was the focus of the research reviewed in Chapter 3. Chapter 3 organized the research into four sections: Lower Elementary; Upper Elementary; Middle School, High School and College; and Other. Although there were conflicting results in the research, Chapter 3 revealed the effects of bilingual education and ESL programs on academic achievement. Chapter 4 reviews the findings from Chapter 3, implications for classroom practice and suggestions for further research.

### Summary of Findings

This section revisits each section of the research to discuss its strengths, weaknesses and the merit of the findings. I will also begin to make some definitive conclusions about the results of the research.

#### Lower Elementary

To summarize the seven studies which analyzed the effects of bilingual education on lower elementary grades (P-3) we begin with Lopez and Tashakkori (2004) who studied the short-term effects of bilingual programs on English language proficiency in kindergarten and first grade students and found that the two groups of children did not differ from each other in any of the seven indicators of achievement. Following that, Winsler, Diaz, Espinosa & Rodriguez's study of the effects of bilingual preschool on home language maintenance in Spanish speaking children found that both groups of children showed significant gains over the full 2-year period in both Spanish and English language proficiency, with the preschool group maintaining greater gains than the control group in English. Hofstetter's (2004) study to determine the long term effects of

bilingual programs on English language proficiency showed that scores in reading, listening and speaking did not differ significantly between the groups, however, scores in the writing subtest did. Ramirez & Shapiro (2006) investigated how oral fluency rates would change depending on the type of program a student was enrolled in and determined that students in general education classes read more fluently in English than did students in the bilingual education classes, and that general education students read more fluently in English than the bilingual students read in Spanish during every assessment period. In an attempt to determine how an English only environment would affect an immersion program within a school, Palmer (2007) conducted observations in Northern California and found that language minority students' standardized test scores in reading and mathematics were higher than comparable students in other educational programs. In order to assess achievement based on content, Serra (2007) studied students in Switzerland and determined that much of the cognitive development occurs the same in bilingual students as with monolingual students. Finally, in an effort to address major gaps in the research, Diaz (1985) surveyed kindergarten and first grade students and found that bilingualism significantly predicted cognitive ability in LEP students, but did not dramatically affect HEP students; and that bilingual ability directly affected cognitive ability, however cognitive ability did not affect bilingual ability.

The greatest strengths of these studies were both the numerous reliability tests that were run on the data to ensure its validity and the use of quasi-equal groups based on gender, grade and level of English proficiency. The weaknesses included offering instruction in only one language, which may have limited the ability of some of the ELL

students. The majority of the research done in this area focused on longitudinal studies with quasi-experimental samples.

### Upper Elementary

The ten studies investigating the effects on achievement in upper elementary classrooms began with Lopez & Tashakkori's (2006) study on how second language proficiency differed between children enrolled in Transitional Bilingual Education (TBE) and Two-Way Bilingual Education (TWBE) programs and found that students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. In this same vein Gersten and Woodward (1995) compared the long-term effects of TBE and TWBE programs and discovered that both bilingual immersion and transitional bilingual education are equally viable options, although teachers' perceptions of the two programs appear notably different. Clarkson (1992) investigated to see if proficient bilinguals achieved academically higher than monolingual students in a study in Papua New Guinea and determined that unadjusted mean scores labeled the monolingual students higher than the fluent bilingual students, but adjusted scores put the fluent bilingual students higher, and in all cases the students with a poor understanding of both languages did worse than any other group. In addition, Jimenez (1997) interviewed low-literacy students about their views on reading and those responses were used to share and modify the experiment to best promote the student's comprehension of the text. Schuster (2005) designed a study to ascertain which variables had the greatest affect on standardized test scores in an elementary foreign language program and found that the FLES group was marginally higher than the non-FLES group, however the difference was insignificant. Similarly Droop & Verhoeven (2003)

investigated the relationship between language proficiency and learning to read in a second language and determined that the language choice for Turkish and Moroccan children could be a result of the status placed on the language itself in that community. Jimenez, Garcia & Pearson (1994) described the cognitive and metacognitive knowledge of proficient bilingual readers by completing a case study. Another case study was Potowski's (2004) investigation as to how much Spanish is used and for what purpose in a dual immersion classroom which found that Spanish was used more frequently in academic settings than in social ones.. Similarly Denton, Anthony, Parker & Hasbrouck (2004) explored the effects two English reading programs had on the development of ELL reading test scores and found that students who received systematic phonics instruction made significant progress in word identification but not in word attack or passage comprehension. Finally, Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas and determined that English dominant students outperformed all other groups.

The strengths of these studies included: similar group demographics, tests for internal validity and consistency in program implementation. The weaknesses included a lack of results or explanation of the findings and related statistics. The majority of the research was longitudinal studies which evaluated the long term effects of specialized programs.

#### Middle, High School & College

The ten studies which related to the effects of bilingual education programs in middle schools, high school and colleges began when Hasson (2006) surveyed undergraduate students in education about their elementary experiences with bilingual

education and how those experiences have affected their adult lives and found that English Only students did not mark Spanish only for any aspect of the survey, they were split between English only and both; BIL/ESOL students marked Spanish only for communication with parents, and English only for the intimate activities (praying, thinking, dreaming) and both for the rest. Mouw & Xie (1999) analyzed data from the 1988 National Educational Longitudinal Study (NELS) to investigate the correlation between bilingualism and achievement and determined that native language use results in positive effects on achievement if parents are not proficient in English, and has no effect if they are. Similarly, Kozulin & Garb (2004) investigated the effect dynamic procedure has on L3 and found that some students who started out with similar scores on the pre-test some improved their performance while others remained the same. Also, Lindholm-Leary & Borsato (2005) investigated the effect of a bilingual program on math achievement and determined that although Hispanic students entered into the program scoring well below average on standardized tests by the time they were in sixth grade they were scoring above or well above average. In addition, Rumberger & Larsen (1998) explored the differences between different groups of language minority students and found that by the end of ninth grade, both the LEP and FEP students were more likely to be on track than the English only students. This was similar to the ethnographic study by Michael, Andrade & Bartlett (2007) who determined that recently immigrated Dominican students used the opportunity dialogue to reassure themselves that academic achievement would make their sacrifices, and those of their families, worthwhile. Young, Marsh & Sulman (2000) also studied data gathered in the NELS to compare second language proficiency and home language use and found that bilingual students who were proficient

in their first language did not suffer from lowered academic achievement in English or other curriculum areas. This was comparable to the interviews Cota (1997) held which determined that the role of student's previous education on current academic achievement was significant. Carbonaro & Gamoran (2002) found that being on the academic or honors track promoted higher levels of growth than being on the general track, using data from the NELS to compare achievement inequality between ELL and monolingual students. Finally, Padilla & Gonzalez (2001) examined how ESL or Bilingual education aided in the academic achievement of immigrant students in California and determined that students who were born in Mexico, but who did not have any school-related experience in Mexico had somewhat higher grades than U.S.-born youth.

The strengths of these studies were included having both groups similar background demographics, which led to a true comparison. The weaknesses included a definition of bilingualism that was too narrow and may have caused there to be an inaccurate measure of true bilingual students, however an analysis with the most restrictive definition of balanced bilinguals was run and the negative association between bilingualism and achievement remained unchanged. The majority of the research done in this area focused on an analysis of data collected in the national Educational Longitudinal Study of 1988. Because of this, the information collected belonged to one specific group of students and may or may not be applicable to all schools and all groups of children, and was in all cases over 10 years old.

### Bilingual Education Programs

The final three studies analyzed the differences in bilingual education programs amidst other foreign language programs, stated goals of two way immersion programs

and statewide legislation. Sung, Padilla & Silva (2006) analyzed how Academic Performance Index scores change depending on student population and found that schools offering more foreign language classes have higher API scores than those that don't. Similarly, Christian, Howard and Loeb (2000) studied the why, where and when of two way immersion programs in the United States determining that that intense focus on the minority language in the beginning leads to a greater grasp of that language later. Lastly, Linton (2007) explored the effects of proposition 227 on programs in Southern California and found that it has had a dramatic negative effect on most programs.

The greatest strength of these studies were the attention to detail afforded by the researchers in the amount of time spent in each language and the proportion of native speakers to non-native speakers. The weaknesses included a lack of attention to demographic information which may have afforded some schools a higher opportunity for success due to more resources. These studies were predominantly analyses of data collected relating to the implementation and operation of bilingual programs.

#### Classroom Implications

The research indicated that in programs which have some aspect of foreign language, students score higher on standardized achievement tests. This suggests that in the classroom it would serve the best interest of the students to offer curriculum based in foreign language. In addition to the increased academic achievement, bilingual education was shown to have a positive effect on self efficacy. This indicates that by promoting a student's home language teachers are raising their concept of self worth and value. About halfway through elementary school is when the researchers found initial advantages for the bilingual/immersion group, however by the end of elementary school

the advantage had leveled out and there was no significance. This suggests that implementing a bilingual program in the early grades is one of the most important factors in achieving success with ELL students. There are several different types of bilingual education, none of which have been shown to be any more effective than any other. However, preliminary findings concluded that intense focus on the minority language in the beginning leads to a greater grasp of that language later. “It takes approximately two years for the second language learner to reach the same level of proficiency as a monolingual in context embedded language proficiency. It takes approximately five to eight years for the second language learner to reach the same level of proficiency as the monolingual in context reduced language proficiency” (Baker, 2006, p. 179). This supports the research which found that students who began with a higher level proficiency in English did better academically.

In addition, the research found that more demanding types of writing have stronger effects on reading achievement than less demanding types and that an emphasis on literature had slightly smaller positive effects on achievement growth. In contrast, emphasis on grammar had consistently negative effects on achievement. These findings suggest that offering a whole language approach to reading and writing where the focus is on students’ process and product and not on conventions would enable a strong grasp on understanding and proficiency.

#### Suggestions for Further Research

One of the biggest weaknesses consistently throughout the research was the inconsistency in definitions of groups. Although most every researcher utilized the phrasing bilingual education, dual immersion, ESOL or transitional program the

definitions varied drastically. In order to determine which aspects of which programs are the most effective and which are insignificant it would be helpful to have a consensus on what each term means. This involves collecting data about the many different programs that exist currently and setting a standard. Currently, if a school wishes to receive funding or other accommodations they are required to follow certain guidelines set forth by differing institutions, however there are many programs that do not receive special funding and are therefore not subject to these guidelines. Another benefit to this would be for the students who often transfer schools multiple times. Having consistency in programs and expectations and even in designations would enable these students to become more successful and would also help prevent them from falling through the cracks.

Another weakness in the studies was the underlying assumptions that students had covered certain concepts somewhere in their educational career. For many there was no evidence that even basic concepts had been covered or that the material had been understood and digested by the student. Taking the time to ensure that students were coming into the classroom with a basic understanding would help build a foundation of knowledge which could then be more effectively built on by future teachers. This would also help identify areas of weakness for each student and would provide a basis for determining placement.

Another issue that came up was the challenge of offering a program in a language that best served the ELL students in that school. Often times the immersion program was offered in a language or dialect that was spoken by only a few students while the others then struggled to learn not only an L2 but also an L3. This posed problems for those

students who came with little to know prior knowledge and a lack of educational resources. For some students the problem arose in the fact that no language was spoken fluently in the home. This also poses problems for the schools and teacher working to serve these students and the field would benefit from research being done on the most effective way to make not only students but also families literate.

A further issue of contention was found in a lack of attention to demographic information which may have afforded some schools a higher opportunity for success due to more resources. When students in different schools were being compared often times the demographic information of the students was compared but the resources provided by the school were ignored. Further research should be done to determine the effect the school environment itself has on students' achievement. Also, broadening the scope of the research to include what effects bilingual education has on native English speakers. This would balance the research and provide a different viewpoint into the world of second language acquisition.

### Conclusion

As was discussed in Chapter 1 the shifts in legislation and policy regarding bilingual education have made it a topic of much controversy for over three hundred years. With the rapid increase in our population, and the rising number of immigrants with little to no English language skills, when we teach our children bilingually we enable them to become more involved and integrated members of a global society. Chapter 2 provided an in depth review of the history surrounding bilingual education and some of the key changes that have occurred over the past three centuries including the Nationality Act of 1906, the Immigration Act of 1965 and the Bilingual

Education Act of 1968. As major world events have shifted the dynamics of the United States, and the pendulum has swung toward national security, programs promoting education in any language other than English have gone away. The legislation dealing with bilingual education has been passed with little to no regard for the communities it impacts most. Chapter 3 gave a detailed review of the research surrounding bilingual education and provided a solid base as to what the research reveals about the effects of bilingual education and ESL programs on academic achievement.

To summarize, the studies which analyzed the effects of bilingual education on lower elementary grades (P-3) began with Lopez and Tashakkori (2004) who studied the short-term effects of bilingual programs on English language proficiency in kindergarten and first grade students and found that the two groups of children did not differ from each other in any of the seven indicators of achievement. Following that, Winsler, Diaz, Espinosa & Rodriguez's (1999) study of the effects of bilingual preschool on home language maintenance in Spanish speaking children found that both groups of children showed significant gains over the full 2-year period in both Spanish and English language proficiency, with the preschool group maintaining greater gains than the control group in English. Hofstetter's (2004) study to determine the long term effects of bilingual programs on English language proficiency showed that scores in reading, listening and speaking did not differ significantly between the groups, however, scores in the writing subtest did. Ramirez & Shapiro (2006) investigated how oral fluency rates would change depending on the type of program a student was enrolled in and determined that students in general education classes read more fluently in English than did students in the bilingual education classes, and that general education students read more fluently in

English than the bilingual students read in Spanish during every assessment period. In an attempt to determine how an English only environment would affect an immersion program within a school, Palmer (2007) conducted observations in Northern California and found that language minority students' standardized test scores in reading and mathematics were higher than comparable students in other educational programs. In order to assess achievement based on content, Serra (2007) studied students in Switzerland and determined that much of the cognitive development occurs the same in bilingual students as with monolingual students. Finally, in an effort to address major gaps in the research, Diaz (1985) surveyed kindergarten and first grade students and found that bilingualism significantly predicted cognitive ability in LEP students, but did not dramatically affect HEP students; and that bilingual ability directly affected cognitive ability, however cognitive ability did not affect bilingual ability.

The studies investigating the effects on achievement in upper elementary classrooms began with Lopez & Tashakkori's (2006) study on how second language proficiency differed between children enrolled in Transitional Bilingual Education (TBE) and Two-Way Bilingual Education (TWBE) programs and found that students in the TWBE and TBE programs did not score significantly differently on academic achievement in English. In this same vein Gersten and Woodward (1995) compared the long-term effects of TBE and TWBE programs and discovered that both bilingual immersion and transitional bilingual education are equally viable options, although teachers' perceptions of the two programs appear notably different. Clarkson (1992) investigated to see if proficient bilinguals achieved academically higher than monolingual students in a study in Papua New Guinea and determined that unadjusted mean scores

labeled the monolingual students higher than the fluent bilingual students, but adjusted scores put the fluent bilingual students higher, and in all cases the students with a poor understanding of both languages did worse than any other group. In addition, Jimenez (1997) interviewed low-literacy students about their views on reading and those responses were used to share and modify the experiment to best promote the student's comprehension of the text. Schuster (2005) designed a study to ascertain which variables had the greatest affect on standardized test scores in an elementary foreign language program and found that the FLES group was marginally higher than the non-FLES group, however the difference was insignificant. Similarly Droop & Verhoeven (2003) investigated the relationship between language proficiency and learning to read in a second language and determined that the language choice for Turkish and Moroccan children could be a result of the status placed on the language itself in that community. Jimenez, Garcia & Pearson (1994) described the cognitive and metacognitive knowledge of proficient bilingual readers by completing a case study. Another case study was Potowski's (2004) investigation as to how much Spanish is used and for what purpose in a dual immersion classroom which found that Spanish was used more frequently in academic settings than in social ones.. Similarly Denton, Anthony, Parker & Hasbrouck (2004) explored the effects two English reading programs had on the development of ELL reading test scores and found that students who received systematic phonics instruction made significant progress in word identification but not in word attack or passage comprehension. Finally, Alanis (2000) investigated the effects a bilingual program has on academic achievement in central Texas and determined that English dominant students outperformed all other groups.

The studies which related to the effects of bilingual education programs in middle schools, high school and colleges began when Hasson (2006) surveyed undergraduate students in education about their elementary experiences with bilingual education and how those experiences have affected their adult lives and found that English Only students did not mark Spanish only for any aspect of the survey, they were split between English only and both; BIL/ESOL students marked Spanish only for communication with parents, and English only for the intimate activities (praying, thinking, dreaming) and both for the rest. Mouw & Xie (1999) analyzed data from the 1988 National Educational Longitudinal Study (NELS) to investigate the correlation between bilingualism and achievement and determined that native language use results in positive effects on achievement if parents are not proficient in English, and has no effect if they are. Similarly, Kozulin & Garb (2004) investigated the effect dynamic procedure has on L3 and found that some students who started out with similar scores on the pre-test some improved their performance while others remained the same. Also, Lindholm-Leary & Borsato (2005) investigated the effect of a bilingual program on math achievement and determined that although Hispanic students entered into the program scoring well below average on standardized tests by the time they were in sixth grade they were scoring above or well above average. In addition, Rumberger & Larsen (1998) explored the differences between different groups of language minority students and found that by the end of ninth grade, both the LEP and FEP students were more likely to be on track than the English only students. This was similar to the ethnographic study by Michael, Andrade & Bartlett (2007) who determined that recently immigrated Dominican students used the opportunity dialogue to reassure themselves that academic achievement would

make their sacrifices, and those of their families, worthwhile. Young, Marsh & Sulman (2000) also studied data gathered in the NELS to compare second language proficiency and home language use and found that bilingual students who were proficient in their first language did not suffer from lowered academic achievement in English or other curriculum areas. This was comparable to the interviews Cota (1997) held which determined that the role of student's previous education on current academic achievement was significant. Carbonaro & Gamoran (2002) found that being on the academic or honors track promoted higher levels of growth than being on the general track, using data from the NELS to compare achievement inequality between ELL and monolingual students. Finally, Padilla & Gonzalez (2001) examined how ESL or Bilingual education aided in the academic achievement of immigrant students in California and determined that students who were born in Mexico, but who did not have any school-related experience in Mexico had somewhat higher grades than U.S.-born youth.

The final studies analyzed the differences in bilingual education programs amidst other foreign language programs, stated goals of two way immersion programs and statewide legislation. Sung, Padilla & Silva (2006) analyzed how Academic Performance Index scores change depending on student population and found that schools offering more foreign language classes have higher API scores than those that don't. Similarly, Christian, Howard and Loeb (2000) studied the why, where and when of two way immersion programs in the United States determining that that intense focus on the minority language in the beginning leads to a greater grasp of that language later. Lastly, Linton (2007) explored the effects of proposition 227 on programs in Southern California and found that it has had a dramatic negative effect on most programs.

These findings were used to formulate possible implications for the classroom which were discussed in Chapter 4. These implications also led to suggestions for further research which incorporated broadening the scope of the research to include what effects bilingual education has on native English speakers.

Although there are mixed results and contrasting findings in the research, at this point nothing to date shows a negative impact on student performance. This coupled with the positive correlation to increased self efficacy helps to create a strong case for the implementation of bilingual education across the country. These programs have the ability to create a stronger, more literate population while also helping to foster strong cultural ties and positive self images. As the pendulum once again begins its downward swing, we can only hope that this time the shift is permanent.

## REFERENCES

- Alanis, I. (2000). A Texas two-way bilingual program: Its effects of linguistic and academic achievement. *Bilingual Research Journal*, 24 (3), 225-248.
- Andrews, J. & Zarefsky D. (Eds.). (1989). *American voices: Significant speeches in American history 1640-1945*. White Plains, NY: Longman INC.
- Baker, C. (2006). *Foundations of bilingual education and bilingualism (fourth edition)*. Buffalo, NY: Multilingual Matters Ltd.
- Carbonaro, W. & Gamoran, A. (2002). The production of achievement inequality in high school English. *American Educational Research Journal*, 39 (4), 801-827.
- Christian, D., Howard, E. & Loeb, M. (2000). Bilingualism for all: Two-way immersion education in the United States [Children and Languages at School]. *Theory into Practice*, 39(4), 259-266.
- Clarkson, P. (1992). Language and mathematics: A comparison of bilingual and monolingual students of mathematics. *Educational Studies in Mathematics*, 23 (4), 417-429.
- Cota, I. (1997). The role of previous educational learning experiences on current academic performance and second language proficiency of intermediate school limited English proficient students. *Bilingual Research Journal*, 21 (2/3), 147-162.
- Crawford, J. (2004). *Educating English Learners: Language diversity in the classroom (5<sup>th</sup> Edition)*. Los Angeles, CA: Bilingual Educational Services, INC.
- Crawford, J. (2000). *At war with diversity: US language policy in an age of anxiety*. Buffalo, NY: Multilingual Matters Ltd.
- Crawford, J. (1992). *Hold your tongue: Bilingualism and the politics of "English only"*. Reading, MA: Addison-Wesley Publishing Company.
- Denton, C., Anthony, J., Parker, R. & Hasbrouck, J. (2004). Effects of two tutoring programs on the English reading development of Spanish-English bilingual students. *The Elementary School Journal*, 104 (4), 289-305.
- Diaz, R. (1985). Bilingual cognitive development: Addressing three gaps in current research. *Child Development*, 56(6), 1376-1388.
- Droop, M. & Verhoeven, L. (2003). Language proficiency and reading ability in first and second-language learners. *Reading Research Quarterly*, 38 (1), 78-103.

- Faltis, C. & Hudelson, S. (1998). *Bilingual education in elementary and secondary school communities: Towards understanding and caring*. Needham Heights, MA: A Viacom Company.
- Freeman, R. (1998). *Bilingual education and social change*. Philadelphia, PA: Multilingual Matters Ltd.
- Gersten, R. & Woodward, J. (1995). A longitudinal study of transitional and immersion bilingual education programs in one district. *The Elementary School Journal*, 95(3), 223-239.
- Hasson, D. (2006). Bilingual language use in Hispanic young adults: Did elementary bilingual programs help? *Bilingual Research Journal*, 30 (1), 45-64.
- Hofstetter, C. (2004). Effects of a transitional bilingual education program: Finding, issues, and next steps. *Bilingual Research Journal*, 28 (3), 355-377.
- Jiménez, R.; Garcia, G.; & Pearson, P. (1995). Three children, two languages, and strategic reading: Case studies in bilingual/monolingual reading. *American Educational Research Journal*, 32 (1), 67-97.
- Jimenez, R. (1997). The strategic reading abilities and potential of five low-literacy Latina/o readers in middle school. *Reading Research Quarterly*, 32 (3), 224-243.
- Kozulin, A. & Garb, E. (2004). Dynamic assessment of literacy: English as a third language. *European Journal of Psychology of Education*, 19 (1), 65-77.
- Lindholm-Leary, K & Borsato, G. (2005). Hispanic high schoolers and mathematics: Follow-up of students who had participated in two-way bilingual elementary programs. *Bilingual Researcher Journal*, 29 (3), 641-652.
- Linton, A. (2007). Spanish-English immersion in the wake of California proposition 227: five cases. *Intercultural Education*, 18 (2), 111-128.
- Lopez, M. & Tashakorri, A. (2004). Effects of a two-way bilingual program on the literacy development of students in kindergarten and first grade. *Bilingual Research Journal*, 28(1), 19-35.
- Lopez, M. & Tashakkori, A. (2006). Differential outcomes of two bilingual education programs on English language learners. *Bilingual Research Journal*, 30(1), 123-147.
- Michael, A., Andrade, N. & Bartlett, L. (2007). Figuring “success” in a bilingual high school. *The Urban Review*, 39 (2), 167-189.

- Mouw, T. & Xie, Y. (1999). Bilingualism and the academic achievement of first-and second generation Asian Americans: Accommodation with or without assimilation? *American Sociological Review*, 64(2), 232-252.
- Ovando, C. (2003). Bilingual education in the United States: Historical development and current issues. *Bilingual Research Journal* 27(1), 1-24.
- Padilla, A & Gonzalez, R. (2001). Academic performance of immigrant and U.S.-born Mexican heritage students: Effects of schooling in Mexico and bilingual/English language instruction. *American Educational Research Journal*, 38 (3), 727-742.
- Palmer, D. (2007). A dual immersion strand programme in California: Carrying out the promise of dual language education in an English-dominant context. *The International Journal of Bilingual Education and Bilingualism*, 10 (6), 752-768.
- Potowski, K. (2004). Student Spanish use and investment in a dual immersion classroom: Implications for second language acquisition and heritage language maintenance. *The Modern Language Journal*, 88 (1), 75-101.
- Ramirez, R. & Shapiro, E. (2006). Curriculum based measurement and the evaluation of reading skills of Spanish-speaking English language learners in bilingual education classrooms. *School Psychology Review*, 35(3), 356-370.
- Rumberger, R. & Larsen, K. (1998). Toward explaining differences in educational achievement among Mexican American language-minority students. *Sociology of Education*, 71 (1), 68-92.
- Schuster, B. (2005). Did a foreign language in the elementary schools (FLES) program in a Kansas school district affect students' academic achievement in English? *Foreign Language Annals*, 38 (3), 344-356.
- Serra, C. (2007). Assessing CLIL at primary school: A longitudinal study. *The International Journal of Bilingual Education and Bilingualism*, 30 (5), 582-602.
- Spring, J. (2007). *The American school: From the puritans to no child left behind*. New York, NY: McGraw Hill.
- Sung, H.; Padilla, M. & Silva, D. (2006). Foreign language education, academic performance, and socioeconomic status: A study of California schools. *Foreign Language Annals*, 39(1), 115-130.
- US Census Bureau. (2000). 2000 American community survey: Percent of people 5 years and over who speak a language other than English at home Retrieved November 5, 2007 from [http://factfinder.census.gov/servlet/GRTTable?\\_bm=y&-box\\_head\\_nbr=R1601&-ds\\_name=ACS\\_2004\\_EST\\_G00\\_&-lang=en&-format=US-30&-CONTEXT=grt](http://factfinder.census.gov/servlet/GRTTable?_bm=y&-box_head_nbr=R1601&-ds_name=ACS_2004_EST_G00_&-lang=en&-format=US-30&-CONTEXT=grt).

- US Census Bureau. (2004). 2004 American community survey: Percent of people who are foreign born Retrieved November 5, 2007 from [http://factfinder.census.gov/servlet/GRTTable?\\_bm=y&-geo\\_id=01000US&-\\_box\\_head\\_nbr=R0501&-ds\\_name=ACS\\_2004\\_EST\\_G00\\_&-\\_lang=en&-redoLog=false&-format=US-30&-mt\\_name=ACS\\_2004\\_EST\\_G00\\_R0601\\_US30&-CONTEXT=grt](http://factfinder.census.gov/servlet/GRTTable?_bm=y&-geo_id=01000US&-_box_head_nbr=R0501&-ds_name=ACS_2004_EST_G00_&-_lang=en&-redoLog=false&-format=US-30&-mt_name=ACS_2004_EST_G00_R0601_US30&-CONTEXT=grt).
- Winsler, A., Diaz, R., Espinosa, L. & Rodriguez, J. (1999). When learning a second language does not mean losing the first: Bilingual language development in low-income, Spanish-speaking children attending bilingual preschool. *Child Development, 70*(2), 349-362.
- Young, A., Marsh, H. & Sulman, R. (2000). Can two tongues live in harmony: Analysis of the national education longitudinal study of 1988 (NELS88) longitudinal data on the maintenance of home language. *American Educational Research Journal, 37* (4), 1001-1026.

## FURTHER READING

- Ambert, A. (1991). *Bilingual education and English as a second language: A research handbook 1988-1990*. New York, NY: Garland Publishing.
- Arias, M., Casanova, U. & Rehage, K. (Eds.). (1993). *Bilingual education: Politics, practice, and research. Ninety-second yearbook of the national society for the study of education [Part II]*. Chicago, IL: The National Society for the Study of Education.
- Ask Yahoo! (2001). Does the United States have an official national language? Sunnyvale, CA: Yahoo! Inc. Retrieved December 2, 2007 from <http://ask.yahoo.com/20011107.html>.
- Baker, C. (1988). *Key issues in bilingualism and bilingual education*. Philadelphia, PA: Multilingual Matters Ltd.
- Brisk, M. (1998). *Bilingual education: From compensatory to quality schooling*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- California State Department of Education. *Beyond Language: Social & cultural factors in schooling language minority students*. Sacramento: California State Department of Education, 1986.
- Carder, M. (2007). *Bilingualism in International Schools: A model for enriching language education*. Tonawanda, NY: Multilingual Matters Ltd.
- Cziko, G. (1992). The evaluation of bilingual education: From necessity and probability to possibility [Special Issue on Bilingual Education]. *Educational Researcher*, 21(2), 10-15.
- Diaz, R. (1983). Thought and two languages: The impact of bilingualism on cognitive development. *Review of Research in Education*, 10, 23-54.
- Drury, R. (2007). *Young bilingual learners at home and school: Researching multilingual voices*. Sterling, VA: Trentham Books Limited.
- Escobedo, T. (Ed.). (1983). *Early childhood bilingual education: A Hispanic perspective*. New York, NY: Teachers College Press.
- Feng, A. (2007). *Bilingual education in China: Practices, policies and concepts*. Tonawanda, NY: Multilingual Matters Ltd.

- Gonzalez, J. (1979). *Towards quality in bilingual education. Bilingual education in the integrated school. Two papers by Josue M. Gonzalez*. Rosslyn, VA: National Clearing House for Bilingual Education.
- Inhofe, X. (2007). S.I. Hayakawa Official English Language Act of 2007. 110<sup>th</sup> CONGRESS, 1st Session; S. 1335. Retrieved December 2, 2007 from <http://www.congress.org/congressorg/webreturn/?url=http://thomas.loc.gov/cgi-bin/query/z?c110:S.1335>.
- Jong, E. (2006). Integrated bilingual education: An alternative approach. *Bilingual Research Journal*, 30(1), 23-46.
- Krause, E. (1999). Two-way bilingual education: Analysis of an inner-city program (Doctoral Dissertation, University of Wisconsin, 1999). *Dissertation Abstracts International*, 60 (04). (UMI No. 9926922)
- Lam, T. (1992). Review of practices and problems in the evaluation of bilingual education. *Review of Educational Research*, 62(2), 182-203.
- Lee, P. (1996). Cognitive development in bilingual children: A case for bilingual instruction in early childhood education. *Bilingual Research Journal*, 30 (3/4), 499-522.
- Lewis, E. (1980). *Bilingualism and bilingual education: A comparative study*. Albuquerque, NM: University of New Mexico Press.
- Paulston, C. (1992). *Sociolinguistic perspectives on bilingual education*. Bristol, PA: Multilingual Matters Ltd.
- Strictly Spanish LLC. (2007). The official language of the united states and its impact on the translation industry. Cincinnati, OH: Strictly Spanish LLC. Retrieved December 2, 2007 from <http://www.strictlyspanish.com/whitepaper2.htm>.