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Dual-Language Education: A Longitudinal Study of Students' Achievement in an El Paso County, Texas School District

Pauline Anne Dow

University of Texas at El Paso, pdow@elp.rr.com

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DUAL-LANGUAGE EDUCATION: A LONGITUDINAL STUDY OF STUDENTS'
ACHIEVEMENT IN AN EL PASO COUNTY, TEXAS SCHOOL DISTRICT

PAULINE A. DOW

Educational Leadership and Foundations

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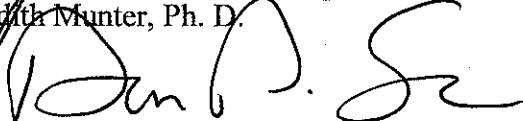
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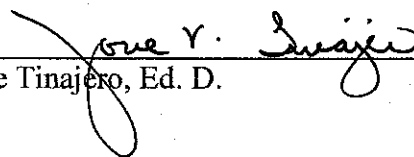
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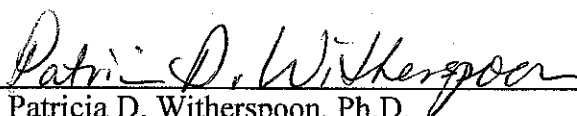
Judith Munter, Ph. D.



Don Schulte, Ed. D.



Josie Tinajero, Ed. D.



Patricia D. Witherspoon, Ph.D.
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ACHIEVEMENT IN AN EL PASO COUNTY, TEXAS SCHOOL DISTRICT

By

PAULINE A. DOW, M. A., M. Ed.

DISSERTATION

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ABSTRACT

This dissertation describes a longitudinal study of one-way and two-way bilingual education programs (also known as dual-language programs) to assess achievement of elementary-aged English learners (ELs) in a school district located in El Paso County, Texas, using both norm-referenced and criterion-referenced tests. The design features assessment for bilingual students' language skills in both English and Spanish, which allows for the examination of the interrelationships among skills in the two languages. The study also compares the achievement of ELs and non-ELs in the two-way program. The work reported in this dissertation was conducted with a common group of children over a six year period. Results indicate that English learners, after six years participating in the one-way or two-way program, are performing slightly below their non-English learner peers when tested in English in grade 6. Results also indicate that there is a modest difference in the achievement of ELs participating in the two-way program compared to ELs participating in the one-way program when tested in both Spanish and English; two-way students are doing better in both reading and math. Spanish and English reading scores were highly correlated. The results support the theory that a child with a strong foundation in the first language, in this case Spanish, will perform better in English over the long term.

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CHAPTER 1

INTRODUCTION

“The denial of a people’s development and use of its native tongue is thus a denial of its participation in society and of its very peoplehood” (Hernandez-Chavez (1988) in Ovando, 2003, p. 19).

Statement of the Problem

In twenty-first century U.S. society, large numbers of children in public schools come from families where parents speak languages other than English. Eighteen percent of the U.S. population in 2000 reported speaking a language other than English in the home. Stated another way, nearly one person in five (or 47 million U.S. residents age 5 and older) spoke a language other than English at home in the year 2000 (U.S. Census, 2000). By 2007, the number had increased to 55 million and this trend has continued to accelerate (U.S Census, 2007). In light of this information, it is in our best interest as researchers, educators, and policy makers to learn more about optimal ways to encourage high achievement among English learners (ELs).

Over the last forty years, multiple models have emerged to teach English learners. These models have demonstrated varying degrees of success in promoting the achievement of ELs. While there have been a number of studies on the pedagogy and outcomes associated with bilingual education, there is little information available regarding dual-language education, as “only a handful of studies exist, and they report generally positive but variable attainment in academic English among English learners. In studies comparing two-way children with those in other options, sample sizes are often small, there is usually no control of initial differences, and scores are sometimes high at the beginning and then decline” (Krashen, 2004b). In addition, no other studies exist which define what particular forms of dual-language programs are most

effective and as more and more dual-language schools develop many variations in implementation are evolving, which poses a significant challenge for school districts (Christian, D., Howard, E., & Loeb, M., 2000). This dissertation compares two dual-language program models with data collected over a six-year period to assess the achievement of English learners and non-English learners in a border community.

U.S.-Mexico Borderlands Economic and Social Links

Providing equal educational opportunities for the thousands of children who live in the border means that educators must take into account the unique characteristics of borderlands. Due to the international boundary, there is a constant movement of people, goods and services that requires educators to prepare students to navigate a very complex social, cultural, and political borderlands context. It is essential that the developing border pedagogy bridge the understanding of the dynamic nature of the borderlands that exists between two countries. To that end, researchers have called for a border pedagogy in which educators recognize that the border is confluent, that it must be navigated and traversed and that it is not simply a dividing line between two countries (Rippberger and Staudt, 2003; Staudt and Coronado, 2002). Figure 1.1 below depicting Downtown El Paso and Ciudad Juárez, with the Juárez Mountains in the background, shows how the cities are conjoined.



Figure 1.1 El Paso and Ciudad Juárez

Source: El Paso Regional Economic Development Corporation

The economic and social links between El Paso and Ciudad Juárez and the wider Mexican economy and culture create both opportunities and challenges. In 2000, the Greater El Paso Chamber of Commerce facilitated an education summit at the University of Texas at El Paso to discuss the interdependence of education and the border economy. Summit participants identified several goals that affirmed the close connection between El Paso and Ciudad Juárez. One of these goals focused on the need to leverage the bilingual and bicultural assets of the border region. These leaders of El Paso's civic, business and education communities agreed to support the goal that all students in El Paso should be required to complete a rigorous, college preparatory academic core curriculum, which includes fluency in two or more languages.

A 2007 study commissioned by the Paso del Norte Group and conducted by the National Center for Higher Education Management Systems, affirmed that the economic links between El Paso and Ciudad Juárez are more closely aligned than the links between El Paso and the rest of Texas. This results in a heavy dependence on local educational institutions to serve the educational needs of this border community. Also noted in the study was the fact that education

attainment in Ciudad Juárez is improving, and although the disparities in education attainment between the Mexican and U.S. sides of the border remain stark, what happens on the Mexican side has an impact on what happens on the U.S. side. “The increasing educational attainment on the Mexican side of the Border could pose economic impact challenges on the U.S. side in the same manner that cost differential for manufacturing created downward wage pressures on the U.S. side” (Jones & McGuiness, 2007, p. 8).

In addition to the unique economic context, the borderlands create a rich social-cultural dynamic. People in this borderlands context need educators that recognize the funds of knowledge (Moll, 1992) that families transmit to their children and how to leverage these valuable resources in schools and classrooms. In this border community, it is not uncommon for children, who are mostly U.S. citizens, to attend elementary and secondary schools in the U. S. while their parents live in Ciudad Juárez, the Mexican border city. What is unique about this is that here we have what Velez-Ibáñez (2006) describes as “border balanced” households: “This type of household balances its source of income from the United States with its social residency in Mexico” (p. 143). This bilateral interaction creates a system of social networks for families on both sides of the border, in which language and literacy play a significant role.

This study is designed to contribute to the foundation of knowledge for dual-language schooling in the context of the borderlands, which represents a major economic and population center that connects populations and economies of two countries and three states (See Figure 1.2). The population of the region was estimated in 2006 to be approximately 2.2 million, and is distributed as follows: El Paso County, Texas, 719,867 (U.S. Census Bureau, American Community Survey, 2006); Dona Ana County, New Mexico, 188,517 (U.S. Census Bureau,

American Community Survey, 2006); and Ciudad Juárez, Mexico, 1,313,338 (Instituto Nacional de Estadística y Geografía, 2005).



Figure 1.2 U.S./Mexico Borderlands

Source: CISD Presentation Files

In this study I analyze longitudinal data of one-way and two-way bilingual education programs (also known as dual-language programs or, in the case of one-way, known as developmental bilingual education) to assess achievement of elementary-aged Mexican immigrant and non-immigrant students in a school district located in El Paso County, Texas, using both norm-referenced and criterion-referenced tests. This dissertation will demonstrate that longitudinal cohort studies allow for the measurement of *progress* rather than simply of *outcomes* on high-stakes exams, by showing annual growth in exam scores, as well as performance in relation to a set bar for achievement.

This chapter is divided into several sections. First I briefly outline the history of bilingual education leading to dual-language programs, introducing the concept of “interdependence” between bilingual students’ two languages and the comprehensible input hypothesis. Second, to provide a context for understanding language education programs, I present changing U.S. demographic data that influence the implementation of bilingual education programs. Next, I

outline the purpose and research design of this study, posing five major questions. Finally, I outline the chapters in this dissertation.

From English Only to Dual-Language: Theorizing Interdependence

In 1900, more elementary school students were enrolled in German-English bilingual education programs than they are in 2008 in all language groups; however, these programs mostly died out during the World War II era (Crawford, 2008). After World War II, high school graduation became an expectation, though not a reality for most students. In the 1960's, the federal government began to fund bilingual models, but bilingual education did not accelerate again until after 1972 when the Supreme Court held that Chinese-speaking students were entitled to special assistance to allow them to fully participate in the school program. In the 1980's, standardized testing began to be implemented and legal requirements to disaggregate data by race and ethnicity made achievement gaps highly visible to educators, researchers, and the public. In this context, researchers such as Jim Cummins and Stephen Krashen made enormous theoretical contributions to the field of bilingual education, specifically with their theories of second-language acquisition and their implications for educational practice, including the features and effectiveness of various program models (Cummins, 1984, 1991, 1993, 2002, 2008; Krashen, 1981, 1985, 1996, 2003, 2004b).

Cummins' (1984) interdependence hypothesis suggests that the level of ability in the second language is partly a function of ability in the first language. Cummins asserts this for children who begin learning a second language in school, and where the second language is the primary language of the host society. What this means is that a strong foundation in the first language may facilitate second-language development, which in turn may facilitate educational success. The literature also suggests that interdependence between a child's two languages is

“conditional.” It may depend on the type of skills being assessed, age, socio-economic and environmental factors that may affect the child’s academic and linguistic performance (Cummins, 1993).

Evidence suggests that schooling in a first language may, in the long term, foster successful language and literacy development in the second language. For example, Navajo children who learned to read first in Navajo trailed their English-learning peers in second grade. But by fifth grade, these students were within six months of their grade level norms in English reading, while their peers in English-only programs, despite greater exposure to English, had an average reading level of third grade (Vorih & Rosier, 1978). Similarly, Skutnabb-Kangas and Toukomaa (1976) found that young Finns in Sweden who learned to read Finnish in Finland before emigrating performed better in reading Swedish than Finns who emigrated before preschool. Similar advantages for early literacy training in a first language are reported in a California Spanish-language preschool (Cummins, 1984), and for Latinos in a first-language maintenance program, in Kindergarten to second grade (Medina & Escamilla, 1992). Other studies from around the world offer similar evidence. Providing academic instruction in the first-language may be linked to ultimate success in the second language (See summary of various meta-analyses in Chapter 3 and Appendix C).

Krashen (2003) posits that when we give children good education in their native language, they get two things: knowledge and literacy. This in turn, supports English-language development. According to Krashen, what matters is quality and not quantity of English exposure. The more ‘comprehensible input’ in English students receive, the more English they acquire. Thus, the comprehensible input hypothesis supports the theory that knowledge learned

in one language provides context that makes what children hear and read in a second language meaningful.

Krashen's work refutes a common misconception that 'practice makes perfect' in second-language acquisition. Students forced to 'sink or swim' in a new language do not acquire the new language, because they cannot understand it. Incomprehensible input is simply noise for the student and this noise has no meaning in the brain. In addition, students placed in stressful learning situations that are challenging and new have difficulty acquiring a second language. Students tend to feel anxious, self-conscious and fearful, and these feelings can interfere with students' ability to receive input that might otherwise be comprehensible. This phenomenon is a barrier known as the 'affective filter' (Krashen, 1985, 2003). The dual-language approach to bilingual education attempts to lower the affective filter and create a balance based on Cummins' interdependence hypothesis: it works by fostering native language learning directly, while encouraging learning of the second language early (Krashen, 1981).

According to Lindholm-Leary (2001), "Dual language education (DLE) programs have a variety of names in addition to dual language. These include: bilingual immersion, two-way bilingual immersion, two-way immersion, two-way bilingual, Spanish immersion" (p. 30). In Texas, one-way programs, commonly referred to as developmental bilingual education, are also considered dual-language programs (Kolak Group, 2005). The defining difference between these two models is that in the one-way program, the student group is predominantly from the same minority language group. In a two-way program, the student group is mixed, with at least one-third of the students from the majority language group and at least one-third from the minority language group. The student group in the final third is usually from the minority language group and equally proficient in English and another language. In both program types, two languages are

used for instruction and are divided into separate half-day long periods to give children the opportunity to gain momentum in the use of each language. Instruction in the first language begins in Kindergarten (K) or early elementary school by offering a basis upon which children can build their academic skills, which in turn build their confidence. Students learn academic content quickly, which helps them form a solid base of academic knowledge. In Chapter III, I will elaborate on the potential advantages of native language instruction.

Two major forms of the dual-language models exist, and are referred to as the 90/10 and 50/50 models. In both of these models, the learning of language is embedded in the learning of the core content rather than in isolated language instruction. The distinguishing feature of these two models is the distribution of languages for instruction. In the 90/10 model, the amount of time spent in each language varies at each grade level. Students in Kindergarten and first grade receive 90% of their instruction in the target language and 10% in English. All content instruction is delivered in the target language, and English time is used to develop oral language skills in each of the content areas (math, science, social studies, etc.). As students progress through the grades, instructional time in the target language decreases, while English time increases. At second and third grade, for example, students receive 80% of their instruction in the target language and 20% in English. Students begin formal literacy instruction in English in the third grade. The 50/50 approach requires that content instruction is divided into components implemented about equally in each language. Half-day blocks of content are taught in one language, for example, followed by half-day blocks in the other language. In this model, students receive initial literacy instruction in their primary language and in third grade begin receiving formal reading instruction in the second language (Lindholm-Leary, 2001).

This dissertation compares the effects of the two dual-language program models (one-way 90/10 and two-way 50/50) on the achievement of ELs and non-ELs. The design features assessment for bilingual students' language skills in both English and Spanish, which allows me to examine the interrelationships among skills in the two languages. The study also compares the achievement of ELs and non-ELs in the two-way program.

Changing U.S. Demographics Affecting Language Education

In 2008 it is not news that the United States is becoming more racially, culturally, and linguistically diverse. Less well known or accepted, however, is the news that access to equal educational opportunity for Latinos as compared to middle-and upper-class White students is not equitable (McNeil, 2000; Valenzuela, 1999). Latinos, as a work force, are disproportionately represented in low-wage jobs, often without benefits, and their economic situation as a whole has improved very little during the country's economic growth of the last two decades. Twenty-one percent of married Latinos with children continue to live in poverty compared to six percent of White families. In 2006, Whites' median family income stood at \$52,423, which was 1.4 times higher than Latinos' median family income of \$37,781 (Logan, 2008).

Latinos are often under-educated, a factor that contributes to the limited improvement of their economic situation. In 2003, National Council of La Raza (NCLR) reported that in 2001 only 63.2 percent of Latinos ages 25 through 29 had completed high school. By comparison, more than 87 percent of Blacks and more than 93.3 percent of Whites of the same age group had completed high school.

One major reason for the under achievement of Latinos in the educational setting is related to the high incidence of poverty. Census figures show that the overall poverty rate stood at 12.5 percent in 2007, which was statistically unchanged from the 12.3 percent level for 2006

but well above the 11.7 percent level for 2001. The child poverty rate climbed from 17.4 percent in 2006 to 18.0 percent in 2007 (Sherman et al., 2008). Along the U.S.-Mexico border, child poverty rates are climbing and in 2004 were reported at 22.7% (Kluever & Deviney, 2007).

Another factor related to the under achievement of Latino youth is the fact that teachers who work with Latino students continue to be mostly White, middle class females with limited multicultural and multilingual competencies and experiences (Ovando & McLaren, 2000). Godina (2004), in his study of literacy practices among Mexican origin high school students from the Midwest, found that Mexican youth's literacy practices at home were not acknowledged at school. Godina presents evidence that most teachers were not aware of the advantages of using the native language to support students' English language acquisition. More research is needed to elaborate the ways in which students from the borderlands use literacy across diverse contexts (home, community, peer group, school) in order to make meaning out of their lives and of their relationships with other youth, parents, and the school community.

In light of this mismatch in the life experiences of teachers and their students, it is the responsibility of public schools to improve the teaching and learning environment for historically neglected student populations and for schools of education to focus on preparing minority and majority teachers and administrators for the changing demographics. These changes in demographics have tremendous implications for educators at all levels.

The U.S. Census Bureau (2007) noted that the number of foreign-born residents living in the United States reached an all-time high of 38.1 million, which is about 12.6 percent of the total U.S. population (U.S. Census Bureau, American Community Survey, 2007). Of those foreign-born residents, 12 million or 31 percent were born in Mexico. Crawford and Krashen (2007) point out that "...half a century ago, immigrants to the United States were most likely to

arrive from Germany, Canada, Mexico, the United Kingdom, or Italy, in that order. Today the top five source countries are Mexico, India, China, the Philippines, and Cuba” (p. 9).

As a result of these changing demographics, bilingualism has become a fact of life in the United States and will remain so for years to come. The reason for this trend is no mystery. It is due to immigration. In numerical terms, immigration to the U.S. has reached its highest level in the nation’s history. For example, between 1980 and 2000, the Latino population more than doubled in size. From 1980 to 1990, Latinos grew by 53 percent or from 14.6 million people to 22.4 million. In the 1990’s, Latinos grew by 58 percent, reaching a population of 35.3 million in the late 90’s (U. S. Census Bureau, 2002).

The rapid growth of Latinos and other groups has impacted schools by making them more diverse. It is estimated that approximately 5,119,561 English learners were enrolled in U.S. public school in pre-K through grade 12 during the 2004-2005 school year; this represents approximately 10.5 percent of total public school student enrollment and reflects a 50 percent increase over the reported 1989-90 enrollment (National Clearinghouse for English Language Acquisition, 2006). The number of English learners increased by 84.4 percent over the past decade, while the growth in enrollment of children from monolingual English-speaking homes increased by only 11.4 percent (National Clearinghouse for English Language Acquisition, 2006).

Analyzing trends in enrollment helps educators and policymakers gain insight into the scope of public education. Rising immigration boosts school enrollment and in doing so changes the face of our schools. Another trend involves English learners. Between 1979 and 2006, the number of school-aged children (aged 5-17) who spoke a language other than English at home grew from 3.8 million to 10.8 million (National Center for Education Statistics, 2006).

Enrollment numbers for English learners in Kindergarten through grade 12 grew 65 percent between school year 1993-94 and school year 2003-04 (See Table 1.1 below). Larger numbers of students with disabilities participating in public education, and increases in the size of racial/ethnic groups of students have also contributed to growing enrollment numbers and increasing diversity in elementary and secondary schools across the United States.

Table 1.1 *Enrollment Numbers for English Learners in K-12 ~ 1993-94 and 2003-04*

School Year	Total K-12 Enrollment	K-12 Growth Since 1993-94 (Percent)	EL Enrollment	EL Growth Since 1993-94 (Percent)
1993-94	45,443,389	0	3,037,922	0
1994-95	47,745,835	5.07	3,184,696	4.83
1995-96	47,582,665	4.71	3,228,799	6.28
1996-97	46,714,980	2.80	3,452,073	13.63
1997-98	46,023,969	1.28	3,470,268	14.23
1998-99	46,153,266	1.56	3,540,673	16.55
1999-00	47,356,089	4.21	4,416,580	45.38
2000-01	47,665,483	4.89	4,584,947	50.92
2001-02	48,296,777	6.28	4,750,920	56.39
2002-03	49,478,583	8.88	5,044,361	66.05
2003-04	49,619,117	9.19	5,014,437	65.06

Source: National Clearinghouse for English Language Acquisition, 2006.

According to a survey from the U.S. Department of Education to state education agencies, as reported by Kindler (2002), English learners in the U.S. speak 460 languages. Spanish is the predominant native language, spoken by 79.2 percent of English learners attending school in the United States. Vietnamese (2%), Hmong (1.6%), Cantonese (1%) and Korean (1%) ranked next highest overall. Other languages with over 10,000 speakers include: Arabic, Armenian, French, Haitian Creole, Hindi, Japanese, Khmer, Lao, Mandarin, Navajo, Polish, Portuguese, Punjabi, Russian, Serbo-Croatian, Tagalog and Urdu. There are significant regional variations in language diversity as well. For instance, Hmong was the most common language of English learners in Minnesota, Ilocano in Hawaii, French in Maine, Serbo-Croatian in Vermont, Lakota in South Dakota, and Yup'ik in Alaska (Kindler, 2002).

Also according to Kindler (2002), nearly one in every five American students entering school speaks a language other than English. This reality poses significant challenges to schools that have historically served a mostly White, English-speaking majority. One in three school children is from an ethnic or racial minority group, and one in ten students is born outside the U.S. (Kindler, 2002). There has also been a steady rise in the number of children from Spanish-speaking families who represented two thirds of all non-English speaking families in 2000. Spanish speakers grew faster than speakers of other languages (Fix & Passel, 2003).

This educational context has significant implications for schools where teachers often do not have the training or personal experiences that would promote positive cross-cultural attitudes in multiethnic classroom environments (Valenzuela, 1999). Valenzuela has written that schooling that subtracts from children's language and culture subtracts from their identity and leaves them disconnected. An education that affirms the personal and cultural identities of children is the only education that has the potential to center children in their own possibilities

and to connect them in productive ways to the global society. Research on biliteracy among Latino youth (Tinajero & DeVillar, 2000; Valdez, 2001; Valenzuela, 1999) suggests that it is vital for teachers and schools to value the students' language and cultural experience in order to motivate and engage students in the classroom in ways that promote literacy. Educators and policy makers must begin by understanding the nature of the nation's demographic change and the far-reaching implications of this shift.

According to Stephen Murdock, Director of the U.S. Census Bureau and former state demographer of Texas, there are three major demographic trends that will affect schools and that will require educators to consider the implications for the nation. These changes include the change in the rates and sources of population growth, the increase in the non-Anglo population and the reality of an aging population. Murdock (2007) believes that the Texas of today *is* the U.S. of tomorrow. In terms of the important demographic trends facing Texas and the nation and what those trends mean in terms of policy implications, Murdock asserts that relative to all other developing countries, the U.S. is a very rapidly growing nation. He predicts that population growth in the U.S. will exceed 400 million by the year 2050. He attributes this to a couple of things: Not only does the U.S. have a relatively high rate of natural increase — the excess of births over deaths — but the country also has a relatively high rate of immigration; and that immigration is leading to more rapid growth, and it is also leading to increased diversity, as shown in Figure 1.5 below. According to Murdock, the diversification of the population is another major force impacting the U.S. One of the reasons he believes that Texas is a good barometer for the country is that if we analyze Texas population data in 2000, about 53 percent of the population was Anglo, and by about 2040, that is the percentage that the Census Bureau projects to be the case for the country as a whole (Murdock, 2007).

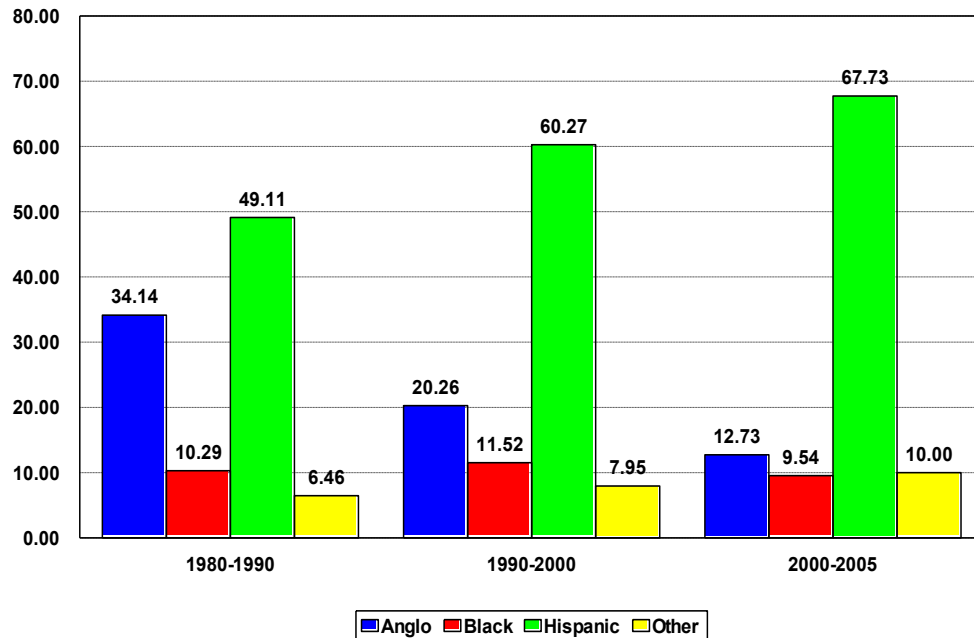


Figure 1.5 Population Change in Texas

Source: Population Change in Texas: Implications for Human and Socioeconomic Resources in the 21st Century, by Steve Murdock, 2007.

Another factor is the aging of the population due to the baby boom generation, the group of people born between 1946 and 1964. They represent about a quarter of the U.S. population, and they are about a quarter of the Texas population. The first of the baby boomers will turn 65 in 2011, and by about 2030, approximately 20 percent of all Americans will be 65 years of age or older. The population growth is leading to a younger work force. Murdock sees the economy globalizing, and internationalizing, just as the nation's population is internationalizing. The data in Figure 1.6 below show that Texas has a relatively young population compared to the rest of the nation (Murdock, 2007). When asked to describe the typical American 50 years into the future Murdock (2008) stated: "... what you can say is that person will be about equally likely to be what we characterize now as minority members as they will be non-Hispanic white. Let 2050 be about 50 years from now, that American, one of every four we expect to be Hispanic, a little

less than 50 percent will be non-Hispanic white, another eighth or so will be African American and then you can take another plethora of groups that will make up the rest” (p. 1).

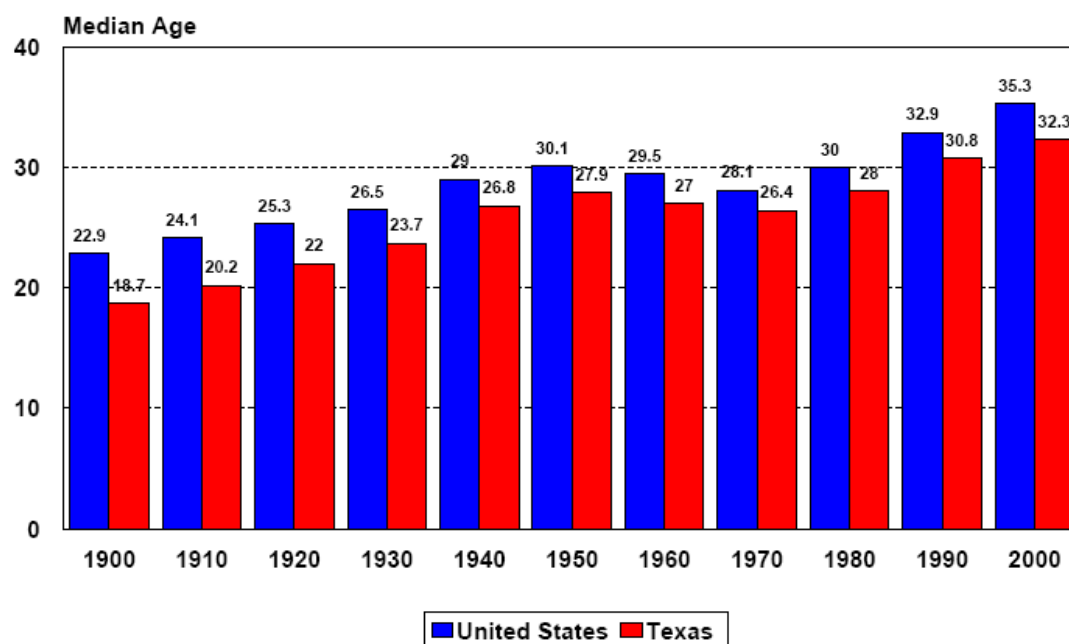


Figure 1.6 Median Age in the United States and Texas, 1900-2000

Source: Population Change in Texas: Implications for Human and Socioeconomic Resources in the 21st Century, by Steve Murdock, 2007.

Some of the U.S. and Texas trends will be mirrored in El Paso, which has relatively more young people and fewer in the working-age cohort. These high numbers of school-aged residents present significant education challenges for both sides of the border. Ethnic diversity in El Paso is more pronounced than in Texas as a whole. The population of El Paso is heavily Latino. More than 80% of the population of El Paso is Latino compared to about 35% for Texas as a whole (U.S. Census, American Community Survey, 2007). Further, data from the 2000 Census indicate that almost three-quarters of the El Paso population speak a language other than English in the home. That language is Spanish. These data support that both El Paso and Texas are likely to become more Latino over time since a larger proportion of the persons under 5 and 18 years is

Latino than is the case for the older part of the population. Schools will continue to face the challenges associated with providing equal educational opportunities to all students, including ELs. This dissertation study will provide needed data to inform education policy regarding the most effective programs for educating all students in this borderlands context.

This study asserts the interdependence theory in the context of the borderlands. People in the borderlands are emergent bilinguals, who can and should become fully bilingual. This is important given the steadily changing demographics around the state, but particularly along the U.S.-Mexico border in El Paso County, Texas. Educators in the borderlands and communities across the nation need the tools, including successful language education models, to better serve a growing linguistically and culturally diverse student population.

Purpose of the Study

To date, little research has been devoted to comparing one-way and two-way bilingual program models. “While considerable research has pointed to dual language education as the best way for ELs, as well as native English speakers, to achieve biliteracy and experience high academic achievement” (Freeman, et. al., 2005), I could not find even one published study that compares the two programs. This study is intended to add to the body of research that is relevant to the education of English learners and will test the premise that additive language programs for English learners can buffer students from factors that have historically placed them at risk of academic failure in U.S. schools such as poverty. Participation in well-implemented additive bilingual education programs, for example, may decrease the predictive power of poverty on achievement, though evidence for this finding is mixed (see, i.e., Lindholm, 2002, p. 296). My study, conducted on the U.S. / Mexico border in a PreK-12 school district where 82 percent of the students are economically disadvantaged, will help to clarify the role of additive bilingual

programs in mitigating the effects of poverty on achievement. Angela Valenzuela (1999) writes that additive schooling is the key to equalizing opportunity and integrating Mexicans into the larger society. Valenzuela argues that when their schooling incorporates a bicultural process, “students do not have to choose between being Mexican or American; they can be both” (p. 269).

Multilingualism surrounds us. Even in the U. S., where English is clearly the dominant language, there are hundreds of languages spoken; however, the U. S. seems unique in that it possesses one language to which immigrant populations as well as indigenous people have tended to assimilate rapidly (Crawford 2004a). Most nations of the world do not use a single dominant language. It is impossible to know how many people worldwide are multilingual, although it is known that in almost every country in the world, people use more than one language in their daily communication. Oller and Pearson (2002a) muse that it is also difficult to know whether the use of multiple languages was typical of prehistoric humans, “but it is so common in modern times that it would be problematic to justify the assumption that the culturally pristine condition of our species is a monolingual one” (p. 3).

The tendency of institutions in the U.S. to promote that everyone in the nation speak English and to only very reluctantly provide educational opportunities in other languages (Hakuta, 1986) is viewed as strange by many educated people worldwide, especially from people who consider fluency in one or more languages as a sign of a well-rounded education that provides individuals with a myriad of labels with which to make sense of the world. What makes bilingual education so politically controversial? The debate is about much more than the best way to teach a second language. Bilingual education raises all kinds of bigger, politically charged questions, such as immigrant rights and responsibilities, the role of English in our society, and even what it means to be an American.

Harvard political scientist Samuel Huntington (2004) goes so far as to assert that the Latino immigration to the U.S., at this point in time, is so hostile or resistant to learning English, the common American language, as well as civic rites and virtues, that it constitutes a potential threat to the cultural and political fabric of the U.S. Huntington believes that this ‘resistance’ on the part of Latinos is a threat to democracy. Huntington seems obsessed with promoting assimilation over pluralism.

My research study, like Oller’s (2002b), is inspired in part by the political debate over the role of English and other languages in education in the U.S. Specifically, political debate that frames questions about bilingualism in a negative light, for example: does bilingualism, in and of itself, cause educational or cognitive harm to children? The inspiration comes when the question can be turned on its head: does bilingualism, in and of itself *enrich* children educationally or cognitively? The question is not: how quickly can students learn English? Rather, the question is: How can we ensure that students are performing on grade level in their native language as they acquire academic English so that they may achieve success in school and beyond? From studies of Anglophone students in French immersion schools in Canada, we know that a bilingual experience encourages students to engage in “incipient contrastive linguistics” which supports skills in both languages and helps to build vocabulary (Lambert & Tucker, 1972). This thinking underlies the interdependence hypothesis (Cummins 1984), which says that a core of skills common to both languages, such as learning in one language, can advance learning in the other.

This dissertation will demonstrate that longitudinal cohort studies allow for the measurement of *progress* rather than simply of *outcomes* on high-stakes exams, by showing annual growth in exam scores, as well as performance in relation to a set bar for achievement. This will be accomplished in the context of an additive bilingual education program that uses the

native language of ELs to build knowledge and literacy in a setting that is conducive to learning in two languages.

RESEARCH DESIGN

The research design described here is based on the data collection efforts of the Canutillo school district, which in 2002 began to document the dual-language program. My research includes data from four schools at similar stages of implementation; the research comprises two types of dual-language education programs. Data collection efforts are longitudinal. Student outcomes, such as oral language proficiency and academic achievement, are described.

This study follows a cohort of 200 language minority and language majority students, who entered first grade in the 2002-2003 school year and entered sixth grade in the 2007-2008 school year. Study participants were tested in reading and mathematics, utilizing a norm-referenced assessment, in second, fourth and sixth grade. The students were also tested using a state mandated criterion-referenced assessment in third, fourth, fifth and sixth grades. Only students who have attended the school system for six years or more were included in the study. The “six-year” group was separated into four subgroups:

- EL in the one-way program
- EL in the two-way program
- Non-EL in the two-way program
- Non-EL in the monolingual English program (MEP)

The second, fourth and sixth grade test scores were computed for each of the four subgroups, utilizing Normal Curve Equivalents (NCE's) for norm-referenced tests. The scores were also computed for third, fourth, fifth and sixth grades for each of the subgroups utilizing raw scores for criterion-referenced tests. The premise here is that if instructional practices are

effective for native-English speakers, language-minority students, and English learners, then the English learners should have closed the initial achievement gap with non-English learners.

The study participants include Spanish-speaking English learners who were consecutively enrolled in either a one-way or two-way dual-language program in the Canutillo district from August 2002 to May 2008. The study compares the English learners in the one-way program with English learners in the two-way program. The study also compares English learners in the two-way program with native-English speakers also in the two-way program.

All students were administered a standardized achievement test in their dominant language: in either English or Spanish. Spanish dominant children were administered APRENDA 2 in Grade 2 and the APRENDA 3 (newly revised) in Grade 4; both the APRENDA 2 and APRENDA 3 are in Spanish. In addition, all English learners were administered the Language Assessment Scales (LAS-O) in both English and Spanish (different administrations) in Grades 1-6. English dominant children were administered Stanford Achievement Test (SAT) 10 in grades 2 and 4; the SAT 10 is in English.

All students were administered the Texas Assessment of Knowledge and Skills (TAKS) in grades 3-6. Spanish dominant children were administered TAKS in Spanish in Grades 2, 4 and 5, in most cases. All students, including ELs, were administered the TAKS in English in grade 6. Additionally, all four subgroups were administered the SAT 10, in English, in Grade 6.

RESEARCH QUESTIONS

This study examines the effects of dual-language, one-way and two-way, bilingual education on the academic achievement of English learners. The design features assessment for bilingual students' language skills in both English and Spanish which allowed me to examine the interrelationships among skills in the two languages. The research questions are the following:

- (1) Does participation in a dual-language program help or hinder ELs' oral language development in English and/or Spanish? My prediction is that ELs will enter the program with low level oral language skills in English and fairly high level oral language skills in Spanish. After 6 years in the dual-language program, ELs will demonstrate native-like oral language proficiency in English. In addition, their Spanish oral language skills will also increase.
- (2) How does the academic performance of ELs in the one-way program compare to the academic performance of ELs in the two-way program when tested in Spanish and in English? My expectation is that two-way students will out-perform one-way students. ELs in both the one-way and two-way programs will demonstrate on grade level competency, in the core subjects, in Spanish while they are learning English. When ELs are tested in English in grade 6, after 6 years in the program, they will score on par, or nearly on par with non-ELs also in the program.
- (3) How does the academic performance of non-ELs in the two-way program compare to the academic performance of non-ELs in the monolingual English program? Does participating in a dual language program hurt your English if you are a fluent English speaker? How do non-ELs do? My prediction is that these students will benefit the most in terms of their performance on standardized achievement tests. Learning a second language is like mental gymnastics for the brain and provides students with the opportunity to develop deeper cognitive connections.
- (4) How does the academic performance of ELs in the two-way program compare to the academic performance of non-ELs in the two-way program when tested in Spanish and English? If the two-way program is serving non-ELs effectively, and ELs are acquiring

academic English after 4-7 years in the program, then both groups should compare equally or nearly equally on achievement tests. When tested in Spanish, ELs should be on grade level with the content while they are acquiring English. When tested in English in the sixth grade, ELs should score on par, or nearly on par, with their English speaking peers.

- (5) Did children tend to show strength in one language if they showed strength in the other (interdependence) or did achievement in one language drain resources from the second language (subtractive bilingualism)? In other words, is there a relationship between the two languages in the context of students' academic achievement? My premise is that students can use their native language to help them learn a second language. If students are on grade level in their native language, this means they are developing cognitively and academically. As students acquire linguistic skills in English, they begin to apply the newly acquired English labels to knowledge they learned in their native language.

Much can be learned from exploratory longitudinal research conducted within one district in which different instructional models and underlying philosophies are reasonably well defined (Oller, 2002b). The Canutillo school district in El Paso, County, Texas provides a unique opportunity for this type of research given that two well defined program models for educating English learners are widely implemented in the district, and that the district was committed to collecting and analyzing data to improve programs.

Outline of Chapters

This dissertation is organized into six chapters. In this first chapter, I briefly outlined the history of bilingual education leading to dual-language programs, introducing the concept of “interdependence” between bilingual students’ two languages and the comprehensible input

hypothesis. I also presented changing U.S. demographic data that influenced the implementation of bilingual education programs. Next I outlined the purpose and research design of this study, posing five major questions. A historical summary of knowledge development in bilingual education research and practice as reflected in litigation, policies and legislation is found in Chapter 2. A review of research studies on bilingualism and second-language learning is found in Chapter 3 as well as a discussion of the theoretical framework for this study. In Chapter 4, I offer the context for this dissertation study, and I detail the dual-language program implemented in the Canutillo Independent School District (Canutillo ISD). The final section of Chapter 4 is dedicated to describing the methodology utilized for this study. In Chapter 5, I catalog the results of this longitudinal study. In Chapter 6, I summarize the key findings, offer recommendations for future research, and make policy recommendations.

CHAPTER 2

HISTORICAL UNDERPININGS OF BILINGUAL EDUCATION

In this chapter, I provide a historical summary of knowledge development in bilingual education research and practice as reflected in litigation, policies and legislation. I begin with a summary of findings from a report by the U.S. Commission on Civil Rights, followed by a discussion of national and state-specific advocacy efforts. I describe the socio-political implications of immigration as it plays out in state and national legislation affecting immigrants and bilingual education. In the final section of this chapter, I discuss current and alternate accountability measures and the role of socio-economic status on the achievement of English learners.

Forty Years of Knowledge Development in Bilingual Education

The signing of the Bilingual Education Act by President Lyndon B. Johnson in 1968, marked the first time the U.S. government demonstrated a commitment to meeting the needs of non-native English-speaking children. Before this, and as stated in chapter 1, English learners were expected to “sink or swim” in an English-only school environment that did not take into account their cultural or linguistic background. However, because a large and growing number of students in U.S. schools came from families whose language background was not English, school educators began to try different approaches to meeting the needs of English learners (Crawford, 2004a).

The political climate of the late 1960's promoted increased attention for Spanish-speaking Americans who had been ignored by antipoverty legislation of the previous years. The National Education Association (NEA) focused attention on the situation of Latino children with the publication of its Tucson Survey of 1965-66: *The Invisible Minority*. As reported in Crawford

(2004a) the pamphlet “painted a picture of educational neglect,” including inadequate school buildings, a lack of trained teachers, and the travesty of sink-or-swim schooling for English learners (p. 108). Respected educators like José Cárdenas and Joe Bernal, both of San Antonio, were beginning to demand that something be done to reverse the existing situation. At the same time, numerous researchers were coming to the conclusion that using a bilingual approach in the classroom was a theoretically solid option. The NEA brokered a meeting, together with Senator Yarborough and Texas Senator Joe Bernal, in Tucson in October, 1966. According to Jim Crawford, “Politically speaking, this marked the birth of what came to be known as the bilingual movement” (Crawford, 2004a. p. 108).

Beginning in the 1970’s, a variety of educational approaches emerged. These approaches were designed to help English learners develop proficiency in English, as well as learn the knowledge and skills of the core curriculum. At first, these programs were not research-based, but rather they were politically motivated by advocates like Bernal and Cardenas and fueled by civil-rights activism and the recognition that something had to be done to reverse the pattern of poor academic achievement of Latino students. One example of this activism took place in Crystal City, Texas when an activist Chicano group, La Raza Unida Party, decided it was time to take action (Crawford, 2004a; Gutierrez, 2005). The group organized school boycotts to protest the unequal treatment of Spanish-speaking students. “Students walked out of classes in order to close down the schools for lack of attendance. That is how we protested and demonstrated our will to improve educational opportunities for Chicanos. If we were not going to get a good education, then no one else would either” (Gutierrez, 2005, p.121). After the party won a majority of seats on the local school board, Crystal City became known for its progressive stance regarding bilingual education. The Crystal City boycotts signaled a new day for members of that

community as they rallied to protest that their children were essentially receiving an unequal education. Disguised as ‘equal treatment,’ students were ‘submersed’ in the mainstream classrooms designed for native-English speaking children, which resulted in large numbers of English learners falling behind and dropping out of school.

U.S. COMMISSION ON CIVIL RIGHTS REPORT

In 1971, the U. S. Commission on Civil Rights issued findings of their six-volume study of Mexican American Education. The findings and recommendations presented in the report were intended to inform policies and practices instituted at the school and district level. At the same time, the agency recognized the huge extent of unequal educational opportunity for Latinos in the five Southwestern states included in the report. Parts of the study painted a picture of widespread segregation and inequality, and this was most evident in Texas’ schools. Citing a study of 122 school districts in Texas, the Commission revealed that half of these districts segregated Latino students from Kindergarten through sixth grade. The Texas response in defending the reason for this policy decision was the “language handicap” of Latino students.

The Commission also made public the results of another analysis of data from large school districts (more than 3,000 students) in the Southwest and utilizing 1968-69 data disaggregated by ethnicity. They found that when counting the students who stayed in school through the twelfth grade, 80 percent were Whites, 65 percent were Black and 53 percent were Latinos. In English reading the Commission found that 74 percent of Latino students read below grade level compared to 28 percent of Whites. In examining the composition of overage students, students two or more years older than the average age of students in the eighth grade, they found that 17 percent were Latino and only 2 percent were White.

The U.S. Commission on Civil Rights report was one of the first of its kind to disaggregate data by ethnicity and this helped to illustrate deep and pervasive segregation and inequities in schools across the Southwest; however, missing from this approach was the analysis of data through the lens of socio-economic status (SES), a crucial variable for problem and research identification in policy analysis and one that will be included in this dissertation study.

As a result of the report, two large school districts in El Paso were cited for non compliance of the Civil Rights Act by the Commission. The Commission held that both districts failed to provide equal educational opportunities for Latino students, and both were cited for the lack of Latino teachers in the schools. In addition, the districts were put on notice for their discriminatory assignment of Latino students to special education classes. As summarized by Rippberger and Staudt (2003), El Paso entered into an agreement in 1972, to correct this non-compliance, but nothing changed until the federal district court ordered remedies in 1976.

In the late 1960's, Latinos in Texas continued to be underrepresented in the roles of teachers, administrators and school board members. The Commission reported that just 3 percent of Texas school principals and just 5 percent of classroom teachers were Latino. These role percentages were higher in El Paso during this time, as almost a third of the teachers and administrators were Latino. Still, Whites won most elected positions; for example, only five percent of the state legislators and seven percent of the school board members were Latino.

The Commission's recommendations addressed inequities and/or deficiencies in the areas of curriculum, student assignment, teacher education, counseling and Title VII funding. The study revealed that Latino students in these five states were grossly underrepresented, underserved and therefore denied equal educational opportunity. For example, the Commission found that information related to the skills, abilities, and interests of Latino students was not

taken into account in developing the educational framework used by the districts. Native languages spoken by students were excluded from the curriculum and bilingual education programs reached only a very few Latino students, even though this curricular approach was considered by many in the field as “the most beneficial curricular approach for educating Chicano children” (p. 71). Texas, for example, with 62 percent Spanish-speaking first graders, had the highest percent compared to the other states represented in the study; yet during this period in the late 1960’s about six percent of Texas schools offered bilingual education, but only one-half of one percent of Latino students were enrolled in any such program statewide (Rippberger and Staudt, 2003).

THE VOICES OF ADVOCATES AND ENSUING LITIGATION

Advocates working to dismantle the discriminatory practices against children and create more equitable educational opportunities for them leveraged the Commission’s report as well as other relevant studies to advance their cause through the courts. In a class action suit filed by fourteen El Paso parents in 1970, *Alvarado, et al. v. El Paso Independent School District*, litigation ensued against El Paso’s largest school district for promoting and supporting a “dual and racially segregated school system in violation of the Fourteenth Amendment to the United States Constitution.” (Rippberger & Staudt, 2003, p. 40). A plethora of data were studied which surfaced evidence of segregation in school boundaries and teacher assignment. In a ruling handed down in 1976, the Court found for the plaintiff on grounds of deliberative intent to segregate. The Court ordered the school district to implement numerous remedies to correct the situation, including busing students, redrawing of school boundaries, deliberate recruitment of Latino teachers and administrators and the implementation of bilingual education programs. As stated by Rippberger and Staudt (2003) *Alvarado, et al. v. El Paso Independent School District*

“...marked a turning point for El Paso education, reinforced with increased federal support for bilingual education in high poverty neighborhoods” (p. 40).

Racism persisted despite the strengthening national discussion on issues of social justice that exposed the persistent segregation and neglect of Latino students and provided leverage for civil rights groups and educational advocates to push for equal educational opportunity for all students. Latino students were tracked into vocational career paths which essentially limited their opportunities to attend college as a way to gain access to intellectually challenging and better paying jobs. In addition, students continued to be punished for speaking Spanish in school, both in academic and social settings. In 1969, the Mexican American Youth Association (MAYA) was founded in California to battle the suppression of the Spanish language. MAYA members succeeded in forcing the replacement of two anti-Spanish assistant principals with Latino administrators (Rippberger & Staudt, 2003).

The major court decision advocating for the language rights of non-English speaking students and the only such ruling in history by the U.S Supreme Court is *Lau v. Nichols*. Originating in the 1970's, the case involved San Francisco attorney Edward Steinman. Steinman filed a class-action lawsuit on behalf of his client Kinney Lau and 1,789 other Chinese-background students alleging that the children were all at risk of failing in school because they could not understand the language used for instruction. These children, he alleged, were being denied “education on equal terms” because of their limited knowledge of the English language; this was the same standard the Court used in *Brown v. Board of Education*. The San Francisco school district administrators and board members argued that there was no discrimination in the *Lau* case because there was no segregation or disparate treatment, and that the same instruction was afforded to all students regardless of ethnic background or native language.

The Courts sided with the San Francisco school officials, although Judge Hufstedler of the 9th Court (later U.S. Secretary of Education) issued a strong dissent:

The state does not cause children to start school speaking only Chinese. Neither does a state cause children to have black skin rather than white nor cause a person charged with a crime to be indigent rather than rich. State action depends upon state responses to differences otherwise created.

These Chinese children are not separated from their English-speaking classmates by state-erected walls of brick and mortar, but the language barrier, which the state helps to maintain, insulates the children from their classmates as effectively as any physical bulwarks. Indeed, these children are more isolated from equal educational opportunity than were those physically segregated Blacks in *Brown*; these children cannot communicate at all with their classmates or teachers. ... Invidious discrimination is not washed away because the able bodied and the paraplegic are given the same state command to walk (*Lau v. Nichols*, 483 F2d 791 C.A.9, 1973).

In 1974, the U.S. Supreme Court overruled the lower courts in a unanimous decision and embraced Hufstedler's opinion. In Justice William O. Douglas' words: "There is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education." Based on the Court's ruling, under Title VI of the Civil Rights Act, the Chinese-speaking students were entitled to special assistance to allow them to fully participate in the school program. Sink-or-swim was not an option.

The *Lau* decision did not explicitly mandate bilingual education which opened the door for school districts to use various methods. Justice Douglas wrote:

No specific remedy is urged upon us. Teaching English to the students of Chinese ancestry who do not speak the language is one choice. Giving instructions to this group in Chinese is another. There may be others. Petitioners ask only that the Board of Education be directed to apply its expertise to the problem to rectify the situation (*Lau v. Nichols*, 414 U.S. 563, 1974).

In the end, San Francisco Unified school officials opted to provide bilingual education for the city's non-English speaking students.

The *Lau* decision, together with the 1975 *Lau Remedies* and the Bilingual Education Act, also known as Title VII of the ESEA, helped to promote research in the area of educating English learners. Title VII authorized resources to support educational programs, train teachers and instructional assistants, develop and disseminate instructional materials, and encourage parental engagement.

Since the Commission on Civil Rights report, a little more than three decades ago, we have witnessed a growing and maturing field of bilingual education experience political support early on followed by numerous battles in the policy arena at the federal, state and local levels in more recent years. A rich body of research theory and knowledge development on schooling in bilingual contexts has gradually expanded the field's understanding of effective schooling for culturally and linguistically diverse school populations (e.g., August & Hakuta, 1997; Collier, 1987, 1989, 1995a, 1995b; Crawford, 2004a; Cummins, 1981, 1984, 1986; Genesee, 1987, 1999; Hakuta, 2001; Hakuta, Butler & Witt 2000; Linholm-Leary, 2002; McNeil, et.al., 2008; Ramírez, Yuen & Ramey, 1991; Collier & Thomas, 2004; Thomas & Collier, 1997, 2002, 2003; Valenzuela, 1999).

By the 1990's, a significant body of research had been built in the area of bilingual education, including substantive research in the areas of bilingualism and second-language learning, cognitive (Díaz & Klingler, 1991) and social aspects of schooling, school and classroom effectiveness, and student assessment. The research has revealed that, for English learners, the important contextual issues include poverty, attendance in poor schools, low SES accorded to members of certain ethnic and immigrant groups, and low teacher expectations

(August & Hakuta, 1997). Many researchers and practitioners in the field have shown that bilingual approaches have made a significant positive impact in the educational experience of English learners. Data from numerous scientific studies support this conclusion, while data supporting the effectiveness of all-English approaches are less convincing.

In 2008, as in 1971, bilingual education is still considered the most beneficial model for educating English learners. Unfortunately, the conceptual understanding that bilingual education works for Latino children has been obscured by those who believe that children can learn a second language in one year or less; many of these same individuals give credence to the short-term studies that do not provide information relative to students' long-term academic achievement in school.

Immigration, Federal Education Reform Legislation

In the U.S., in most contexts, English assumes the role of the nation's de facto official language; however, this premise has been debated in recent years, particularly at the state level and in debate surrounding bilingual education. The centerpiece of this controversy is the act of defining what it means to be an American at a time when immigration rates are increasing.

During the 1990's, more immigrants arrived to the United States, and with this came the expansion of the non-English speaking population. Even though the government has responded to the needs of immigrant communities by providing some services in the native language, including bilingual education, there has also been a backlash against the growing non-English speaking immigrant population in recent years (Crawford, 2004a). Ardent assimilationists like Huntington (2004) perpetuate the backlash as they push to defend and preserve an Anglo-protestant political culture which they believe is indispensable to conserving democracy.

As a result of the anti-immigrant sentiment, bilingual education programs have become the target of English-only efforts and this has had negative results for schools in states such as California, Arizona, and Massachusetts. All three of these states have passed legislation eliminating the use of native language instruction by dismantling bilingual education programs. In California, Ron Unz and the organization he founded called “English for the Children” launched a media campaign to garner votes for the approval of Proposition 227 in 1998, a ballot initiative that eliminated bilingual education in that state. Today, the majority of English learners in California are placed in English-only programs.

The Unz initiative had a ripple effect in Arizona, where voters passed a similar ballot measure in Proposition 203 in 2000. According to Crawford (2001), while the California initiative reduced the number of ELs in bilingual education from 29 percent to 12 percent, the measure passed in Arizona will likely end bilingual education entirely in the state. Arizona’s Proposition 203 makes it even more difficult than in California for parents to sign a form that would allow some bilingual education to continue.

In Massachusetts in 2002, voters opted to do away with the oldest bilingual education law in the nation. This happened at the same time that Colorado mounted a successful campaign against the anti-immigrant, anti-bilingual education force to reject a similar initiative in their state. In Colorado bilingual education was rescued. In Oregon in 2008, voters ward off a similar anti-bilingual education initiative, with the defeat of Proposition 58. It is important to note that, a decade after the passage of the California law, the achievement gap is as wide as ever, and under Arizona’s English-only measure, the gap is growing.

One strategy that could and should be launched at the national level to discourage states from attacking bilingual education and undermining the work of educators to provide all students

with equal educational opportunities is to establish an accountability system consistent with a language policy that values the acquisition of languages other than English. Unfortunately, the absence of a national language policy and the misguided and punitive forms of accountability currently in place to measure EL academic progress does more harm than good.

NO CHILD LEFT BEHIND ACT

The current *No Child Left Behind Act of 2001* (NCLB) springboards from prior legislation and leverages the heaviest focus on accountability in U.S. history. The Act mandates accountability for *all* students, and places a huge emphasis on the inclusion of “subgroups” including English learners. In order for schools to continue to receive federal funds without sanctions, ELs must make measurable academic progress. In particular, NCLB mandates a participation rate of at least 95% of all students in state assessment systems (U.S. Department of Education, 2001).

The NCLB legislation cuts across both Title I and Title III (Title III of NCLB is referred to as “Language Instruction for Limited English Proficient and Immigrant Students” and replaces the previous Title VII). Titles I and III now mandate two types of assessments for ELs: academic content assessment and English language proficiency measures. Title I requires states to evaluate, in English, the achievement of all ELs in meeting the state’s reading or language arts academic standards. Under Title I regulations finalized in 2006, ELs can be exempted from the language arts test for only the first year after their arrival in the U.S. and they still must be tested in math, although the math scores do not have to be included in AYP calculations for that first year.

The challenges presented by the No Child Left Behind legislation, especially to school districts with large numbers of English learners, will require that schools close the achievement

gap that exists between English learners and native English speakers or face serious consequences such as school reconstitution. In the words of U.S. Secretary of Education Margaret Spellings, "The 5.4 million LEP students in U.S. schools are our fastest-growing student population and are expected to make up one out of every four students by 2025. Our schools must be prepared to measure what English language learners know and teach them effectively" (U.S. Department of Education, 2006a).

By 2014, NCLB requires that all children will be at the proficient level on state testing, including English learners. Schools must show that they have attained statewide goals for the percentage of English learners who have reached the proficiency level on reading and mathematics assessments in English. Furthermore, schools must demonstrate that English learners have acquired proficiency in the English language.

This federal legislation is promoted as a way to enforce that school districts across the nation pay attention to the achievement of all students. English learners have typically remained at the margins of education reforms, so their inclusion is an important concern for equity in public education. However, of particular concern to English learner advocates is the fact that language proficiency mediates performance on the standardized tests that are widely being used, which makes language a liability for English learners when test results are used as the main criteria for such high-stakes decisions as high school graduation, grade promotion, and the placement of English learners into tracked programs (Menken, 2005).

According to Valencia et al. (2001) and McNeil, et al. (2008), Latinos and African American students in Texas public schools as compared to their White peers, are more frequently retained in grade, fail the state mandated test and drop out of school:

We argue that accountability is vital to public education. However, it must be implemented with care. We need to shape our accountability system in accordance with

principles such as (1) parents' involvement in their children's schoolwork; (2) the allowance for teachers not to be fettered to rote, unchallenging, and measurement-driven instruction; (3) comprehensive diagnostic testing; and (4) multiple indicators of academic performance (Valencia et al. 2001, p. 321)

A recent study by researchers at the University of Texas at Austin and Rice University shows that, according to the Texas numbers NCLB directly contributes to lower graduation rates. By analyzing data from more than 271,000 students, the study found that 60 percent of African American students, 75 percent of Latino students and 80 percent of ELs did not graduate within five years. The researchers found an overall graduation rate of only 33 percent. According to Linda McSpadden McNeil, director of the Center for Education at Rice University, high-stakes testing does not lead to school improvement or equitable educational opportunity. It results in less students graduating from high school, a loss that many researchers and educators believe can be avoided, and that must be reversed. The system creates a dilemma for principals: "comply or educate" (McNeil, et. al., 2008, p. 25). McNeil and colleagues found that compliance means losing students. Because of the punitive nature of the accountability system to reward or discipline educators based on student test scores, massive numbers of students are leaving the school system. According to McNeil, et. al., (2008), instead of thinking of students as children to educate, school personnel consider them as either potential liabilities or assets for their school's performance indicators, thus affecting their own careers and their school's funding. When low-achieving students leave school, this has created the appearance of rising test scores and a narrowing of the achievement gap between white and minority students, including English learners.

HIGH STAKES TESTING AND IMPLICATIONS FOR ELs

One of the major problems with high stakes testing is that there are many inconsistencies in the ways exams are being administered, including issues of test validity, which challenges the

notion that we must use a single test score as a gauge for major educational decisions for ELs, including high school graduation (Albedi, 2004). It is highly suspect to use standardized tests that were intended for native-English students in order to make high-stakes decision for students based on one test, yet we do it with abandon. This has especially negative consequences for older immigrant students who enter U.S. school for the first time in high school.

According to Kate Menken (2005), "...testing has become part of the enculturation process for these students as new Americans, and also greatly affects their life decisions" (p. 265). This is especially true for older students who have limited literacy skills as a result of interrupted formal school prior to their arrival in the U.S. In this scenario, the affective filter is raised and students experience anxiety and fear due to this undue pressure. The requirement to pass the high stakes test in order to graduate has been found to profoundly affect the self-esteem of students (Amrein, & Berliner, 2002; McNeil, et. al., 2008; McNeil & Valenzuela, 2001; Valenzuela, 2004), and the number of students involuntarily 'pushed-out' of high school has greatly increased across the nation (McNeil, et. al., 2008).

The standards-based reform movement has major implications for the assessment of English learners (Apple, 2000; Crawford, 2004a), many of whom are immigrant students. These reforms focus on short-term outcomes, with no regard for progress students make over time. The high-stakes nature of the reform measures also do not respond to the needs of ELs as articulated in second language acquisition research. For example, the reforms do not take into account the time necessary for the acquisition of a second language, nor do they reflect an understanding of the affective domain associated with learning.

SES TRUMPS ETHNICITY

Educational outcomes of Latinos have not kept pace with their rapid growth in US schools, given that Latinos are the second-largest student population enrolled in the nation's schools. According to a report by National Council of La Raza (NCLR), compared to their peers, Latinos are more likely to start school later and leave school earlier (NCLR, 2007). Some of the key points from the report reveal that economics play a significant role in student achievement.

- Latino three- to five-year olds below the poverty line are less likely than their Black or White peers to be enrolled in Even Start or Head Start programs.
- Latino and Black students are more likely to attend schools that serve a large concentration of low-income students.
- Significant gaps in per student expenditures between highest- and lowest poverty districts include states with large Latino communities.
- States that have considerable funding gaps between low and high-minority districts include states with large Latino communities.
- Latinos are more likely than Whites yet less likely than Blacks to receive financial aid to pay for an undergraduate education.
- Latino undergraduates receive less in financial aid on average than their Black and White undergraduate peers.

Researchers and the public must not ignore the fact that educational outcome studies of Latinos' achievement are often derived from biased test results. For example, the National Assessment of Education Progress (NAEP) has, up to the present, been a low-stakes test, meaning that it is one that states may participate in voluntarily. The NAEP scores have not been reported out by student or by school. The exam provides information by state, based on a sample

of students in each state. NAEP disaggregates data by ethnicity, economically disadvantaged and English learners. Usually the EL and economically disadvantaged category show the lowest scores, followed by ethnicity. In El Paso, Latinos are overrepresented in the economically disadvantaged and EL categories. The data presented does not allow researchers and the public to differentiate among Latinos who are a diverse group in SES and linguistic terms, but analysts set up no ‘control’ categories. Thus, their data presentation leaves the impression that all or most Latino students score low on the mostly English-language tests rather than what one might expect or hypothesize: that this is true of low-income English learners.

As noted by Valenzuela (2004), with respect to NAEP, researchers acknowledge improvements in scores among Texas students, but they also point out that Barton’s 2001 research suggests that in 47 states, including Texas, an achievement gap persists on the NAEP between students in the top and lowest quartiles of White and minority students at fourth-grade and eighth-grade levels (Valenzuela, p. 12). The other problem, noted by Valenzuela (2004), is that the NAEP, although it uses random selection techniques, does not test all students in the sample. Researchers have found that often times, ELs and special education students are excluded from the test. The exclusion of these students biases the test results.

Studies that utilize test results such as NAEP show that minority students score lower on tests and many do not do as well in school. But it has nothing to do with the fact that they are minorities. Minority students score lower on tests because they are poor (Krashen, 2007). As summarized in Crawford and Krashen (2007), for the most part, students drop out less if they come from affluent families, where both parents are in the home. In addition, students whose parents can pay attention to kids’ homework, have lived in the U.S. for several years, speak some English in the home, or live in a more print-rich environment do better in school. These factors

contribute to the disparity in dropout rates among groups. Crawford and Krashen (2007) report that about 40 percent of Latino students live in poverty, as compared with just 15 percent of White students. About 68 percent of the Latinos live with both parents, compared to 81 percent of White students. When researchers control for socio-economic factors such as these, the disparity between groups disappears.

Darling-Hammond (2007) confirmed this in two separate analyses, which also show that teachers make a difference. Like Krashen and others, Darling-Hammond's research shows that the reason minority children do worse in school is not because they are minority but because so many live in poverty. Her research shows that 73 percent of Black children and 59 percent of Latino children attend schools in which more than half of the students are eligible for free or reduced-price lunch versus only 23 percent of White students. The finding that the percent of English learners was not a predictor of test scores when poverty is considered is supported by Krashen and Brown (2005) who found similar results. High SES English learners did about as well as, and in some cases better than low SES fluent English speakers on a number of tests. What this means is that social class, meaning poverty, is a powerful factor.

Investing in schools attended by primarily minority and low-income students is vital in order to reverse the trend of under achievement of low SES student groups. It is important to note that most high-achieving countries not only provide high-quality universal preschool and health care for children, but they also fund their schools centrally and equally, which includes the allocation of additional funds to the neediest schools. Another way to change the academic outcomes for ELs is to institute an accountability system that promotes an assessment system that encourages serious intellectual work on the part of students and their teachers, instead of a system that encourages a test preparation approach to teaching academic content.

CASTAÑEDA STANDARD: AN ALTERNATIVE ACCOUNTABILITY STANDARD

A meaningful accountability plan involves more than standardized test scores. According to Crawford (2004b), “There is no question that schools’ performance in educating ELLs requires close scrutiny. Services for these students remain inadequate in many districts, especially in parts of the country only recently impacted by immigration. School officials have often been slow to respond to cultural and linguistic diversity to recognize the unique needs of ELLs, and to adapt instructional practices accordingly” (p. 7). Crawford, like many educators, believes that districts should be held accountable for providing equal opportunities for English learners, but deciding on criteria for school performance should be broad-based and well informed. In Crawford’s words, “Indicators of progress, or lack thereof, should be not only accurate but also sensitive enough to assist in the process of school improvement. NCLB’s simplistic approach fails ELLs on all of these counts” (Crawford, 2004b, p.7).

A more reasonable framework for accountability already exists (Crawford, 2004b; Hakuta, 2001; Hakuta, Butler & Witt, 2000; Thomas & Collier, 1997). Known as the Castañeda Standard (1981), it provides a set of tools for determining whether schools are meeting their obligations toward culturally and linguistically diverse students. In *Castañeda v. Pickard*, which was filed against the Raymondville, Texas Independent School District, Latino children and their parents claimed that the district was discriminating against them because of their ethnicity. They argued that classrooms were segregated using a grouping system based on racially and ethnically discriminatory criteria. School districts were required to establish bilingual education according to the *Lau vs. Nichols* ruling yet, there was no way to evaluate the effects of the school’s program.

This case was tried and in 1978 the judge ruled in favor of the defendant, stating that the district had not violated any of the plaintiff's constitutional or statutory rights. The ruling was appealed and in 1981, the Fifth Circuit Court of Appeals ruled in favor of the district on the key issue of whether the district was discriminating, "however the appellate court relied on the [Equal Educational Opportunities Act] of 1974--not the Lau decision--to mandate special help for ELs" (Crawford, 2004a, p. 127). The *Castañeda vs. Pickard* case effectively established three criteria to gauge programs that serve English learners. These measures determine whether a school district is serving ELs and if the program addresses the needs of these students. The principles are as follows: 1) The program must be based on a sound educational theory; 2) The program must be implemented effectively, with adequate resources and personnel; 3) After a trial period, the program must be evaluated as effective in overcoming language handicaps. For more than twenty years, it guided enforcement activities by the Office for Civil Rights of the U.S. Department of Education (Crawford, 2004b).

The *Castañeda* framework thus offers a comprehensive approach to school accountability. Its broad focus includes instructional quality, teacher qualifications, language assessment and placement, classroom materials, and student outcomes. *Castañeda* emphasizes capacity-building, requiring districts to address the specific needs of English learners, while allowing them the flexibility to customize programs to respond to local conditions and preferences. It stresses the development of English language skills and students' progress in reaching academic standards (Hakuta, 2001). It also emphasizes instructional reform – getting to the roots of underachievement – rather than imposing punitive sanctions for failing to reach arbitrary annual yearly progress targets (Crawford, 2004b).

The framework I have selected for this study is consistent with *Castañeda* (1981). The two program models studied here meet Standard One of *Castañeda* in that additive or enrichment forms of bilingual education are based on an educational theory that experts recognize as solid. This study will explore the relative success of the instructional program implemented by the school district via additive forms of bilingual education (one-way and two-way) to improve student achievement. In addition, students are assessed in their dominant language initially, until they have acquired enough academic English to demonstrate what they have learned through the medium of their second language. This provides the best opportunity to ensure that students are performing on grade level, in their native language, in the core subjects while they are acquiring the linguistic tools they need to demonstrate mastery of content knowledge in English.

In this chapter, I have provided an overview of the key litigation and other efforts by education and citizen advocates to promote equal educational opportunities for ELs through activist-driven policy reform. I then briefly described the political controversy regarding bilingual education and English only initiatives in five states. I argued that arbitrary and punitive accountability measures undermine the role of educators to provide students with meaningful learning opportunities. I present an alternative accountability option, the Castaneda Standard, which emphasizes a comprehensive model designed to help educators and policymakers use appropriate student performance data to improve instructional programs. In the next chapter, I review additional research on second language acquisition and further discuss the theoretical framework for this dissertation study. I also dig deeper into the implications of additive v. subtractive forms of bilingual education. Finally, I set the stage for the need to provide ELs with the opportunity to participate in additive or enrichment forms of bilingual education that

emphasize the cognitive, academic, linguistic and affective domains of language acquisition necessary for students to be centered in their own possibilities and to achieve success in school.

CHAPTER 3

BILINGUALISM AND SECOND-LANGUAGE LEARNING

This chapter begins with a discussion of orientations to language in the U.S. I then present a summary of important research in second language learning and the theoretical framework for this dissertation. I also describe additive and subtractive bilingual education programs, and locate this dissertation research within that landscape.

THREE ORIENTATIONS TOWARDS LANGUAGE IN THE U.S.

Linguistic studies of simultaneous acquisition of two languages support the idea that bilingualism accelerates the development of abstract thinking (Diaz & Klingler, 1991). Vygotsky (1978) also expressed the belief that bilinguals experience cognitive advantages because they can express their thoughts in different languages, with the ability to see each language as a particular system among many language systems. Noam Chomsky (1965) revolutionized thinking about language development in the early 1950's when he suggested that children are born with an innate capacity to develop language. Chomsky noted that children have a built-in mechanism, which he called the Language Acquisition Device, or LAD, which pre-programs or hard-wires children to develop grammar based on the linguistic input they receive. Over the next forty years, language acquisition research developed the underlying questions for the contemporary theoretical models connecting bilingualism to positive cognitive and academic growth (Collier, 1987, 1989, 1995b; Cummins, 1981; Krashen, 1981, 2003). It is in this context that the U.S. first began to develop its orientation towards language.

Ruiz (1984) has described the historical development of three different orientations toward language: language as a problem, language as a right, and language as a resource. He defines an orientation as a “complex set of dispositions toward language and its role, and toward

languages and their role in society” (p. 16). How people feel about language comes from their particular orientation. During the fifties and early sixties, language as a problem or handicap was the prevalent orientation. Ruiz points out that at this time, educators viewed English learners as having a “problem,” so that “teaching English, even at the expense of the first language, became the objective of school programs” (p. 19). In essence, to overcome the problem, English learners had to transition to English as quickly as possible.

In the seventies, according to Ruiz, the language-as-a-right orientation emerged. Within the context of the civil rights movement, bilingual educators advocated for the rights of English learners to bilingual education. The idea here was that students in bilingual programs could exercise their right to maintain their native language while they were learning English. Those who held to this orientation demanded freedom from discrimination on the basis of language and the right to use one’s native language in daily living. This orientation was inspired by the civil rights movement and carried by parents who wanted better educational opportunities for their children than what they experienced.

Another orientation is language-as-a-resource. Ruiz (1984) sees this orientation as the most productive approach to language planning for several reasons: one, it can have a direct impact on enhancing the language status of subordinate languages; two, it can help to ease tensions between majority and minority communities; three, it can serve as a more consistent way of viewing the role of non-English languages in U.S. society; and four, it highlights the importance of cooperative language planning (pp. 25-26).

The current accountability system in Texas and across the nation reflects the language-as-a-problem orientation. This can be seen in the high stakes attached to assessments – administered primarily in English – that pressures schools to limit native-language instruction

and foster a subtractive rather than additive approach to bilingualism. The current system also disenfranchises students from life opportunities by encouraging states to use a single test, to determine high school graduation, grade promotion, and program placement. The language-as-a-problem orientation can also be seen when schools try to “fix” the English learners’ “problem” by giving up on second-language acquisition strategies with a focus on balanced literacy development in favor of a heavily phonics-based approach to reading that is neither supported by research nor tailored to ELs' needs. The next section will highlight important research and implications for language learning.

IMPORTANT RESEARCH ON THE DIMENSIONS OF LANGUAGE LEARNING

As stated earlier, bilingualism is not a new phenomenon. Bilingual people can be found around the world and there is nothing unusual about it (Crawford 2004a). People world-wide learn new languages based on their needs and the uses they have for their languages. The social status of the language is a factor in determining bilingualism. In some cases, children learn two languages from the time they are born, while others begin to acquire a second language when they begin school (Fishman, 1978; Lambert, 1975).

When children are in the process of learning a second language, their cognitive resources play a key role in the speed with which they will learn the other language and the success they will have in this process (Cummins, 1991). Fundamental to understanding the nature of children’s language and literacy development is the distinction between *contextualized* and *decontextualized* language (Snow, 1991). Researchers use different terms to refer to the distinction, but essentially it means the extent to which the meaning being communicated is supported by contextual cues or dependent on linguistic cues that are independent of the immediate communicative context. Cummins initially (1981, 1984) referred to this as context-

embedded and context-reduced language proficiency, and later (Cummins, 2001) as simply conversational v. academic language proficiency.

A number of researchers have shown that there is an undeniable distinction between conversational and academic language. In addition, researchers have concluded that the level of ability in the second language is partly a function of ability in the first language. Cummins (1991) provides a summary of several studies that look at the relationship between the first language (L1) and the second language (L2) contextualized and decontextualized skills among immigrant students. The next two sections provide a description of studies of Finnish students in Sweden, and Asian students in the U.S.

SCANDINAVIAN STUDIES: FINNISH IMMIGRANT STUDENTS IN SWEDEN

The Skutabb-Kangas and Toukoma report, summarized by Cummins (1991), is a synthesis of studies conducted in Sweden, primarily in Olofstrom and Gothenburg, and were designed to determine the level of Finnish immigrant students' academic achievement in both Finnish and Swedish and to study some of the factors relevant to their achievement. A number of tests in both languages were used to assess cognitive and academic skills such as vocabulary knowledge, synonyms, antonyms and others. The tests also assessed academic achievement in reading, mathematics, and other core subjects. Skutabb-Kangas and Toukoma (1976) interpret the Olofstrom data as follows:

...those who attended school in Finland (prior to immigration) approached the level of achievement of normal Swedish pupils...in the written comprehension test considerably more often than those who began school in Sweden. Those who attended school in Finland for at least three years did best. The explanation for this can perhaps be found in their better skills in their mother tongue, which laid the basis for understanding a test written in Swedish. Two years in a Finnish class in Sweden did not, on the other hand, make for a good basis for learning Swedish as the corresponding time in Finland. (1976, pp. 65-66)

The interesting point here is that schooling in the native language in the home country makes the difference and does not produce the same results as schooling in the native language in the host country.

The second set of studies summarized by Cummins (1991) was conducted by Linde and Lofgren who used path-analysis procedures to interpret data on Finnish children's achievement in Swedish schools. The first study was longitudinal and involved 32 third grade students in a bilingual program. The results indicate that children's proficiency in Finnish at the beginning of their school experience was strongly related to achievement at the third grade level while initial Swedish proficiency was related to a lesser level. A positive relationship between Finnish and Swedish language skills was also documented.

The second and third studies involved 319 and 157 Finnish sixth grade students, respectively. In both studies the researchers found a positive relationship between Finnish and Swedish verbal academic proficiency. The fourth study involved 388 eighth grade students and similarly reported a positive relationship between Finnish and Swedish proficiency (Cummins, 1991).

In summary, these studies indicate that there is a positive relationship between Finnish and Swedish verbal academic proficiency and that the transfer of academic skills across languages is occurring. Both of these sets of findings support the theory of interdependence between L1 and L2 verbal academic proficiency in the L2 acquisition process.

STUDIES OF ASIAN STUDENTS IN CANADA AND THE UNITED STATES

Cummins (1991) also points to several studies involving Asian immigrant students in North America that suggest that cognitive and personality attributes of individual learners, in

particular their academic skills in L1, contribute in significant ways to the acquisition of L2; this was achieved despite the dissimilarity of languages and writing systems.

Cummins *et al.* (1984) tested the interdependence hypothesis in a study of 91 Japanese students and 45 Vietnamese students in Toronto, as summarized by Cummins (1991). The Japanese students were the children of temporary residents who were in Canada for work-related reasons, whereas the Vietnamese students were refugee students. The Japanese students participated in a Saturday Japanese school which was designed to help students stay current with the curriculum in Japan in order to ease the transition when they returned. Students were selected in such a way that would allow for the effects of length of residence to be separated from age of arrival. Stated another way, a second grade student with two years of residence had an age of arrival of about five years whereas the age of arrival for a sixth grader with two years of residence was about nine years. All of the Vietnamese students were recent arrivals, with length of residence of 5 to 22 months. The Vietnamese students ranged in age between nine and seventeen years, meaning that these students had received at least some education in their home country prior to immigrating to Canada. “The dependent variables for the Japanese group consisted of five English decontextualized verbal academic measures and contextualized measures derived from rating of student interviews” (Cummins, 1991, p. 77). Students were also interviewed in Japanese and were tested using a Japanese standardized diagnostic reading assessment. Cummins found that variables related to students’ L1 cognitive and literacy skills contributed significantly to the development of L2 cognitive and literacy skills. The interdependence hypothesis was also supported in the Vietnamese study, where performance on a Vietnamese test of antonyms and the students’ age accounted for 61 percent of the variance in an English antonyms measure.

The studies in this section have shown that there is a distinction between conversational and academic language and that the level of ability in the second language is partly a function of ability in the first language. In other words, the foundation students receive in their first language provides the basis for the acquisition of the second language.

LARGE-SCALE STUDIES OF LATINO STUDENTS IN THE U.S.

Two large-scale evaluations (Ramírez, et. al., 1991; Thomas & Collier, 1997, 2002) provide support for the notion of linguistic interdependence and demonstrate that using the home language in instruction has a positive effect on achievement of ELs. First, a longitudinal study by Ramírez, et., al. (1991) followed Latino elementary-aged students in five states. This study was designed to compare the effectiveness of two alternative programs, structured English immersion and late-exit transitional bilingual education, with that of the early-exit transitional bilingual education. This was a four-year study, which included over 2,300 Spanish-speaking children in 554 classrooms from Kindergarten to sixth grade and residing in New York, New Jersey, Florida, Texas and California.

The study found that achievement in mathematics, English language skills, and English reading skills were comparable in the English immersion and early-exit bilingual programs. In other words, English learners in a bilingual education program that provides less than one hour per day of native-language instruction over a period of two or three years did not demonstrate better achievement than comparable students in programs with bilingual teachers who allowed their students to use their native language but who themselves essentially used English as the sole language of instruction. The study analysis also revealed that students in the late-exit programs who were provided with substantial instruction in their native language and who were gradually introduced to English as the language of instruction showed the greatest growth in

mathematics, English language skills, and English reading. This study provides additional support for the notion that native language instruction facilitates second language acquisition.

Collier (1995a) believes that in order for ELs to receive an equitable education, four factors must be present: (1) a socio-culturally supportive environment, (2) opportunities to develop their first language to a high cognitive level, (3) native language instruction which will provide for continuous cognitive development, and (4) learning experiences that emphasize cognitively challenging tasks. In a longitudinal study by Thomas and Collier (1997) the researchers show that development of L1 provides a sound foundation for subsequent academic success in L2. They state:

The first predictor of long-term school success is cognitively complex on-grade level academic instruction through students' first language for as long as possible (at least through grade 5 or 6) and cognitively complex on-grade level academic instruction through the second language (English) for part of the day. (p. 15)

Thomas and Collier (1997, 2002) conducted longitudinal research in 23 large and small school districts from 15 states, including Texas, and representing regions of the U.S. in urban, suburban, and rural contexts. The researchers collected large sets of quantitative databases over several years. The research design is based on data collected at each research site, collecting both qualitative and quantitative data that attempt to address the policy questions of the school district regarding English learners and their academic achievement over the long term (4-12 years). The focus was to examine outcomes in student achievement, following ELs across as many years of their schooling as is possible within each school district.

Thomas and Collier (1997, 2002) collected data from the central education offices, including the offices of testing, bilingual/ESL education, curriculum leaders, and data processing. They also collected school-level data, focusing on visits and interviews with staff and students of individual schools that stand out as exemplary models of school reform for

English learners, based on their student achievement data. The researchers characterize this study as providing whole school district views of policy decision-making that is data-driven regarding designing, implementing, evaluating, and reforming the education of ELs. The findings of this study demonstrate that it is important that educators provide a socioculturally supportive school environment for English learners that allow natural language, academic, and cognitive development to happen in both the first and second language. The qualitative findings show that each school context is different, and significant elements within each educational context can have strong influence on students' academic achievement in the long term.

The study included five stages in the data analysis. First the researchers performed descriptive summaries of each variable, including exploratory data plots and measures of central tendency and variability for each variable studied. Next they used relational database computer programs to create cross-sectional databases that allowed examination of student performance and characteristics at one point in time. Then, they used these cross-sectional databases to create longitudinal databases that followed participating ELs across the years. The researchers began with longitudinal databases that followed students for at least four years, and then added databases of students followed for five years, six years, and so on, up to 12 years. Only students who attended at least 100 days of one school year were included in the analyses.

Thomas and Collier (1997, 2002) found that students who participated in the subtractive types of bilingual program typically complete their schooling at the 24th to 40th normal curve equivalent (equivalent to the 11th to 32nd percentile) on standardized tests of English reading, whereas, students who participate in programs that emphasize native language support (one-way and two-way programs) in order to build students' conceptual knowledge in the content areas, typically complete their schooling on par or above their native-English speaking peers (at or

above the 50th NCE). Once again, this study supports the theory that students who have the opportunity to learn cognitively challenging content in their first language can use this knowledge to acquire new labels for this information, as well as new knowledge, in a second language. A student's conceptual understanding in the first language helps to bridge new learning in the second language.

It should be noted that critics of bilingual education have questioned the research supporting dual-language, and one academic, Christine Rossell (1998) has critiqued the Thomas and Collier (1997) study in particular. She is concerned that some reports have not appeared in refereed journals and that some data supporting conclusions by Thomas and Collier have not been made available. Collier and Thomas (2004) have responded by publishing data from their studies and by publishing in refereed journals (Freeman, 2005).

OTHER STUDIES CONDUCTED ON THE BORDER

Gersten, R., and Woodard, J. (1995) conducted a longitudinal study of transitional and immersion bilingual education programs in one district. This study was conducted with Spanish dominant English learners in ten elementary schools in one school district in El Paso, Texas. Five schools used a program in which all subject content was delivered in English, but Spanish instruction was also provided for 90 minutes daily in first grade, with gradual reduction of Spanish in subsequent years. At grade four, students received instruction in Spanish 30 minutes a day. The transitional bilingual program involved mostly Spanish instruction in the early grades with one hour per day of ESL instruction; transition to English was completed in the fourth or fifth grade. The children were matched demographically on entry to first grade, and scored near zero on a measure of English language proficiency. In grades 4-7 Iowa Tests of Basic Skills were compared for the two groups. On the reading portion of the test, the paired bilingual

students scored higher than the transitional bilingual students in fourth grade, but effects lessened in fifth grade and were very small by sixth and seventh grades.

This dissertation study, unlike Gertsen's and Woodard's study, focuses on the achievement of English learners receiving academic instruction through an additive form of bilingual education (dual-language program) as opposed to a subtractive program model (transitional bilingual program). Also, while the Gersten/Woodard study was longitudinal (4 years); my study follows students for 6 years. Finally, this study considers LSH and SES, which was not the case in Gersten and Woodard.

Language Acquisition Theories

This section summarizes the theoretical frameworks that guide this research study. The theories discussed include age and second language acquisition, cognitive aspects and language transfer, the input and affective filter hypothesis, two types of language proficiency and second language learning and student achievement.

AGE AND SECOND LANGUAGE ACQUISITION

Second language acquisition is a complex process because language can be viewed as a linguistic and cognitive accomplishment; however, social variables also affect language use and structure (Bialystok & Hakuta, 1994; Cummins, 1980; Odlin, 1989). As I have discussed, a relevant factor in second language acquisition is the cognitive skill development of the learner in his/her first language. Another important factor is the age of the learner. Studies show that because of their more advanced cognitive skills, older children acquire a second language at a more rapid rate than younger children (Bialystok & Hakuta, 1994; Collier, 1987; Cummins, 1984; Krashen, 1982).

This is contrary to the myth that young children are best at language acquisition. According to Crawford and Krashen (2007), young children may seem more adept in learning a second language, but this is due to the fact that children are less worried about using the new language and making mistakes. Children learning a second language also tend to use the language in mostly social settings which are not challenging in an academic sense and this makes the learners appear more proficient in the language than they really are (Crawford & Krashen, 2007). Researchers agree that it takes children at least 4-7 years participating in a well-implemented enrichment, or additive language program to acquire academic English (Collier, 1987, 1989, 1995b; Cummins, 1984; Thomas and Collier 1997, 2002, 2003).

COGNITIVE ASPECTS AND LANGUAGE TRANSFER

Based on IQ tests administered to immigrants in the early twentieth century, educational psychologists believed that speaking more than one language would cause confusion in the brain. However, Peal & Lambert (1962) and later Hakuta (1986) show that bilingualism has no apparent negative effects on the overall linguistic, cognitive, or social development of children, and may even enhance mental functioning. The earlier studies based on IQ tests turned out to be flawed because they did not consider the factors that could bias test results, such as culture, education and economic context (Crawford & Krashen, 2007).

Bilingualism is no longer viewed as a cognitive handicap caused by a second language confusing the brain. Research shows that bilingual people may be better equipped than monolinguals to think abstractly and divergently (Cummins, 1986; Hakuta & Diaz, 1985). As summarized by Crawford & Krashen (2007), other studies show that bilinguals are more adept at solving problems which require us to isolate what is important and ignore the irrelevant information.

When children enter elementary school, they typically enter school with a range of experiences and well established skills that help students acquire literacy, including understanding of literacy, abstract knowledge of the sound and structure of language, a certain level of vocabulary development, and oral connected communication skills. In the case of English learners, there is considerable variance among groups in home literacy skills and experiences. Children need early instruction in their first language in order to build on their prior experiences and skills to excel in the development of their second language.

Numerous studies have found that cognitive and academic development in the first language has an important and positive effect on second language schooling (Bialystok, 1991; Collier, 1987, 1989, 1995a, 1995b; Cummins, 1981, 1991; García 1994; Genesee, 1987, 1999; Krashen, 1982, 2003; Thomas & Collier, 2002). Academic skills, literacy development, subject knowledge, conceptual development and learning strategies developed in the first language will be accessible in the second language. Some studies indicate that if students do not reach a certain threshold in their first language, including literacy, they may experience cognitive difficulties in the second language (Collier, 1987; Collier 1995a, 1995b; Cummins, 1981, 1991; Thomas & Collier, 1997, 2002). According to Thomas and Collier (1997), “This L1 language development is deeply interrelated with cognitive development. Children who stop cognitive development in [their first language] before they have reached the final Piagetian stage of formal operation (somewhere around puberty), run the risk of suffering negative consequences, as measured by school tests” (p. 41). Researchers agree that proficiency in the native language is an important contributing factor to the long term academic achievement of language minority students (Bialystok, 1991; Collier, 1995a, 1995b; García 1994; Genesee, 1987, 1999; Thomas & Collier, 1997, 2002; Wong Fillmore, 1991).

Studies of the nature of what can be transferred from first language (L1) to second language (L2) reading need to take into account not only the level of first language reading, but also the level and content of the second language reading material (Collier, 1989; Skutnabb-Kangas, 1979). As was discussed, Cummins (1991) theorizes the linguistic interdependence principle as it accounts for the ability to transfer knowledge and skills from one language to another. Crawford and Krashen (2007) maintain that this theory works in every well-designed bilingual program and they offer the following example to illustrate:

Lorraine Ruiz taught a second-grade class of Spanish speakers in the Alum Rock School District in California. All of her students were ELLs. The children had exposure to oral comprehensible input in English, but much of the curriculum was in Spanish, and reading was taught exclusively in Spanish.

Ms. Ruiz had a classroom library with books in both English and Spanish. At the beginning of the year, the children could not read the English books, but by the end of the year they could. The children themselves were amazed. One child asked Ms. Ruiz, “When did you teach us to read in English?” The explanation is that Ms. Ruiz helped them learn to read in Spanish. Once you can read, you can read (pp. 20-21).

Hakuta and Snow (1986) also affirm, as other researchers have found, that because many skills are transferable to a second language, time spent learning in the native language is not time lost in developing English. To the contrary, a child with a strong foundation in the first language will perform better in English over the long term. For the same reason, reading should be taught in the native language, particularly for children who, on other grounds, run the risk of reading failure. Reading skills acquired in the native language will transfer readily and quickly to English, and will result in higher ultimate reading achievement in English.

SECOND LANGUAGE LEARNING AND STUDENT ACHIEVEMENT

Collier and Thomas state that typical monolingual English-speakers scoring at the 50th NCE are expected to essentially make one year’s academic achievement gain during each school year. In order for English learners to close the education achievement gap when tested in

English, ELs must gain more than one year's achievement in each of several consecutive school years. According to Thomas and Collier (1997, 2002) it takes 5-10 years for immigrant English learners to "catch-up" with monolingual English-speaking students. Therefore, it is critical that classroom instruction be organized and delivered in ways that maximize the learning opportunities for English learners.

As stated in chapter 1, research on biliteracy among Latino adolescents (Ciriza Houtchens, 2001) suggest that it is vital for educators to value the language and cultural capital that students bring into the classroom in order to motivate and engage adolescent students in authentic content and literacy development. Then, "students who previously may have been regarded as unproductive, unmotivated and resistant to succeeding in school are capable of becoming active, engaged readers" (Ciriza Houtchens, 2001, p. 211).

What the data show is that it takes at least 4-7 years, on average, for ELs to catch up to proficient English speakers on English-language tests of academic achievement. The students in this study have participated in the additive language program for at least six years and data across the years is presented in order to assess achievement over time. As stated in the previous chapter, the premise here is that if instructional practices are effective for native-English speakers, language minority students, and English learners, then the majority of English learners should have substantially closed the initial achievement gap with native-English speakers in six years. However, as noted by Crawford (2008), "Since ELLs tend to be disproportionately lower SES, many of them never catch up for reasons unrelated to language." Educators must clearly understand the current theory on language acquisition in order to maximize EL's opportunities to catch-up.

THE INPUT AND AFFECTIVE FILTER HYPOTHESES

Stephen Krashen (2003) has refined five hypotheses he believes are the core of theory on language acquisition. Two of these provide a framework for this dissertation study.

The first is the input (comprehension) hypothesis, which attempts to answer a fundamental question: How does language acquisition occur? “We acquire language in only one way: when we understand messages; this is, when we obtain *comprehensible input*” (p. 4). Researchers have shown that teachers frequently fail to accommodate content-area instruction so that it is comprehensible to students who are still learning English, and this failure to adapt instruction can lead to a disconnect between what teachers are teaching and what students are learning. As a result, many students do not acquire key concepts in the content areas (Moll & Diaz, 1986, Long, 1983, Krashen & Terrell, 1983). The comprehensible input theory supports the idea that children acquiring a second language would benefit from instruction in their first language in order to help them gain conceptual knowledge they will need to access information in the second language.

The affective filter hypothesis is a second theory refined by Krashen (2003) which is also relevant to this study. In Krashen’s words:

The affective filter hypothesis claims that affective variables do not impact language acquisition directly but prevent input from reaching what Chomsky has called the “language acquisition device,” the part of the brain responsible for language acquisition. If the acquirer is anxious, has low self-esteem, does not consider himself or herself to be a potential member of the group that speaks the language, he or she may understand the input, but it will not reach the language acquisition device. A block, the affective filter, will keep it out. The presence of the affective filter explains how two students can receive the same (comprehensible) input, yet one makes progress while the other does not. One student is open to the input while the other is not (p. 6).

The comprehensible input and affective filter hypotheses provide critical theoretical constructs necessary for interpreting the data presented in Chapter 5. Issues related to the cognitive aspects

of language, including language transfer, are also theoretical constructs which can illuminate the relevance of data presented in this study.

TWO TYPES OF LANGUAGE PROFICIENCY

To reiterate the distinction between contextualized and decontextualized language, the important concept here is that there is a clear distinction between social or playground language, and school or academic language. Language is not a unified skill, but a complex configuration of abilities. Language used for conversational purposes is quite different from language used for school learning, and the former develops earlier than the latter. Cummins (2008) theorizes this as the difference between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP). As was discussed earlier, the distinction between conversational and academic language is critical in order to understand what it takes for English learners to experience success in school. Relevant to this dissertation is the implication that students need to move from acquiring “playground” English (BICS) to acquiring “academic” English (CALP) in order to deal successfully with cognitively challenging language used in school. The implication here is that students should be challenged intellectually while being provided the supports, contextual and linguistic, necessary to do academic work in the second language. To summarize, Cummins (2008) has shown that there is an undeniable distinction between conversational and academic language. In addition, Cummins (1991, 2008) has concluded that the level of ability in the second language is partly a function of ability in the first language.

In this dissertation study, language proficiency is defined as the ability to use language for basic communication tasks and for academic purposes as defined by Cummins (2008), and as measured on norm-referenced and criterion-referenced tests. I also provide analysis of oral

language proficiency data to assess the relative growth of oral language proficiency skills of students in their native language, Spanish, and their second language, English as they progress through the dual-language program in grades 1-6.

Bilingual Program Models and Their Effectiveness

This study is based on the premise that the primary goal of bilingual education in the U.S. is English language development, and that we can define bilingual education as a means of using the child's first language to accelerate the acquisition of English. By doing this, we make English more comprehensible as theorized by Krashen (1985). Teaching subject matter in the child's first language provides knowledge, which helps the English learner understand instruction when it is presented in English.

Bilingual education also accelerates the acquisition of English by providing literacy development in the first language, which enhances English literacy. It is much easier to learn to read in a language you already know. To reiterate, Krashen puts it simply: "Once you can read, you can read" (Crawford, 2004a, p. 194). Studies show that the ability to read transfers rapidly across languages. Good bilingual programs provide lots of exposure to comprehensible English from day one, and introduce core content matter teaching in English as soon as it can be made comprehensible.

META-ANALYSIS REPORTS

The results of several meta-analyses of research comparing bilingual education and English-only instruction show that children in bilingual programs typically do better than children in all-English programs on tests of English reading (Krashen & McField, 2005). This finding has been established using controlled studies which compare the progress of two groups of children with very similar backgrounds. The instructional treatment given to the children is

the same, except that instruction provided to one group includes the use of the child's first language and the instruction provided to the other group is English only. Students in these studies have the same level of knowledge of English at the start of the study. In some cases, their English knowledge is statistically controlled. Finally, in these studies, both groups are given the same tests at the end of the study.

Table 3.1 represents the results of meta-analyses of research comparing bilingual education and English-only instruction. In this method of reviewing research studies, reviewers calculate the effect size or degree of superiority of one treatment over another. Reviewers Krashen and McField (2005) agree that bilingual education has a modest advantage over English-only methods, in that the average effect size is about .26, which means that the average student in the bilingual education group scored about a quarter of a standard deviation above the average of students in the all-English group.

Table 3.1 *Advantage for Bilingual Education in Five Meta-Analyses*

	Number	Effect Size
Rolstad et.al. 2005	17	0.23
Slavin & Cheung, 2005	17	0.33
Willing, 1985	23	0.33
Greene, 1997	11	0.18
McField, 2002	10	0.28

N = number of studies covered; ES = effect size (Krashen & McField, 2005, p. 8)

Krashen and McField (2005) also present the actual studies that different reviewers included in their reviews. In Appendix C, as noted by Krashen and McField, there is some overlap in the studies analyzed in the reviews, but reviewers did not examine the same studies,

and most studies appeared in only one or two of the five meta-analyses. When individual studies did appear in more than one review, there was agreement about the findings. Also included in Appendix C are the results of a study by Rossell and Kudar (cited in Krashen & McField, 2005). Based on these meta-analyses the “scientific evidence for the effectiveness of bilingual education is strong, abundant and consistent” (Crawford & Krashen, 2007). The research shows “...that well-designed and well-implemented bilingual programs are superior to all-English alternatives, both in teaching English and promoting academic achievement” (p. 27).

Why, then, with all this evidence is there so much resistance? According to Ovaldo (2003), this reaction is rooted in melting pot ideologies that tend to demonize the “other,” and that “because bilingual education is much more than a pedagogical tool, it has become a societal irritant involving complex issues of cultural identity, social class status, and language politics. Is language diversity a problem? Is it a resource? Is it right? On the surface, these issues seem quite remote from the day-to-day realities of bilingual classrooms across the United States, yet they are the basis on which bilingual education is either loved or hated” (Ovando, 2003, p. 15).

James Crawford (2002a) believes that part of the problem is that most members of the public, and most journalists, rely primarily on standardized tests of student achievement to judge the success of bilingual education, structured English immersion, and other programs for English learners. Journalists, he argues, like simple story-line, with a few subplots or caveats, so they do not take the time to delve into research. Crawford’s main point: “....it demonstrates the low priority that bilingual educators and researchers have placed on making scientific findings accessible to the public. As a direct result, policies on how to teach English language learners are increasingly based on what is politically, not pedagogically, effective” (Crawford, 2002a, p. 8).

Additive v. Subtractive Bilingual Program Models

The range of language acquisition programs has been widely documented (Cummins, 1986; Ovando, 2003; Ramírez, et. al., 1991; Thomas & Collier, 1997, 2002; García, Kleifgen & Falchi, 2008). The predominant models of language acquisition programs include subtractive or deficit forms of bilingual education such as English as a Second Language, structured English immersion education and transition or early-exit bilingual education. Additive forms of bilingual education include one-way and two-way dual-language education or bilingual immersion education and developmental or late-exit maintenance bilingual education.

Additive forms of bilingual education are based on the language-as-a-resource orientation and work to lower the “affective filter.” For example, according to Freeman, Freeman & Mercuri (2005), two-way bilingual programs have helped to raise the status and importance of non-English languages in many communities across the U.S. According to Freeman, et.al., “dual-language programs raise the status of non-English languages, because as native English-speaking children become bilingual, parents and students alike see the value of knowing more than one language” (p. xv). In addition, additive programs, both one-way and two-way, can be effective in helping children maintain their heritage language (Crawford & Krashen, 2007). Numerous critical features of dual-language programs have been documented. Both English learners and native-English speakers in dual-language programs reach high levels of academic achievement (Linholt-Leary, 2002; Thomas & Collier, 2002).

Another form of instruction not in compliance with U.S. federal standards as a result of the Supreme Court decision in *Lau v. Nichols* (1974) is submersion in English. In this situation, no instructional support is provided by a trained educator. In order to define the different types of

educational programs that are available for English learners in U.S. public schools, the characteristics of these program models can be seen in Appendix A.

Programs differ extensively as to how much, if any native language instruction teachers use. They also vary as to how many years of native language instruction students receive and whether there is a concerted effort to maintain the first language after the student has become academically proficient in English. In addition, the programs use different criteria regarding the inclusion of native-English speakers in bilingual programs. For example, ESL Pull Out programs utilize English for instruction 90-100 percent and may or may not include some home language support. The goal is to induce linguistic assimilation and to exit students to the mainstream education program as quickly as possible. Contrast this to a One-Way 90/10 Bilingual Education program (one of the two dual-language programs implemented in the Canutillo school district), which utilizes the native language for instruction 90% in the early grades with more and more English added until a 50/50 mix is achieved in fifth or sixth grade. ELs are taught literacy and subjects in both languages. The goal in this program is to promote bilingualism and biliteracy, including academic achievement in English.

To reiterate, not all forms of bilingual education programs are equally effective (Cummins, 1996; Krashen, 1996; Ramírez, 1991; Thomas & Collier, 1997, 2002; Wong-Fillmore, 1992). In their study, Thomas and Collier provide a visual that gives a description of each of the common program models (see Figure 3.1 adapted from Thomas & Collier, 1997, p. 53). The first two program models listed in Figure 3.1 are the two-way and one-way programs. In one-way bilingual education, one minority language group is schooled bilingually. Two-way bilingual education refers to an integrated model in which speakers of each of the two languages

are served together in the classroom to receive instruction in both languages (e.g., English and Spanish).

In this dissertation, I take the enrichment models of bilingual education as defined by Thomas and Collier (see Figure 3.1 below) and compare the achievement of students participating in each of the two programs—one-way and two-way. In addition, I compare the achievement of students served in bilingual education with students receiving all-English instruction. Like the Thomas and Collier study, this dissertation utilizes normal curve equivalents; however, unlike the Thomas and Collier, I also analyze longitudinal data from criterion-referenced assessments (Texas Assessment of Academic Skills) to assess academic growth of students over time.

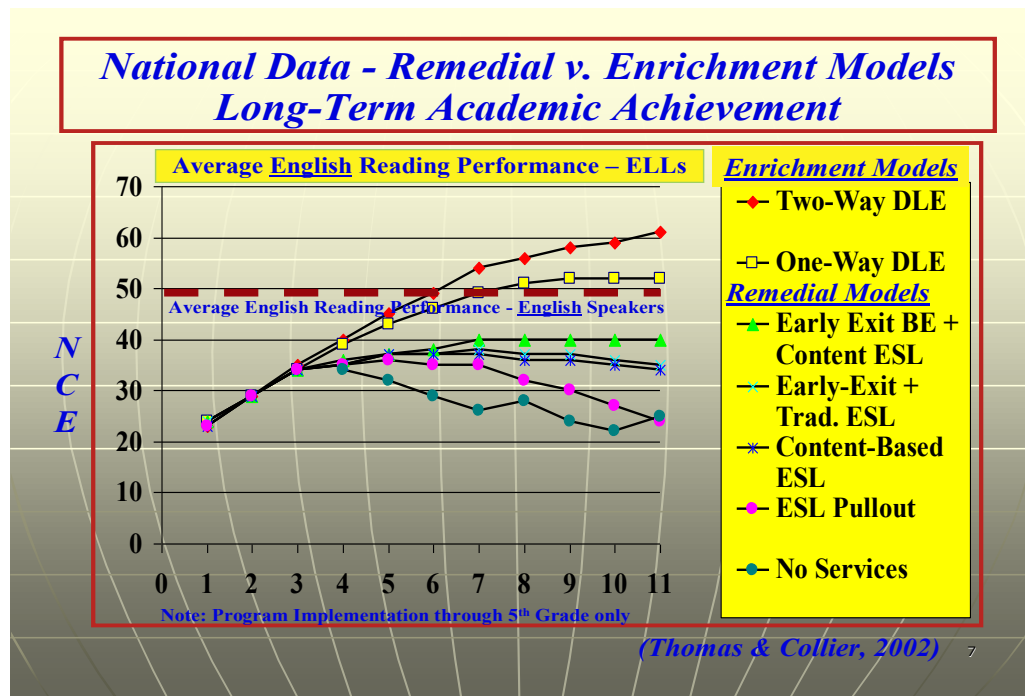


Figure 3.1 Remedial vs. Enrichment Models ~ Long-Term Academic Achievement

(Source: Adapted from Thomas & Collier, 1997, 2002)

As noted earlier, Thomas and Collier (1997, 2002) found that students who participated in the subtractive types of bilingual programs typically complete their schooling at the 24th to 40th normal curve equivalent (equivalent to the 11th to 32nd percentile) on standardized tests of English reading, whereas, students who participate in programs that emphasize native language support in order to build students' conceptual knowledge in the content areas, typically complete their schooling on par or above their native-English speaking peers (at or above the 50th NCE).

Krashen (2004a) has also contributed to the analysis of the research on dual-language programs; specifically, he has reviewed the progress of English learners in acquiring academic English by looking at studies that reported students' scores on tests of reading comprehension in English. In his analysis, Krashen excluded several studies because: 1) the scores of English learners were combined with those of native English speakers; 2) two-way students were not tested in English; and 3) the English learners had already acquired a considerable amount of English before starting the dual-language program. The studies he analyzed fell into several categories, including studies in which there were no comparison groups, studies in which students in dual-language programs were compared with English learners in English-only classes, and studies in which students in dual-language programs were compared with students in transitional bilingual education or with students in developmental bilingual education.

A final category of studies named by Krashen (2004b) included ones in which students in dual-language programs were compared with native English speakers also in dual-language programs. Based on his review, Krashen concluded, "Only a handful of studies exist and they report generally positive but variable attainment in academic English among English learners... Thus a close look at the data shows that two-way programs show some promising results, but research has not yet demonstrated that they are the best possible program" (p. 13).

ENRICHMENT V. REMEDIAL PROGRAMS

Attaining the goals set forth in NCLB has proven difficult for English learners and will require major reforms in their education as is being demonstrated in numerous current research reports. To provide English learners with the same educational opportunity as native English speakers, school districts will need to implement and support models that can effectively address the academic needs for students who come to school with a language other than English. Currently, the most common language support programs for ELs are those that emphasize English, such as ESL Pull-out, Content ESL and Transitional Bilingual Education, and do not sufficiently close the achievement gap. Stated another way, they do not provide English learners with the same access to education as their native English-speaking peers. These subtractive programs are remedial in nature because students are submersed in English and struggle to learn academic and cognitive skills. Because students receive instruction only in English, or receive only small doses of support in their native language, students in these programs are not working on grade level and are often years behind their native-English speaking peers.

Enrichment or additive program models, on the other hand, promote the acquisition of academic and cognitive skills in students' native language while they are acquiring English. These additive models include one-way and two-way dual-language programs. Because the model emphasizes the use of the native language as a medium of instruction, the expectation is that students are working on grade level in their primary language, while simultaneously acquiring English in a sequential and developmentally appropriate way. Figure 2.1 provides a side-by-side comparison of the two program types (See also definitions section in Appendix A).

Enrichment vs. Remedial Bilingual Education

❑ Enrichment (Additive)	❑ Remedial (Subtractive)
<ul style="list-style-type: none"> • Students learn academic/cognitive skills, while they develop/acquire English • Learners on grade level • Sequenced English language development • Additive models • High expectations; enrichment • Produces balanced bilinguals • Strong long-term achievement • Closes achievement gap • Strong Language Arts instruction in L1; add L2 while continuing L1 • Test initial reading in L1 	<ul style="list-style-type: none"> • Students develop English, but do not learn academic/cognitive skills • Weak academic and cognitive development • Learners behind grade level • Deficit model; subtractive ; low expectations • Produces <u>limited</u> bilinguals • Poor long-term achievement • Maintains/widens achievement gap • Weak language arts instruction in L1; early transition to L2 and subtract L1 • English testing encourages English • Test initial reading in L2

Figure 2.1 Enrichment vs. Remedial Bilingual Education

Source: Adapted from Dual Language Immersion Programs: Two-Way/One-Way

Developmental Bilingual Program For Texas, Dual Language Training Institute, Developed by Kolak Group Inc. in collaboration with the Texas Education Agency (2005).

A major difference between additive and subtractive forms of bilingual education is that in a subtractive model (such as ESL pull-out), the program ends as quickly as possible, sometimes as early as grade two. Because the goal is solely the acquisition of English, no attention is given to maintaining the native language. In the additive or enrichment form of bilingual education, however, the goal is biliteracy. Therefore, maintenance of the native language is a key element of the program model and students do not ‘exit’ the program. In Texas, when students meet state imposed ‘exit’ criteria, the district reclassifies the student and

does not any longer receive supplemental state or federal funding. However, the student, with parent permission, continues to be served in the dual-language program. In both one-way and two-way programs, students have the opportunity to continue building their academic skills in the native language beyond the elementary years, and throughout middle and high school. For new immigrant students who enter U.S. schools in the secondary years, and where additive programs are in place, students may enroll in content courses in Spanish, as well as courses in English which are content-based ESL courses. Unfortunately, these programs are rare. In districts that implement subtractive programs, ESL pull-out is the norm at both the elementary and secondary levels.

Summary

This dissertation focuses on two additive forms of bilingual education that may contribute to increased academic performance of English learners on achievement tests. As the demographic landscape of the U.S. changes, schools will need data to inform their practice regarding the design and implementation of effective models of dual-language education to serve the growing number of language-minority students. It is the responsibility of educators to collect data, conduct research and to make the analysis accessible to the public. This study also addresses the concern of advocates of dual-language education regarding the many variations in implementation. There is no other study that compares the effects of the one-way and two-way program on the achievement of English learners. In addition, this dissertation adds to the limited longitudinal research comparing ELs in two-way programs with native-English speakers in the same two-way program. I will also provide data relevant to the oral language proficiency of ELs in English and Spanish as they progress through the program. The border needs people who are capable of navigating in both languages. Finally, given the astounding number of Latinos not

completing high school or college degree programs, and since Latinos represent more than 80% of the population of El Paso County, it is imperative that educators and policymakers alike take notice of programs that contribute or hinder the educational attainment of its K-12 student population.

In the next chapter, I describe the setting for this longitudinal study and the methodology utilized.

CHAPTER 4

SETTING AND METHODOLOGY

This study is the product of research conducted from 2002 to 2008 in El Paso, Texas. The U.S.—Mexico borderlands provides a unique setting to evaluate bilingual education in significant ways. There is no better place to study the effects of bilingual education on student achievement than the U.S.-Mexico border region with its critical mass of Spanish-speaking children. The fact that large numbers of Spanish-speaking children reside in El Paso, and well-established public bilingual education programs were likewise established provided the ingredients of an integrated analysis of critical variables. The effort was also based upon support from the Canutillo school district that at the time was implementing a 5-year comprehensive district-wide grant, awarded by the U.S. Department of Education in 2001, with the goal of replacing the district's transitional early-exit bilingual education program with the dual-language bilingual education program.

This chapter first offers the context for this dissertation research, which is set in Canutillo, in El Paso County, Texas, and provides background information needed to understand the discussion in subsequent chapters. Next, the chapter details the dual-language program implemented in the Canutillo school district. The final section of this chapter is dedicated to describing the methodology utilized for this study.

THE ADVANTAGE OF STUDYING BILINGUALISM IN THE U.S.—MEXICO BORDER

El Paso, Texas is one of the most international cities of the world, a rapidly growing binational, bicultural community of more than 700,000 people, more than 80% of whom are Latino (U.S. Census Bureau, American Community Survey, 2006). It is the fifth-largest city in Texas and one of the state's fastest-growing metropolitan areas. Ciudad Juárez, Mexico, directly

across the Rio Grande, has a population of 1.3 million, (Instituto Nacional de Estadística y Geografía, 2005) creating a binational metropolitan area of more than two million people. Dona Ana County, New Mexico, has a population of more than 188,000 (U.S. Census Bureau, 2006). From the air, El Paso/Cd. Juárez/Dona Ana County resembles one city. It is a place where people go from one nation to the other frequently for work and business, on shopping trips, or for leisure. Transnational interaction is normal and routine. Global economic and political events, such as NAFTA and devaluation of the peso, have had a significant impact on cross-border interdependency. In addition, the events of 9/11 have added new consequences in the form of tighter controls to address national security issues.

As stated in chapter 2, the El Paso region is likely to become more Latino over the next several years and this feature of the population will continue to provide for a workforce that is bilingual and bicultural. Given the increasingly global economy, this could prove to be a huge advantage for this borderlands community. This is already playing out for the many highly bilingual residents of the borderlands region.

The problem today is that the population of the El Paso region ranks below state and national figures with regards to educational attainment. According to a study prepared for the Paso del Norte Group by the National Center for Higher Education Management Systems (2007), El Paso County residents "... in the primary working –age cohort of the population (ages 25-64) are much less likely to have completed a college degree of any kind and much more likely to have dropped out of high school before acquiring a high school diploma than is the case nationally" (p. 26). The study revealed that 11.8% of El Paso residents 25-64 years of age have completed a baccalaureate degree versus 17.1% nationally. Further, 30.3% have not completed

high school versus 16.1% nationally. This trend is mirrored with the young adult population ages 18-24 (Jones & McGuinness, 2007).

The data relevant to educational attainment and the challenges inherent in reversing such a trend seem daunting. While K-12 schools in the El Paso region have made steady progress to improve their educational programs as a whole, low graduation rates, which points to high drop-out rates, continue to cause concern for educators, parents, and policy makers. Secondary schools, in particular, pose the most difficult challenge for leaders at all levels.

Despite the ongoing challenges in secondary schools in the El Paso region, student achievement in the elementary grades is tracking consistently upward. One possible reason for this positive trend is that some schools have a documented record of implementing innovative research-based programs, including some of the most well-established dual-language programs in the state. The Ysleta Independent School District and the Canutillo Independent School District were recipients of federal funding intended to support innovative practices in schools that have a high population of English learners. Both school districts received sizable Title VII grants from the U.S. Department of Education, which provided the resources needed to hire qualified staff, and to engage school leaders, teachers and parents in deep dialog about research and best practice in bilingual education. As a result, both districts designed and implemented dual-language programs. In the case of Canutillo ISD, the initiative was known as Project AVANZA (Avanzando Vamos a Aquirir Nuevas Zonas Academicas). I was the primary author of the grant proposal, and once awarded, I served as the project director for the full five years of the project. In this chapter, I provide information regarding the implementation of the dual-language program in Canutillo ISD.

Increased student performance of ELs in both districts generated attention from teachers and administrators interested in an opportunity to see exemplary dual-language programs in action. In the case of Canutillo ISD between 2004 and 2008, the district received visits from Texas educators representing Midland ISD, Lamar ISD, San Antonio ISD, Laredo ISD, McKinney ISD, Mount Pleasant ISD, Plano ISD, and Alief ISD. Others came from as far away as Idaho and California. Canutillo ISD bilingual program staff was also frequently invited to conduct professional development for the Texas Education Agency (Kolak, 2005) and school districts nationally and internationally, including Puerto Rico and Mexico.

The interest in Canutillo ISD from other school districts was rooted in the opportunity to observe teachers using language for instruction, and to observe strategies used to effectively teach higher order cognitive skills. Teachers in Canutillo ISD are trained to provide students with feedback that is positive and supportive, classroom activities that are student-directed and to create an environment conducive to language learning and higher order thinking skills (see Appendix D for description of professional development topics). Visitors were also interested in dialoging with teacher trainers, as well as campus and administrative leadership to hear about successes and lessons learned in the design and implementation of dual-language programs.

Another way educators in Canutillo ISD, as well as educators from selected schools in other area districts, shared information about their dual-language programs was through participation in the annual BEEMS conference held annually in El Paso. The BEEMS conference is a joint effort of the University of Texas at El Paso's College of Education and El Paso area school districts. The purpose of the conference is to provide teachers, parents and administrators with high quality professional development with a focus on dual-language education. Each year the Conference features a school board member institute held in Canutillo ISD. The goal of the

institute is to provide school board members from throughout the region the opportunity to learn theory relevant to second language acquisition and promising practices in the instructional program for English learners.

Keynote presenters at the conference, and at the school board member institute during the time of this study included Josie Tinajero, Stephen Krashen, James Crawford, Virginia Collier, and Wayne Thomas to name a few. Former Texas Commissioner of Education, Dr. Shirley Neeley, Texas State Senator Eliot Shapleigh and former El Paso Mayor Raymond Caballero also participated in the school board member institutes. In 2008, the BEEMS conference added an advocacy panel presentation in order to engage the local media in a discussion about the implications of cultivating a bilingual and bicultural community. BEEMS panel presenters in 2008 included El Paso County Commissioner Veronica Escobar and El Paso City Council Member Susie Byrd, among others.

While this study did not present data relevant to the instructional strategies observed in the classroom, the professional learning opportunities listed above, as well as a review of written comments from visitors, indicate that in general, teacher instructional practices are consistent with the training concepts provided through a series of professional development opportunities. However, further research is needed to understand the complexity of program implementation by the teacher and the impact of principal leadership on EL achievement outcomes and progress over time.

REGIONAL AND DISTRICT STUDENT DEMOGRAPHICS

The El Paso region and Canutillo ISD in particular, provided the ideal setting for this study. Not only did the district offer students similar in prior exposure to English, it also offered families similar in socioeconomic status, and students similar in number of years of formal

schooling. In addition, there was credible evidence to suggest that the Canutillo ISD program was well-implemented by fully trained teachers in a good school system. For example, Figure 4.1 below shows results for schools in two districts, including four elementary schools in Canutillo ISD and one elementary school in El Paso ISD (EPISD). It is important to note that the dual-language program at Mesita Elementary School, in a medium to high SES neighborhood in the EPISD, allows only students served in the school's gifted and talented program to participate, whereas in Canutillo ISD, dual-language program participants represent a heterogeneous grouping of students, including special education, gifted and talented and regular education students in lower SES neighborhoods. The graph compares the 5th grade Texas Assessment of Knowledge and Skills (TAKS) performance of English learners in dual-language schools in Region 19 with the performance of English learners across the state. Canutillo ISD student performance in school year 2002-2003 exceeded that of the state and it exceeded that of Region 19 in all but one category, and even then was only slightly lower.

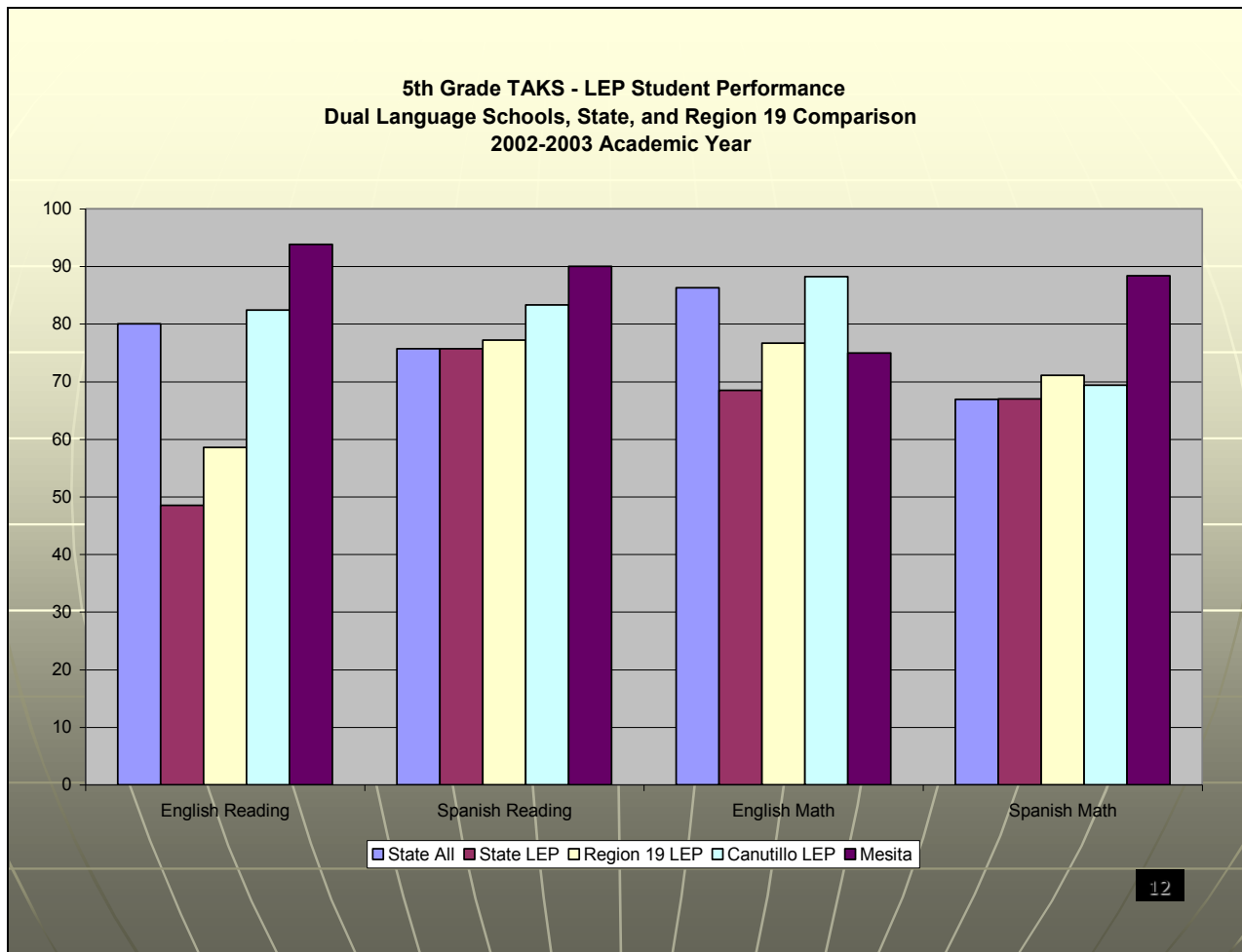


Figure 4.1 Fifth Grade TAKS English Learner Performance

Source: Adapted from Texas Two-Way Dual Language Consortium (2005). Retrieved from <http://dlti.us/doc/TexasDLEffectivenessData.pdf>

The Academic Excellence Indicator Report (2007) shows that the total school enrollment in Region 19, which includes all nine public school districts in El Paso County, was 172,532 children, of whom 28% were ELs. In Canutillo ISD, the total number of children enrolled was 5,483, with a high percentage of those students coded as English learner, 34.4%. Table 4.1 below provides a side-by-side comparison of selected student demographics in El Paso County as a whole and of Canutillo ISD.

Table 4.1 *2007 Region and District AEIS Report*

	Region Total	Region Percent	District Total	District Percent
Total # of Students	172,532	100%	5,483	100%
Latino	152,757	88.5%	5,159	94.1%
Economically Disadvantaged	130,233	75.5%	4,541	82.8%
English Learners	48,374	28.0%	1,884	34.4%

Source: CISD Database Files; also available from the Texas Education Agency website: AEIS Reports.

DUAL-LANGUAGE PROGRAM IN CANUTILLO ISD

Canutillo ISD is located in Canutillo, Texas, a rural, predominantly Latino area of El Paso County. Canutillo ISD is the primary organized municipal source for providing an educational, social, and recreational environment for the Canutillo, Vinton and Westway communities. These communities (approximate combined population: 15,850) encompass over 56 square miles, are located on the far west tip of Texas, between Mexico and New Mexico, and have limited resources. This area is isolated from the rest of the El Paso Metropolitan area.

Because Canutillo is an unincorporated community with only a portion of its boundaries within the limits of the City of El Paso, much of the infrastructure for general city services is not available in Canutillo. For example, the community of Canutillo does not currently have a public library, movie theater, or public transportation. Currently little private investment exists in the area given that unemployment is high, as is common along the U.S. – Mexico border region. However, this is beginning to change as a result of sprawl from the City of El Paso and in anticipation of the Base Realignment and Closure (BRAC). BRAC growth alone will bring an

additional 21,000 soldiers to El Paso by 2011 (Office of Economic Adjustment, 2007).

Currently, the Canutillo ISD is experiencing a 3% growth rate, which is expected to increase to 5% in the next two to five years. The rapid growth is expected to increase the property tax base of the school district significantly. The current student population provides the advantage of a stable group of English learners (see Figure 4.2 below).

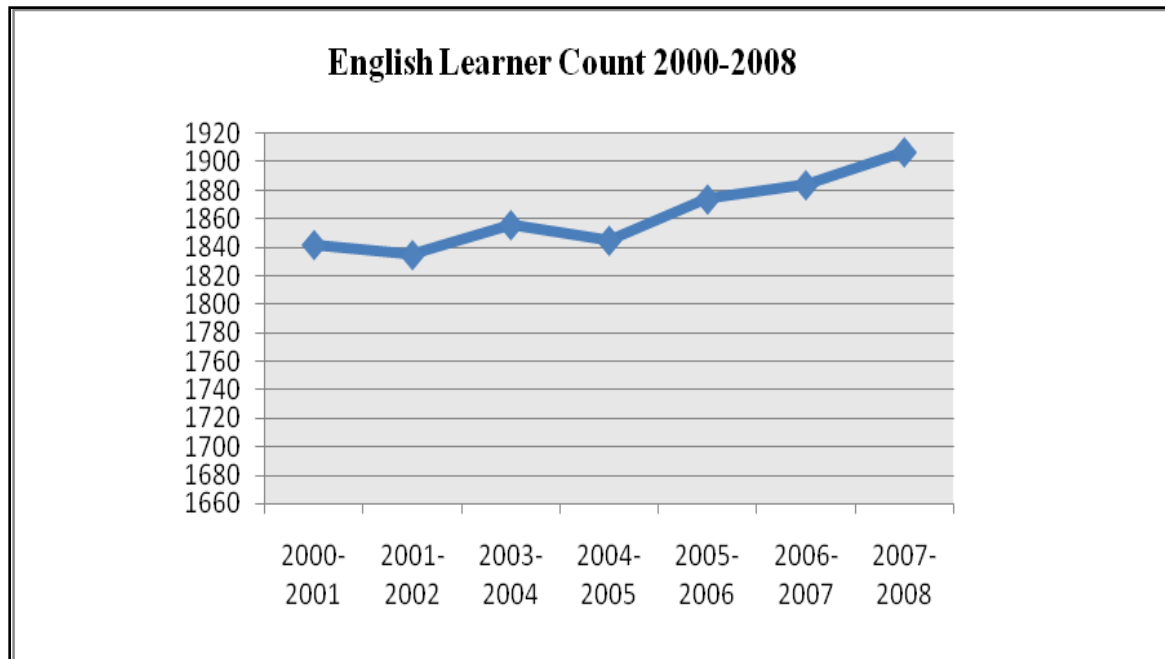


Figure 4.2 English Learners in Canutillo ISD

Source: CISD PEIMS Data Files, 2000-2008

At the time of this study, all four elementary schools, both middle schools and the one existing high school in Canutillo ISD, provide the dual-language program. All four elementary schools implement both the one-way (90/10) and two-way (50/50) programs in Kindergarten (5-6 year olds) through sixth grade (11-12 year olds). Both program models are implemented in accordance with a defined time and treatment relative to language of instruction. What this means is that in the one-way model, children received 90% of instruction in Spanish (L1) and 10% in English (L2); this pattern begins in Kindergarten, with a gradual decrease in the percent

of Spanish and an increase in the percent of English until the two languages are used in equal amounts so that by the fifth grade, students receive 50% of their instruction in Spanish and 50% in English (See Figure 4.3 below).

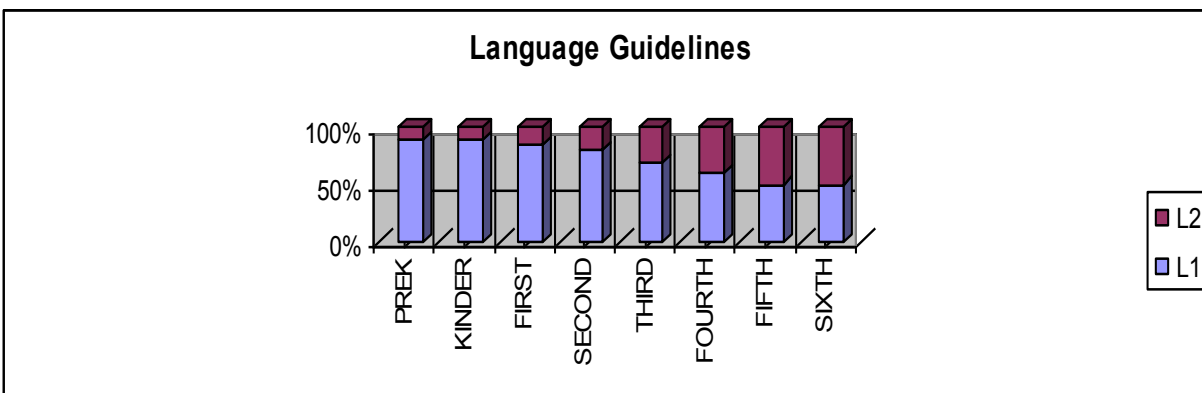


Figure 4.3 Language Guidelines for One-Way Program in CISD

Source: Canutillo ISD Data Files, 2004

All four elementary schools, in accord with a two-way approach, educate children in Spanish 50% of the day and English 50% of the day. In both program models (one-way and two-way), formal literacy instruction, in Kindergarten through second grade, is provided in the native language of the child. This means that children whose native language is Spanish learn to read in Spanish and dominant English speaking children learn to read in English. Formal literacy instruction in the second language of the child begins in third grade for both groups, and all other core subject matter is delivered in two languages from Kindergarten through sixth grade. In middle school and high school, students have the option to continue to participate in the dual-language program, which provides for one, two or three courses delivered almost exclusively in Spanish. In order to provide academic content instruction in Spanish for students participating in the dual-language program in grades 7-12, the district is required to submit a waiver of Texas

Education Code, Section 28.005(a), which dictates that English shall be the basic language of instruction in public schools (Texas Education Agency, 2008a).

One hundred percent of the teachers assigned to teach in the one-way program are certified in bilingual education and are responsible for delivering both English and Spanish instruction to a group of English learners. In the two-way program, in most cases, two teachers work together to deliver instruction in each of the two languages. In 100% of cases, one of the two teachers is certified in bilingual education, and in some cases, both teachers are bilingual certified. In this setting, one teacher serves as the English model and one teacher serves as the Spanish model (the Spanish model teacher is always certified in bilingual education).

Teachers in both the one-way and two-way programs receive training regarding what the district considers “non-negotiable” in the implementation of the dual-language programs (see Appendix A). For example, in the two-way 50/50 program, the languages are not mixed within a subject and both languages are each used for instruction in approximately equal proportions, 50% Spanish and 50% English. Similarly, in the one-way 90/10 program, the languages are not mixed within a lesson and both languages are each used for instruction as indicated by the time and treatment policy: 90% Spanish and 10% English in K-1st grade; 80% Spanish and 20% English in 2nd grade; 70% Spanish and 30% English in 3rd grade; 60% Spanish and 40% English in 4th grade; 50% Spanish and 50% English in 5th and 6th grade (See Figure 4.3 above). In addition, in both the one-way and two-way programs, the curriculum spirals because lessons are not to be repeated in the other language. Lessons build one on the other and teachers must remain true to the language of instruction. No code-switching is permitted by the teacher (See Appendix A for a description and implementation rules for the one-way and two-way programs as defined by Canutillo ISD). Equally important is the fact that students are encouraged to use both

languages as needed throughout the school day. Teachers are instructed never to discourage the use of either language at any time. This is critical for ensuring that both languages are valued and promoted equally. Allowing students to use both languages as needed also promotes cognitive and academic development which lowers the affective filter and promotes the acquisition of new knowledge in both languages.

Parental engagement is another important element of the Canutillo ISD models. Parents are encouraged to participate in campus and district-based decision-making committees. Parents are also recruited to train other parents and to present along-side classroom teachers, administrators and school board members at local, state and national conferences. The advocacy role of parents in Canutillo ISD includes letters to the editor and frequent presentations during school board meetings (See Appendix E for one example).

METHODOLOGY

In order to study the effects of dual-language education on student achievement from a longitudinal perspective, this dissertation involved the mining of quantitative data for a cohort of 200 students who entered 2nd grade in 2002-2003 and entered 6th grade in 2007-2008 and whose program status was one of the following: EL in the One-way program; EL in the Two-way program; Non-EL in the Two-way program; and Non-EL in the Monolingual English Program-MEP (see Table 4.2 below).

Table 4.2 *Number of Students by Program Status*

	Number of Students	Percent
EL-One-Way	69	34.5%
EL-Two-Way	45	22.5%
Non-EL-Two-Way	34	17.0%
Non-EL-MEP	52	26.6%
Total	200	100%

Source: CISD Data Files

This work, guided by the program design offered by Oller (2002b), is intended to assess education practices that may enhance performance of bilingual children in school. As in the Oller (2002b) study, two categories of factors are considered critical in addressing the role of bilingualism: first, it is necessary to evaluate the capabilities and backgrounds of bilingual children in both their languages; and second, it is deemed crucial that social and educational variables be considered.

Accordingly, the dependent variables of study were:

- (1) English oral language, as measured by Language Assessment Scales (LAS-O), and academic performance (as measured by SAT-10 and English Texas Assessment of Knowledge and Skills-TAKS), and
- (2) Spanish oral language (as measured by LAS-O) and academic performance (as measured by APRENDA and Spanish TAKS).

Also in accord with the reasoning, the selected independent variables were:

- (1) socio-economic status (SES),
- (2) language spoken at home (LSH), and
- (3) instructional method at school (IMS).

Study participants were tested in reading and mathematics, utilizing a norm-referenced assessment in grades 2, 4 and 6. Only students who had attended the school system for six years or more were included in the study. Students were also tested in reading and mathematics, utilizing a criterion-referenced assessment in grades 3, 4, 5 and 6. As noted above, the “six-year” group was separated into four subgroups to distinguish the instructional method at school: EL in the One-way program; EL in the Two-way program; Non-EL in the Two-way program; and Non-EL in the monolingual English program (MEP). I computed the test scores for each of the four groups, utilizing normal curve equivalents (NCEs) for the norm-referenced tests and raw scores for the criterion-referenced tests. In addition, ELs were administered an oral language proficiency assessment in both English and Spanish. Both assessments utilize a five point rubric, 1-5, with 1 indicating Not Spanish or Not English Proficient (NEP) and 5 indicating Fully Spanish or Fully English Proficient (FEP). The levels in-between indicate gradually increasing levels of English or Spanish language proficiency.

The overarching research question builds on the work of Thomas and Collier (1997, 2002) and is stated as follows: for students who have received additive bilingual education instruction for six or more years, and who are (1) tested on norm-referenced and criterion-referenced tests in English after 4-5 years in school when they can take these tests in English with some facility, (2) similar in prior exposure to English, (3) similar in family socioeconomic status, and (4) similar in number of years of formal schooling, what is the long-term ‘high-water mark’ of student achievement that the one-way and two-way bilingual program can be expected to produce by the end of the students’ school years, when each program is well-implemented by fully trained teachers in a good school system? (p. 71) While this dissertation research does not follow students into their high school years, it is hoped that this study provides the base for

subsequent iterations of this effort in order to contribute to the research in determining the high water-mark of student achievement. The impact of this study will be to assess educational practices that may enhance performance of bilingual children in the elementary school years and to examine the interrelationships among skills in the two languages.

SUMMARY OF STANDARDIZED ACHIEVEMENT TESTS

Standardized achievement tests are commonly used to provide information about students' knowledge in various areas. "Standardized" means that the test is always given and scored the same way. The same questions are asked and the same directions are given for each test. Specific time limits are set, and each student's performance may be compared with that of all the other students taking the same test. Most standardized achievement tests are multiple-choice tests.

As mandated by the 76th Texas Legislature in 1999, the Texas Assessment of Knowledge and Skills (TAKS) was administered for the first time during the 2002-2003 school year. The TAKS measures the statewide curriculum in reading at Grades 3-9; in writing at Grades 4 and 7; in English Language Arts at Grades 10 and 11; in mathematics at Grades 3-11; in science at Grades 5, 10, and 11; and social studies at Grades 8, 10, and 11. The Spanish version of TAKS is administered as follows: reading and mathematics, Grades 3-6; writing, grade 4; and science, grade 5. Satisfactory performance on the TAKS at Grade 11 is a prerequisite to a high school diploma.

The TAKS is a criterion-referenced test administered in the spring. The description of the TAKS performance standards is as follows: "Met the Standard" indicates that students had satisfactory academic achievement, performing at a level that was at or somewhat above the passing rate. Passing standard is indicated by the following raw scores (Spring 2008

administration): English reading 27; Spanish reading 25; English math 29; Spanish math 29 (Texas Education Agency, 2008b). Students receiving this label demonstrated a sufficient understanding of the knowledge and skills measured at any given grade level. Students receiving the label of “Commended Performance” had high academic achievement, performed at a level that was considerably above the state passing standard and demonstrated a thorough understanding of the knowledge and skills measured at any given grade level. Commended performance is indicated by the following raw scores: English reading 38; Spanish reading 36; English math 41; Spanish math 40 (Texas Education Agency, 2008b).

These data were analyzed using descriptive and comparative statistics. For this study, TAKS scores in reading and mathematics for students in Grades 3 through 6 were utilized to measure student performance in English and Spanish. Data obtained from the TAKS test is presented in terms of mean raw scores. In some cases, I also provide data to show mean score of specific subgroups. Student achievement on TAKS of program participants currently in sixth grade was compared to non-program participants (Non-EL in monolingual English program). Program students participated in the dual-language program at least six consecutive years (grades 1, 2, 3, 4, 5 and 6).

In summary, criterion-referenced tests are designed to compare a student's test performance with clearly defined curricular objectives, skill levels, or areas of knowledge. Results from criterion-referenced tests compare the performance to a predefined set of objectives, and demonstrated mastery (knowledge) of a specific subject, such as long division.

The second measure of student achievement was the APRENDA and Stanford 10 tests, which are norm-referenced tests; the intermediate level of the tests, spring semester norm was utilized, except for second grade where the fall semester norm was utilized. This test was

administered to all second-grade, fourth-grade and sixth-grade students. The normal curve equivalent (NCE) is a derived score used to compare scores across the tests. The NCE scale ranges from 1 to 99. It coincides with the national percentile scale at 1, 50, and 99. NCE scores have many of the same characteristics as percentile ranks, but they have the additional advantage of being based on an equal-interval scale. The difference between two scores on the scale has the same meaning throughout the scale. This property allows for comparisons between different achievement test batteries and between different tests within the same battery. One can compare NCEs obtained by different groups of students on the same test or test battery by averaging the scores for the groups. The mean NCE is the average of the individual students in the group.

Percentile scores are defined on a scale of 1 to 99 with 50 meaning average, and reveal the percentage of scores in the group that are “at” or “below” an individual student's score. For example, if an individual student earned a percentile rank of 60, then he/she scored better than 60 percent of the students in his/her comparison (norm) group, and 40 percent scored as well as or better than the individual student. A misinterpretation to avoid is viewing a percentile score as a specific measure. Percentiles should be viewed as approximate, rather than specific, values (Thomas & Collier, 2002). As summarized by Krashen (2004b) Jim Crawford has pointed out that when scores fall below the 50th percentile, NCE scores are higher than percentiles. A percentile rank of 29, for example, is the same as an NCE score of 38. Above the 50th percentile, NCE scores are lower than percentiles. A percentile rank of 76 is equivalent to an NCE score of about 65.

In summary, norm-referenced achievement tests measure basic concepts and skills commonly taught in schools throughout the country. These tests are not designed as precise measures of any given curriculum or single instructional program. Results from norm-referenced

tests provide information that compares students' achievement with that of a representative national sample. This gives teachers the opportunity to compare their students with other students. So, when a teacher says that a student scored at the 82nd percentile, that student's score was equal to or better than 81 percent of the scores of all the students who took the same norm-referenced test during the norming process.

STUDY DESIGN

The work reported in this dissertation was conducted with a common group of children over a six year period within what I refer to as the 'Focus Design' and is guided by Oller's work (see Figure 4.4). The study was conducted within a single investigation, in which schools and children were assigned to the Focus Design and outcomes were assessed. Throughout the six years of the study, ELs were assessed in their oral language proficiency in both languages. The oral language assessments administered in year one and year six of the study will serve as the pretest and posttest, respectively. With regards to the standardized achievement tests, the ELs were assessed in their native language—Spanish—for the first five years of the study, in most cases. All ELs were assessed in English, on both the norm-referenced and criterion-referenced tests, in year six—the final year of the study. For comparison purposes monolingual English-speaking children were tested in English.

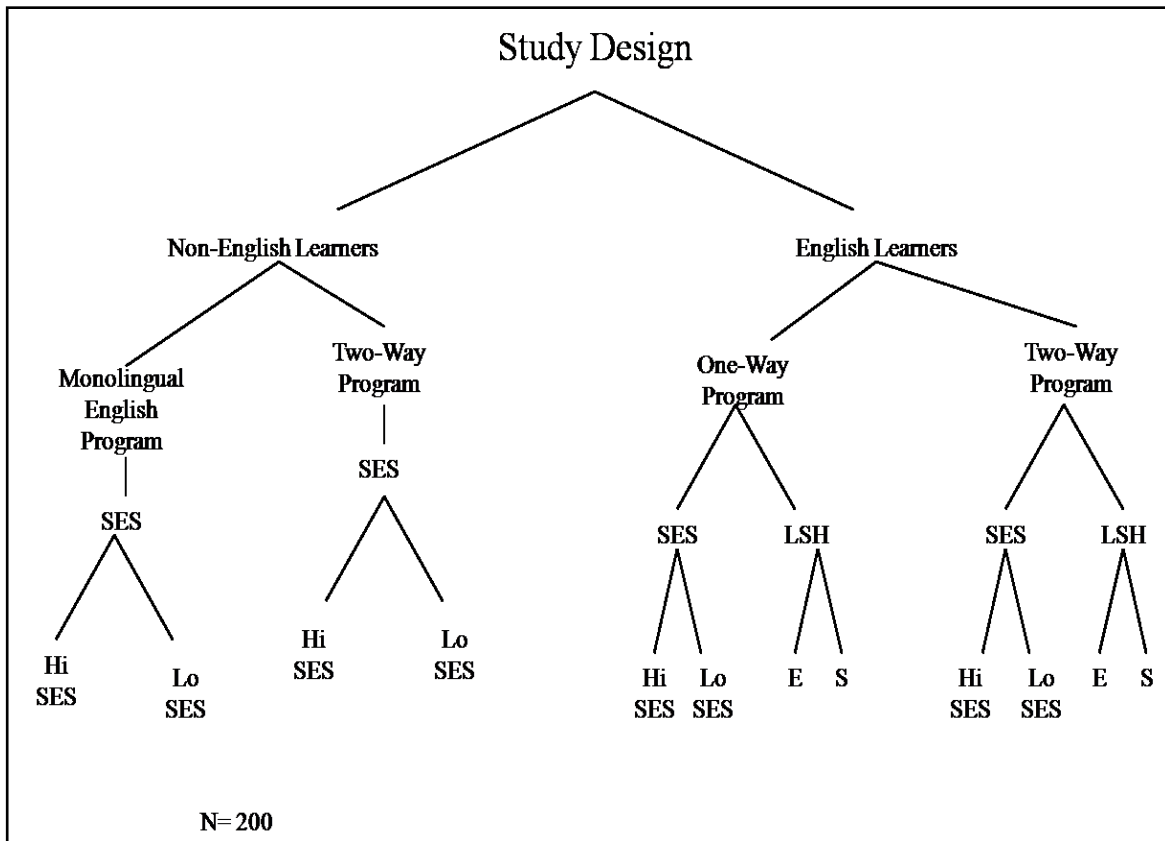


Figure 4.4 Study Design

RESEARCH QUESTIONS

As mentioned in chapter 1, my research questions are the following:

- 1) Does participation in a dual-language program help or hinder ELs' oral language development in English and/or Spanish? Do students learn English in a dual-language program? Do students continue to develop oral language skills in their native language, Spanish?
- 2) How does the academic performance of ELs in the one-way program compare to the academic performance of ELs in the two-way program when tested in Spanish and in English?

- 3) How does the academic performance of non-ELs in the two-way program compare to the academic performance of non-ELs in the monolingual English program? Does participating in a dual-language program hurt your English if you are a fluent English speaker?
- 4) How does the academic performance of the ELs in the two-way program compare to the academic performance of non-ELs in the two-way program when tested in English?
- 5) Did children tend to show strength in one language if they showed strength in the other (interdependence) or did achievement in one language drain resources from the second (subtractive bilingualism)? In other words, was there a relationship between academic performance in the two languages?

PARTICIPANTS

As stated earlier, the “six-year” group was separated into four subgroups: EL in the One-way program; EL in the Two-way program; Non-EL in the Two-way program; and Non-EL in the Monolingual English Program (MEP). The sampling group of students that were served in the one-way program is composed of nearly all English learners, which represent a high percentage of Latinos. The sampling group of students that were served in the two-way program is composed of both English learners and non-English learners, which represents a mixed group of Latinos and Anglos. The sampling group of students that were served in the all English program is a mixed group of Latinos and Anglos. Table 4.3 below shows the SES for students from each of the four groups. A majority of students from all four groups qualify for free or reduced cost meals, the indicator in Texas used for economically disadvantaged. Only 29 students are coded as **not** economically disadvantaged, and the majority of these students are in the monolingual English program group.

Table 4.3 *Economically Disadvantaged by Program Status*

		SOCIO-ECONOMIC STATUS			Total
PROGRAM STATUS		Not Econ Disadvantaged	Free Meals	Reduced Cost Meals	
	EL One-Way	1	63	5	69
	EL Two-way	4	38	3	45
	Non-EL Two-Way	8	21	5	34
	Non-EL MEP	16	25	11	52
Total		29	147	24	200

Source: Canutillo ISD PIEMS Family Survey, 2002)

Given that this research study includes data from students' first grade year (2002-2003) and subsequent years sequentially up to the sixth grade (2007-2008), students are similar in the number of years of formal schooling. Also, because this study is longitudinal in nature and includes students participating full time in one of two dual-language programs, and because students received instruction based on an established time and treatment, study participants are similar in terms of their exposure to English.

It should be noted that fewer ELs attended Pre-Kindergarten and/or Kindergarten as compared to non-ELs. This is partly due to the fact that some ELs are immigrant children who immigrated to the U.S. after Pre-K and/or K years, or these are children whose parents opted not to enroll their children in the pre-Kindergarten or Kindergarten program. In Texas, children who are five years of age on or before September 1 are not required to attend Kindergarten. However, on enrollment in Kindergarten, a child shall attend school. Compulsory school attendance begins at age six (Texas Education Agency, 2006). Tables 4.4 and 4.5 below show the numbers of students from each group that did and did not participate in the Pre-K and K programs.

Table 4.4 *Participated in Pre Kindergarten*

		PREKINDERGARTEN	
		YES	NO
Program Status	EL-One-Way	25	44
	EL-Two-Way	22	23
	Non-EL-Two-Way	23	11
	Non-EL-MEP	29	23
Total		99	101

Table 4.5 *Participated in Kindergarten*

		KINDERGARTEN	
		YES	NO
Program Status	EL-One-Way	55	14
	EL-Two-Way	43	2
	Non-EL-Two-Way	34	0
	Non-EL-MEP	43	9
Total		175	25

Upon entering a Texas public school for the first time, students' parents are asked to complete a Home Language Survey (HLS). The school districts in Texas are required to ask the following two questions: 1) What language is spoken in your home most of the time? 2) What language does your child speak most of the time? Canutillo ISD includes a third question: What is your child's native language? (See Appendix B) One-hundred percent of the ELs participating in the one-way and two-way program reported speaking Spanish in the home. The majority of non-EL's participating in the dual-language program reported speaking English in the home (See Table 5.2).

DATA COLLECTION

All children participating in the Focus Design were given a series of tests of oral language and academic performance. *The Stanford Achievement Test (SAT-10)* and *La prueba de logros en español, Tercera edición (Aprenda 3)* battery was selected to constitute the primary set of standardized tests. This pair of tests was one of only a few available major educational tests

covering a broad range of subcategories of knowledge applicable at the elementary and middle school level with full norming in both English (SAT-10, 2002) and Spanish (APREND-3, 2003). The battery had the advantage of psychometric soundness and allowed for comparison among groups of children from a variety of backgrounds.

In addition to the SAT-10 and APREND-2/3, children in the Focus Design were also tested with the Texas Essential Knowledge and Skills (TAKS). Reading and math raw scores were analyzed to determine student academic performance in English or Spanish. Like the norm-referenced tests, students were given the criterion-referenced test based on their dominant language. This meant that in grades 3-5, students in the English learner group were given the Spanish TAKS and APREND, in most cases. By the sixth grade, after students had been in the bilingual program for a number of years and could take tests in English with some facility, they were tested using the SAT-10 and English TAKS (Spring 2008). Finally, the Language Assessment Scales (LAS-O) pre- and post- tests were also compared (2002-2007), for English learners, to determine growth in English and Spanish proficiency over time. Non-ELs were also administered the Spanish LAS-O, however, these data are not part of this study.

CHAPTER 5

RESULTS OF THE STUDY

Understanding student outcomes in various types of educational programs, including language programs in schools, has long been an interest for educators. The majority of educational programs analyzed consist of short-term (one or two year) studies, which do not provide valid data regarding the long-term effect of the educational program on student achievement. Short-term studies also do not take into account the social-cultural effects of subtractive vs. additive schooling. In particular to language programs, the studies do not analyze the implications of disallowing the use of students' native language in school. This dissertation research utilizes a longitudinal approach to study the effects of sustained use of native language on student achievement.

Using valid program outcome and evaluation data to inform program implementation is the key to ensuring program improvement. In addition, longitudinal cohort studies allow for the measurement of *progress* over time rather than simply of *outcomes* on high-stakes exams, by showing annual growth in exam scores, as well as performance in relation to a set bar for achievement. The set bar for achievement relevant here, is the district's commitment to ensuring that students are on grade level in all of the core subjects in their native language, while they are learning English. The district's superintendent, at the time of this analysis, is committed to additive bilingual education and believes that English will come gradually, but on-grade-level work in the students' native language is critical to ensure students do not fall behind in the academic subjects while they are acquiring English (personal communication). Thus, the focus of this study was to examine the long-term progress in student achievement, following ELs and

non-ELs across as many years of their schooling as is possible within each elementary and middle school in the school district.

This chapter catalogs the results of this longitudinal study. These outcome data have been examined with 200 students. In some cases, I examine data relevant to English learners. In other cases, I examine data for both English learners and non-English learners. The first part of the chapter focuses on the demographic characteristics for all 200 participants. Next, I show results of pre and post oral language proficiency tests in Spanish and in English for 114 English learners. While the LAS-O data can only provide information relevant to the Basic Interpersonal Communication Skills (BICS) of students in the study, we can use this information to show the extent to which students are helped or hindered in their development of oral language skills as a result of the instructional method utilized in school, which addresses Research Question #1 specifically. I also present standardized achievement test data for non-ELs. The majority of this chapter is dedicated to a discussion of the results for each of the five research questions that anchor this study.

STUDY PARTICIPANT DESCRIPTIVE STATISTICS

One hundred percent of the students in the study receive free lunch. The district receives a school-wide free lunch designation based on Provision II application criteria from the U.S. Department of Agriculture. Based on information derived from an annual survey conducted by the district to determine family socio-economic status, the majority of students in this study are considered economically disadvantaged. Table 5.1 below shows students' status by program, and documents a total of 171 out of 200 students as economically disadvantaged. All students participating in the one-way program, with the exception of one student, are coded as

economically disadvantaged. Only 5 students out of 114 ELs come from homes that are not economically disadvantaged.

Table 5.1 *Socio-Economic Status of Students*

		ECONOMICALLY DISADVANTAGED	
		No	Yes
PROGRAM STATUS	EL One-Way	1	68
	EL Two-Way	4	41
	Non-EL Two-Way	8	26
	Non-EL MEP	16	36
Total		29	171

Students included in the study were 69 English learners served in the one-way program, 45 English learners served in the two-way program, 34 non-English learners served in the two-way program and 52 non-English learners served in the regular monolingual English program.

For ELs, the language spoken at home is Spanish (noted in Table 5.2 below), and nearly all are low SES (noted above).

Table 5.2 *Language Spoken in the Home (LSH) and Program Status*

		LSH	
		English	Spanish
PROGRAM STATUS	EL One-Way	0	69
	EL Two-way	0	45
	Non-EL Two-Way	21	13
	Non-EL MEP	38	14
Total		59	141

Only students who have been enrolled in the school system for six years or more and for whom I have 100% data, with the exception of norm-referenced test scores for a few students at grade six, were included in the study. For this reason, numbers for some groups at some schools are low. For example, the numbers for two-way students at school 101 are low due to the fact that some students were absent during testing dates, and therefore were not included in the study. In

the case of school 102, a small number of non-English learners are enrolled at the school to begin with, leaving small numbers of non-ELs for which we have data. In addition, all 4 schools experience significant student mobility; however, the actual mobility rates are not known. School districts in the United States that are near the U.S./Mexico border often experience a high rate of student mobility. It is not uncommon for some students to begin school in one location and move to another school within the district or to return to Mexico for a time during their school years.

Table 5.3 provides a snapshot of students based on program participation. See Appendix A for a description of the one-way and two-way program models. The monolingual English program (MEP) refers to the regular, mainstream program of the district in which 100% of the instruction is delivered in English.

Table 5.3 *Study Participants by Program Status*

Program Status		Number	Percent
	EL One-Way	69	34 %
	EL Two-Way	45	22 %
	Non-EL Two-Way	34	17 %
	Non-EL MEP	52	26 %
	Total	200	100 %

Tables 5.4 and 5.5 below show the number of students by program status at elementary level and then at middle school level, as they progressed through grades 1-6. It is important to note that 13 of the 200 students in the study are immigrant students (born outside of the U.S.). Of those 13 students, 12 are English learners, and of those, 11 are participating in the one-way program.

Table 5.4 *Program Status by Elementary School Campus 2002-2007*

						Total
Campus Code		101	102	103	104	
	EL One-Way	20	17	10	22	69
	EL Two-Way	9	9	12	15	45
	Non-EL Two-Way	7	3	12	12	34
	Non-EL MEP	13	8	9	22	52
Total		49	37	43	71	200

Table 5.5 *Program Status by Middle School Campus in 2007-2008*

		SCHOOL 2008		Total
Campus Code		41	42	
	EL One-Way	33	36	69
	EL Two-Way	29	16	45
	Non-EL Two-Way	24	10	34
	Non-EL MEP	34	18	52
Total		120	80	200

The next section presents the results of five research questions. Results of this longitudinal study are presented in tables 5.6 to 5.33.

Results: Research Questions

RESEARCH QUESTION #1

Does participation in a dual-language program help or hinder ELs' oral language development in English and/or Spanish?

In order to determine that ELs in the study were similar in English proficiency, I analyzed the data from language proficiency assessments administered by the district. Each of the 114 English learners were administered an oral language proficiency assessment in English when they first entered the program. In most cases, the students were assessed in Kindergarten. In other cases, the students were assessed in first grade. In all cases, the pre-test was administered before students began receiving instruction in the dual-language program. The Language

Proficiency Scales-Oral (LAS-O) utilize a five point rubric, 1-5, with 1 indicating Not English Proficient (NEP) and 5 indicating Fully English Proficient (FEP). The levels in-between indicate gradually increasing levels of English language proficiency.

Pre-test data is presented in Table 5.6 below. Eighty out of 114 students scored in the Level 1 range of the LAS-O. Fourteen students scored in the Level 2 range, and 12 students scored in the Level 3 range. Four students scored in the Level 4 range. What this shows is that ELs were similar in prior exposure to English, with 94 out of 114 students scoring at Levels 1 and 2.

Table 5.6 *PRE-TEST LAS-O Level English*

Level		Number of Students	Percent of Students
	1	80	70%
	2	14	12%
	3	12	11%
	4	8	7%
	Total	114	100%

In order to determine the level of growth over time, I analyzed data from the English language proficiency post-test administered by the district. The post-test was administered to the same 114 students in the spring of each year, first to sixth grade. Post-test data in Table 5.7 represents results from the sixth grade year: spring of 2008. Ninety-nine students scored in the Level 5 range, and 11 scored in the Level 4 range. What this means is that the majority of ELs acquired significant linguistic ability in English by the sixth grade, with 100 out of 114 students, or 97%, scoring at Levels 4 or 5. Only 1 student scored below Level 3. As discussed in Chapter 3, studies show that it takes non-immigrant students at least 4-7 years, participating in a well-implemented additive bilingual program, for students to acquire cognitive academic language

proficiency (CALP) in a second language. The LAS oral assessment was able to assess Basic Interpersonal Communication Skills (BICS), but not CALP.

Table 5.7 POST-TEST LAS-O Level English

LAS-O Levels	Number of Students	Percent of Students
2	1	1%
3	3	3%
4	11	10%
5	99	87%
Total	114	100%

In order to further assess students' oral language proficiency, the LAS Reading/Writing instrument was also administered. The resulting classifications can be seen below in Table 5.8 and are represented as Fluent English Speaker (FEP), Limited English Speaker (LEPa-e), and Non-English Speaker (NEP). Nearly all students, 99 out of 114, received a composite label of LEPd or FEP, which means that on the post-test most students scored in the Fully English Proficient range, or nearly proficient.

Table 5.8 POST-TEST LAS Composite English

PROGRAM STATUS		POST-LAS CATEGORY						
		LEPa	LEPb	LEPc	LEPd	LEPe	FEP	TOTAL
	EL-One-Way	2	5	4	28	1	29	69
	EL-Two-Way	1	2	0	17	0	25	45
	TOTAL	3	7	4	45	1	54	114

What these data show is that students in this district's dual-language program acquired native-like oral language ability in English, while they were receiving significant amounts of native language instruction. Therefore, native language instruction does not hurt your ability to learn English, and as studies show, this may help children learn English better and faster.

In addition to the English assessment, each of the 114 ELs were administered an oral language proficiency assessment (LAS-O) in Spanish when they first entered the program. As

with the LAS-O in English, in most cases the students were assessed in Kindergarten. In other cases, the students were assessed in first grade. In all cases, the pre-test was administered before students began receiving instruction in the school program. Pre-test data for Spanish LAS-O is presented in Table 5.9 below. The majority of students scored above Level 3. Twenty out of 114 students scored in the Level 4 range. Sixty-six students scored in the Level 5 range. What this shows is that ELs were similar in oral language skills in their native language, Spanish.

Table 5.9 PRE-TEST LAS-O Level Spanish

LAS-O Levels		Number of Students	Percent of Students
	1	2	2%
	2	4	4%
	3	20	18%
	4	66	58%
	5	22	19%
	Total	114	100%

Table 5.10 POST-TEST LAS-O Level Spanish

LAS-O Levels		No. of Students	Percent of Students
	4	60	53%
	5	54	47%
	Total	114	100%

Tables 5.11 and 5.12 below show the average pre and post LAS-O English and LAS-O Spanish levels for the 114 ELs in the study.

Table 5.11 PRE and POST English LAS -O

	N	mean (sd)
PRE-LAS LEVEL ENG	114	2 (.942)
POST-LAS LEVEL ENG	114	5 (.502)

n = number of students; (sd) = standard deviation

Table 5.12 PRE and POST Spanish LAS-O

	N	mean (sd)
PRE-LAS LEVEL SP	114	4 (.813)
POST-LAS LEVEL SP	114	4 (.502)

n = number of students; (sd) = standard deviation

The results indicate that as a group study participants entered the program with low level oral language skills in English and by the date of the LAS-O post-test (Spring of 2008) the group had acquired native-like oral language proficiency in English. In the case of the Spanish LAS-O, ELs scored higher on the pre-test in Spanish compared to their pre-test score in English, and scored in the upper levels on post-test in Spanish. This result is exactly what we would expect from the EL group. Therefore, participation in the dual-language program in this district does not hinder oral language performance in English.

The data also show that ELs' English oral language proficiency skills increased more than their Spanish oral language proficiency skills. In English, ELs as a group scored a 5 on a five scale rubric and only a 4 in Spanish on the same scale. Studies show that as students enter their middle school years, ELs feel increased pressure to abandon their native language in order to feel accepted by their White native-English speaking peers.

RESEARCH QUESTION #2

How does the academic performance of ELs in the one-way program compare to the academic performance of ELs in the two-way program when tested in Spanish and in English? In other words, is two-way better than one-way for ELs?

In studies of bilingual programs in the U.S., it has been the norm to evaluate the academic performance of students as they acquire English, and to focus attention on only English. For example, even the important work by Ramírez and colleagues (Ramírez, et.al., 1991) was limited to evaluation of English skills. However, in order to understand the effects of

education on bilingual children, regardless of program type, it is imperative that we evaluate the competency of children in both the native language and the language of the host community (Oller, 2002a). We do this for one key reason: assessing children in their native language while they are in the process of learning English tells us the extent to which students are learning to read, to do math, science, social studies, etc. Once students have learned enough academic English to show what they know in that language, we can assess their knowledge in English to get a true picture of ELs linguistic and academic accomplishments. Taking this one step further, we ask: Is one-way better than two-way in helping students to learn content and acquire academic English?

Analysis of this research question included assessment of students' academic knowledge in two languages: Spanish and English. In grade 6, both one-way and two-way students were tested in English utilizing TAKS and SAT-10. Tables 5.13 through 5.18 present results of student achievement in both English and Spanish. I used the mean raw scores for reading and math on TAKS and the mean NCE for total reading on SAT 10, which combines reading comprehension and vocabulary. Reading comprehension and vocabulary highly correlate with each other. I used the mean NCE for total math on SAT 10. I then computed effect size, which is the mean of one group, minus the mean of another group, and divided by the standard deviation (average standard deviation of both groups). In all tables, 'n' equals number of students, and '(sd)' equals standard deviation; 'ES' equals effect size.

Tested in English:

Table 5.13 TAKS Reading Raw Scores for ELs Grade 6

	n	mean (sd)
ONE-WAY	69	33 (7.31)
TWO-WAY	45	34 (7.18)
ES		-0.14

Table 5.14 SAT-10 Reading NCEs for ELs Grade 6

	n	mean (sd)
ONE-WAY	66	41 (17.12)
TWO-WAY	43	49 (17.43)
ES		-0.46

Table 5.15 TAKS Math Raw Scores for ELs Grade 6

	n	mean (sd)
ONE-WAY	69	35 (9.58)
TWO-WAY	45	35 (9.94)
ES		0

Table 5.16 SAT-10 Math NCEs for ELs Grade 6

	n	mean (sd)
ONE-WAY	65	52 (17.63)
TWO-WAY	44	63 (15.12)
ES		-0.67

Table 5.17 Summary TAKs Raw Scores for ELs Grade 6

	one-way	two-way	ES
reading	33 (7.31)	34 (7.18)	-0.14
math	35 (9.58)	35 (9.94)	0

One-way, n = 69, two-way, n = 45

Table 5.18 Summary SAT-10 NCEs for ELs Grade 6

	one-way	two-way	ES
reading	41 (17.12)	49 (17.43)	-0.47
math	52 (17.63)	63 (15.12)	-0.67

One way, n = 66 two way, n = 43 (reading)

One way, n = 65 two way, n = 44 (math)

The results of the test in English indicate that the two-way group has a slight advantage in English reading, and a more impressive advantage in math. Note that there is variability on tests, but outcomes for students in the two-way program is always better. As a group, ELs are scoring

below the 50th NCE in reading, but above the 50th NCE in math. The group scored 43rd NCE and 57th NCE in reading and math, respectively.

Tables 5.19 and 5.20 present results for Spanish reading and math on the norm-referenced test. Results indicate that two-way students scored higher than one-way students in reading, especially in grade 4 math. One-way students are one quarter of a standard deviation behind the two-way students in reading and about one half of a standard deviation behind in math.

Tested in Spanish:

Table 5.19 APRENDA Reading NCEs for ELs Grade 4

	n	mean (sd)
ONE-WAY	69	66 (17.13)
TWO-WAY	45	70 (15.33)
ES		-0.25

Table 5.20 APRENDA Math NCEs for ELs Grade 4

	n	mean (sd)
ONE-WAY	69	69 (20.47)
TWO-WAY	45	79 (18.19)
ES		-0.52

Grade two scores were also available for APRENDA testing, (see Tables 5.21 to 5.24) and they show that the two-way students increased their advantage over the one-way students in math between grade two and grade four, but their advantage in reading decreased between grades two and grade four.

Table 5.21 APRENDA Reading NCEs for ELs Grade 2

	n	mean (sd)
ONE-WAY	69	68 (12.81)
TWO-WAY	45	74 (13.58)
ES		-0.45

Table 5.22 APRENDA Math NCEs for ELs Grade 2

	n	mean (sd)
ONE-WAY	69	59 (20.27)
TWO-WAY	45	65 (21.26)
ES		-0.29

Table 5.23 Summary APRENDA NCEs, Grade 2

	one-way	two-way	ES
reading	68 (12.81)	74 (13.58)	-0.45
math	59 (20.27)	65 (21.26)	-0.29

One-way, n = 69, two-way n = 45

Table 5.24 Summary APRENDA NCEs, Grade 4

	one-way	two-way	ES
reading	66 (17.13)	70 (15.33)	-0.25
math	69 (20.47)	79 (18.19)	-0.52

One way n = 69, two-way n = 45

Students in both the one-way and two-way program scored well above the 50th NCE in Spanish reading and math in grade two and grade four. In grade two, ELs as a group scored at the 70th NCE in reading and 61st NCE in math. In grade 4, ELs scored at the 67th NCE in reading and at the 73rd NCE in math. This shows that ELs in the dual-language program, as a group, are performing much better than the average student on APRENDA.

RESEARCH QUESTION #3

How does the academic performance of non-ELs in the two-way program compare to the academic performance of non-ELs in the monolingual English program? Does participating in a dual-language program hurt your English if you are a fluent English speaker?

On SAT 10, non-ELs in the monolingual English program show a slight advantage over non-ELs in the two-way program in grade 4 reading. In grade 6 reading, the story is reversed with the two-way group performing one-tenth of a standard deviation better than the MEP group.

Table 5.25 SAT-10 Reading NCEs in Grade 4

	n	mean (sd)
NON-EL TWO-WAY	32	57 (13.41)
NON-EL MEP	49	59 (15.58)
ES		-0.14

Table 5.26 SAT-10 Reading NCEs in Grade 6

	n	mean (sd)
NON-EL TWO-WAY	32	57 (20.39)
NON-EL MEP	49	55 (18.59)
ES		0.10

Table 5.27 Summary of Non-EL on SAT-10 Reading NCEs

GRADE	TWO-WAY	MEP	ES
4	57 (13.41)	59 (15.58)	-0.14
6	57 (20.39)	55 (18.59)	0.10

Two-way n = 32, MEP n = 49

In both programs, two-way and MEP, non-ELs are performing above the 50th normal curve equivalent in reading, and there is no difference in the performance of these two groups in reading as measured on the SAT 10. Participating in a dual-language program does not hurt your English if you are a fluent English speaker. Therefore, learning two languages is a benefit to students as they not only acquire content knowledge but they also have the opportunity to learn a new language in the process.

RESEARCH QUESTION #4

How does the academic performance of the ELs in the two-way program compare to the academic performance of non-ELs in the two-way program when tested in English and/or Spanish? Do ELs catch up to non-ELs?

For this analysis, I used the mean raw scores for reading and math on TAKS and the mean NCE for total reading on SAT 10, which combines reading comprehension and

vocabulary. Reading comprehension and vocabulary highly correlate with each other. Tables 5.28 to 5.30 below present results for students tested in English. What the data show is that ELs in the two-way program are performing below non-ELs also in the two-way program. ELs are about a half of a standard deviation behind. From the effect sizes, on TAKS the ELs come closer in math than they do in reading. On the SAT-10, the ELs are equally behind in reading and math. What this means is that ELs do not catch up by grade 6, and need more time to acquire academic language in English. Because a majority of the students are of low socio-economic status, and many live in neighborhoods with little access to books, recreational reading opportunities are limited. This will have an effect on overall reading achievement. In addition, 12 of the 114 ELs are immigrant students. Research shows that it takes ELs 5-10 years to acquire academic competence in English.

Table 5.28 TAKS Raw Scores Grade 6

TAKS	EL two-way	non-EL two-way	ES
reading	34 (7.18)	37 (4.75)	-0.49
Math	35 (9.94)	38 (7.31)	-0.34

EL in two-way, n = 45, non-EL in two-way n = 34

Table 5.29 SAT-10 NCEs Grade 6

SAT10	EL two-way	non-EL two-way	ES
reading	49 (17.43)	58 (18.2)	-0.5
Math	63 (15.12)	70 (15.84)	-0.5

EL two-way, n = 43, non-EL two-way, n = 30 (reading)

EL two-way, n = 44, non-EL two-way, n = 33 (math)

Table 5.30 Grade 6: Comparison of ELs and non-ELs Effect Sizes

	TAKS	SAT10
READING	-0.49	-0.5
MATH	-0.34	-0.5

RESEARCH QUESTION #5

Did children tend to show strength in one language if they showed strength in the other (interdependence) or did achievement in one language drain resources from the second (subtractive bilingualism)? In other words, was there a relationship between academic performance in the two languages?

For this analysis, I used the total reading score on both APRENDA and SAT-10. The key questions embedded in the central research question are the following: Does earlier Spanish competence predict later English competence? In other words: Does grade 2 Spanish predict grade 6 English competence, and does grade 4 Spanish predict grade 6 English competence? Table 5.31 to 5.33 present the reading achievement data for ELs in their first language in grades 2 and 4, and in their second language in grade 6. Results indicate that the hypothesis is supported. Spanish reading, grade 2 and English reading, grade 6 are highly correlated, $r = .53$. Spanish reading, grade 4 and English reading, grade 6 are highly correlated, $r = .58$. Those who read better in Spanish in grades 2 and 4 also read better in English in grade 6. The academic foundation developed by students as a result of receiving instruction in their native language, Spanish, transferred to the acquisition of English academic skills.

Table 5.31 Reading NCEs for ELs Grades 2, 4 and 6

	n	mean (sd)
GRADE 2 Spanish	109	71 (13.21)
GRADE 4 Spanish	109	68 (16.35)
GRADE 6 English	109	44 (17.64)

Table 5.32 Reading NCEs for ELs Grades 2 and 6

		Reading Grade 2	Reading Grade 6
Reading Grade 2	Pearson Correlation	1	.533(**)
	Sig. (2-tailed)		.000
	n	114	109
Reading Grade 6	Pearson Correlation	.533(**)	1
	Sig. (2-tailed)	.000	
	n	109	109

** Correlation is significant at the 0.01 level (2-tailed).

Table 5.33 Reading NCEs for ELs Grades 4 and 6

		Reading Grade 4	Reading Grade 6
Reading Grade 4	Pearson Correlation	1	.577(**)
	Sig. (2-tailed)		.000
	N	114	109
Reading Grade 6	Pearson Correlation	.577(**)	1
	Sig. (2-tailed)	.000	
	N	109	109

** Correlation is significant at the 0.01 level (2-tailed).

SUMMARY OF FINDINGS

My research shows that as a group, English learners, after six years participating in the one-way or two-way program, are performing slightly below their non-English learner peers when tested in English. My study also documents that there is a modest difference in the achievement of English learners participating in the two-way program compared to students participating in the one-way program when tested in both Spanish and English. Two-way students are doing better in both reading and math. Spanish and English reading were highly correlated. The results support the theory that a child with a strong foundation in the first language, in this case Spanish, will perform better in English over the long term. My research also supports the theory that it takes *at least* 4-7 years to learn a second language. ELs in the two-way program did not fully close the gap with non-ELs also in the two-way program after six

years. Students in this study, especially immigrant students, need more time to acquire native-like academic proficiency in the second language.

I should note that findings from my study are not applicable to all dual-language programs. These results are relevant only to those instructional programs exhibiting the same characteristics as those in this study. The research objective was to examine two specific instructional treatments implemented at four schools. In effect, these programs represent the optimal (and not the range of) implementation of each instructional model. Whether or not instructional strategies are comparable among dual-language programs is a consideration. This study did not present evidence for how teachers use language for instruction. For example, teachers are trained to provide positive and supportive feedback to their students and to promote student-directed activities; however, further research is needed to determine how consistently this occurs.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

OVERVIEW OF MAIN FINDINGS FROM THIS DISSERTATION RESEARCH

One goal of this research study was to compare the academic achievement of students participating in one-way and two-way dual-language programs. My premise is that if instructional practices are effective for native-English speakers, language minority students, and English learners, then the majority of English learners should effectively narrow the initial achievement gap with native-English speakers in six years, given that research shows that it takes non-immigrant students at least 4-7 years, in a well implemented additive bilingual program, to acquire academic proficiency in the second language. Overall ELs in the two-way program perform better than ELs in the one-way program when tested in English. These data suggest that two-way may be better than one-way for ELs. However, while the four schools in the district implemented the same program models and teachers received similar training, there are a myriad of factors that impact program implementation and that could have an effect on student achievement in each of the two programs. For example, one factor is the extent to which the minority language, Spanish, is valued in each of the schools. How students feel about using the first and second language in a one-way program setting where only English learners are in the classroom as compared to the two-way program setting where both English learners and non-English learners are learning together in Spanish and in English, is another consideration that my study did not address. While not the focus of this dissertation research, evidence suggests that the two-way program setting is more naturally conducive to the implementation of highly engaging and collaborative learning techniques (Calderon, et.al., 1998), which may lower the affective filter and have a positive impact on student achievement.

Another factor is the extent to which teachers in both programs adhered to the program model, including the use of the appropriate language of instruction based on the district's established time and treatment policy. Informal evidence suggests that the application of time and treatment varies from campus to campus, and this could impact teacher delivery of instruction and, therefore, impact student performance.

As was presented in this study, research shows the native language support students receive in their elementary school years through the one-way and two-way programs has a direct effect on the academic achievement of these same students when tested in English after 4 to 6 years in the program. The data presented suggests that schooling in a first language may, in the long term, foster successful language and literacy development in the second language. My analysis confirmed that children who showed strength in one language also showed strength in the other. Those who read better in Spanish also read better in English. The academic foundation developed by students as a result of receiving instruction in their native language, Spanish, transferred to the acquisition of English academic skills. This is evidence that the two languages are interdependent and that achievement in one language did not drain resources from the second. In other words, there is a relationship between students' academic performance in the two languages.

I also theorize that if students, whose first language is Spanish, have the opportunity to learn academic content through their first language in a well-implemented dual-language program, they will acquire the cognitive, academic and linguistic skills they need to be successful in their second language, English. Providing students with native language instruction will also lower the affective filter, which contributes to overall improved performance in the second language. As students learn grade-level concepts in their native language, they build on

this knowledge to acquire English. The more ‘comprehensible input’ in English students receive, the more English they acquire. Thus, the comprehensible input hypothesis supports the theory that knowledge learned in one language provides context that makes what children hear and read in a second language meaningful.

How long does it take for ELs to acquire native-like academic proficiency in English? In comparing the academic performance of the ELs in the two-way program with the academic performance of non-ELs in the two-way program when tested in English and/or Spanish, I found that ELs do not catch up to non-ELs after 6 years. There are several possible reasons for this. One, while research shows that it takes non-immigrant students 4-7 years to acquire academic competence in the second language, that time increases for immigrant students, as it takes them 5-10 years to reach academic language proficiency in the second language. Students may simply need more time to acquire academic English. This is especially true for immigrant students of low-socio economic status where the absence of a parent in the home, where a language other than English is the primary language spoken in the home, and where recreational reading opportunities are limited and may contribute to students’ low achievement.

Another reason ELs may not achieve on par with their native-English speaking peers in 6 years is because of the social-cultural pressures that run deep and influence students to abandon the use of the native language in favor of English, even if they are not yet fully proficient in English. This is especially true as ELs transition to middle school and high school. Freeman (1998) found that students who had positive attitudes toward bilingualism and biculturalism in their two-way elementary school chose English over Spanish in middle school and even rejected their own cultural background to remain popular among White peers. Even in dual-language programs in Texas close to the border, students favored English over Spanish, and this may have

a negative effect on the acquisition of academic English. While in early grades students in the program used both languages, in the upper grades almost all of the students preferred to use English (Alanis, 2000). If students drop the use of the native language before they are fully proficient in English, they run the risk of losing ground in their cognitive and academic growth. Some evidence to support heritage language loss can be seen in my analysis of oral language proficiency data which shows a less rapid increase in Spanish proficiency when compared to English proficiency.

FUTURE RESEARCH ISSUES

In order to fully understand the long-term impact of dual-language education, research must extend into the secondary school years to determine if students sustain the gains they made in the elementary school years. While this dissertation research did not follow students into their high school years, this study provides the base for subsequent iterations of this effort in order to determine the high water-mark of student achievement discussed in previous chapters.

There are several other areas that have the potential to produce relevant data in order to better serve ELs. First, this dissertation study should be extended to incorporate qualitative data from teachers and students through questionnaires, focus groups and individual interviews. This would provide an indication about what teachers see as strengths and weaknesses of the two program models and how students view their experiences in the two programs.

Second, there is a need to differentiate language spoken in the home, socio-economic status, as well as parent motivation for enrolling their child in additive bilingual programs; this should be applied as a control variable for all groups. This will provide data regarding the effects of poverty on student achievement and will show the extent to which the instructional program in the school and language spoken in the home influence student achievement. To do this, the

researcher must utilize a language proficiency measure to track cognitive academic language proficiency.

Third, we should include the four elementary schools from this study as a control variable in an effort to better understand the complexity of program implementation by the teacher, the impact of principal leadership on the bilingual education program and the possible differences among campuses relative to socio-economic status and its effect on student performance.

Fourth, efforts should be made to control for pre-test on the oral language assessment groupings, including an analysis of covariance on the SAT-10 by program with pretest.

Fifth, efforts should be made to control for pre-Kindergarten and Kindergarten experiences. Students who have had the benefit of a well-designed preschool, and/or Kindergarten program enter first grade with increased oral language skills and school experiences which help students adapt more quickly to the classroom environment.

Sixth, efforts should be made to conduct research that incorporates variables on ‘affective filters.’ Understanding factors related to students’ self-esteem and self-confidence in the school setting can provide important insight for educators. This information can be utilized to inform our practice in designing and implementing school experiences for students that maximize their opportunity to learn.

We need to leverage the bilingual and bicultural assets of the border region. This includes leveraging the funds of knowledge that families transmit to their children and bringing these into the classroom. We need research and training to help educators better understand how students from the borderlands use literacy across diverse contexts in order to make meaning out of their lives and of their relationships with other youth, parents, and the school community.

Policy Recommendations

RECOMMENDATIONS FOR THE NATION

English learners are emergent bilinguals (García, Kleifgen & Falchi, 2008). Given the opportunity, ELs can become bilingual, able to function in their native language as well as in English. Policymakers cannot ignore the bilingualism ELs can and must develop through schooling in the U.S. If they do, they perpetuate inequities in their education, and this will have long-term consequences for students. As demonstrated through this research study, and “...whereas research has consistently shown the importance of building on the children’s native language as they develop English language proficiency, U.S. educational policy has often ignored these research findings” (p. 6). It is essential that we shift the paradigm from a focus on testing to a focus on providing all students, including ELs, with the opportunity to learn. To do this, we must ensure that schools have the resources needed to offer high-quality additive bilingual education. This will require a significant increase in the per student expenditure, to match those of students who attend high wealth school districts. (García, Kleifgen & Falchi, 2008)

Increased attention to ELs as a result of NCLB has not resulted in equal financial support, according to the 2008 annual funding report by The Education Trust (2008). Of eight states in which at least one in ten students was an English learner in 2005, only New Mexico did not spend hundreds, even thousands, of dollars less per student in districts with high numbers of ELs. If policymakers are serious about providing equal educational opportunity, or as many put it “closing the achievement gap,” then we need to allocate more resources, not less, to ELs. This will pose a huge challenge for politicians given the downturn of the U.S. economy in 2008, who

will be tempted to backpedal and take back resources rather than to focus on what is necessary to provide all students with the opportunity to achieve high academic standards.

Providing equal educational opportunities for ELs requires that educators implement policy consistent with what Ruiz (1984) refers to as language-as-a-resource orientation. School districts must provide the leadership necessary to create language policy to support the implementation of additive language programs, which in turn support the educational program for ELs. Doing this will allow for a productive approach to language planning for several reasons: one, it can have a direct impact on enhancing the language status of minority languages; two, it can help to ease tensions between majority and minority communities; three, it can serve as a more consistent way of viewing the role of non-English languages in U.S. society; and four, it highlights the importance of cooperative language planning (Ruiz, 1984).

Policy makers must work towards an accountability system that includes an authentic role for parents and teachers; and provides for comprehensive diagnostic testing and multiple indicators of academic performance. Stephen Krashen (2008), urges us to give up unnecessary testing in favor teacher evaluation, which encourages the use of multiple measures and evaluations that are closely aligned to the curriculum. We must trust the judgment of teachers who are in the best position to observe, collect and analyze data about what children in their classrooms are learning. If we, as a nation, want to get a general picture of how students are performing academically, we could use a norm-referenced assessment, such as NAEP, to test small groups of students, who take a portion of the test, every few years, to gauge the performance of students in mastering key concepts. Results from this kind of testing will give us more than enough information to inform our practice and to assess the effectiveness of our

programs. I favor less testing in general, and a total end to high-stakes testing. I support NUT: No Unnecessary Testing (Krashen, 2008).

Any accountability for ELs must include valid and reliable assessments which measure the academic learning of students at their level of English and native language proficiency. In addition, states must be guided to establish a system of accountability which conforms to the three-step test established in *Castaneda v. Pickard* (1981) to determine whether school districts are providing students with equal educational opportunities. The three-step test shall include the following as presented by the Institute for Language and Education Policy (2007) p. 4:

1. ELs shall be provided an instructional program (or programs) that is designed on the basis of scientifically valid principles, according to the opinion of experts in the field of second-language education;
2. Such programs shall be provided adequate financial resources, appropriate school materials, trained personal, and other support designed to ensure the program's effectiveness; and
3. Such programs shall be evaluated at reasonable intervals to determine whether students are making adequate progress in academic content and English language acquisition, as determined by multiple indicators, and if students fail to make such progress, the program shall be improved and/or restructured.

Federal funds must again be allocated for professional development which includes the fellowships for masters, doctoral and post-doctoral study related to the instruction of ELs in areas such as teacher training, program administration, research and evaluation, and curriculum development, and for the support of dissertation research related to such study (Institute for Language and Education Policy (2007), p. 6).

Additionally, funds to support demonstration projects should be initiated. A peer review application process should be put in place to award grants of up to five years. Amount of funding allocated per year should fall in the range of \$300,000 to \$500,000. This funding for demonstration projects is critical in promoting innovative practices and building the capacity of states and school districts to provide high-quality academic programs for ELs (Institute for Language and Education Policy, 2007). It was this same type of funding (Title VII) which allowed the Canutillo ISD to implement a plan to replace a transitional early-exit program with a dual-language program.

RECOMMENDATIONS FOR TEXAS AND OTHER STATES

School leaders must ensure that teachers who work with Latino youth have multicultural and multilingual competencies and experiences. Students need schools and teachers that affirm their personal and cultural identities. Only by doing this will students engage in ways that inspire them to do their personal best and to be centered in their possibilities.

For ELs who receive core content instruction in the native language, each State must develop and use native-language content assessments that are valid, reliable, and aligned to grade level content standards. This would provide incentives for dual-language instruction, and lower the ‘affective filter’ for the large numbers of immigrant non-English speaking children in our schools.

State education agencies must embrace the *Castañeda* framework to guide the design, implementation and evaluation of programs for ELs. State agencies must ensure that programs are based on sound educational theory, that they are implemented effectively, with adequate resources and personnel, and that they are evaluated and modified, as needed. Funds must be

allocated to state education agencies to allow them to provide guidance and support for additive bilingual programs.

Following the lead of Texas State Senator Eliot Shapleigh who successfully promoted a bill in the Texas Legislature in 2007 supporting the implementation of dual-language programs, Texas should serve as the model and issue a mandate and appropriate funding for at least one dual-language school in all districts with 15,000 students or more by 2012 and at least one dual-language school in all districts by 2015 with full dual-language implementation for all districts by 2020. This goal may be difficult to attain prior to 2040, or until the demographic changes are upon Texas in full force; however, we must begin pushing for this now. The state should also ensure that all students have access to engaging and comprehensible reading material in multiple languages in school, in their homes and in community libraries. This should go hand-in-hand with the elimination of Code 28.005, which dictates that English shall be the basic language of instruction in public schools.

In addition, we need to nurture heritage speakers as Maryland is doing to deal with the U.S. shortage of skilled foreign language speakers. A new state law in Maryland offers a model for other states. The law is intended to leverage the language assets of immigrants by cultivating and ultimately using the bilingual language abilities of the immigrant work force to grow international opportunities for Maryland businesses. When most of the world's citizens routinely speak more than one language, and often begin foreign language study in the elementary grades, why should U.S. students wait until high school to begin foreign language training? I agree with Catherine Ingold, director of the University of Maryland's National Foreign Language Center, "Our foreign language education system needs an overhaul to prepare U.S. children for the

challenges of this profoundly interconnected world. There are no quick fixes, but Maryland is taking a smart, practical lead by nurturing heritage language speakers” (Ingold, 2008).

RECOMMENDATIONS FOR SCHOOL DISTRICTS

Districts must develop district-wide language policies that support the use of the native language and additive forms of bilingual education. These policies should be used as the filter for deciding what benchmark assessment will be used to assess ELs. In so doing, districts must strive to provide for assessment of ‘progress’ rather than simply of ‘outcomes’ on high stakes tests. By doing this, districts can show annual growth in student achievement based on a set bar for achievement, especially on English tests. Ensuring that students are performing on grade-level in their native language should take precedence over the tracking of English language acquisition during a student’s first 4-7 years in U.S. schools.

School district leaders must work with state legislators to urge for increased state and federal funding for quality schools that support an appropriate educational experience for ELs, which begins with additive bilingual programs and sustained use of the native language. In addition, state legislators and state boards of education must partner to advocate for federal funding for research in the assessment of ELs that is valid and reliable. Research efforts must focus on creating assessment plans that incorporate multiple indicators of ELs’ academic achievement.

RECOMMENDATIONS FOR SCHOOL CAMPUSES

Teachers and parents are in the best position to understand the comprehensive needs of ELs, and should be given an expanded role in the school decision-making process. School advocacy should take the form of teacher/parent teams to educate the community about the benefits of bilingualism as a resource and a national treasure. For example, teams can prepare

joint presentations at local, state and national conferences to share data and lessons learned from dual-language program implementation. These teams can play a key role in helping the public become informed about the nature of bilingualism, which will work to dispel myths and promote support for additive programs.

Teachers and other school leaders must work together to ensure that schools build their capacity to implement well designed dual-language programs, taking care to use language that is consistent with current theory and best practice. Ongoing high-quality professional development designed *by teachers for teachers* is also important in providing ongoing knowledge development for successful implementation of bilingual programs.

Parents also have a key role to play in addressing concerns they have regarding their children's education. By questioning the existing power relations in the home-school dynamic, parents understand the school system, build personal and collective leadership skills and become strong advocates for their children.

In the words of Carlos J. Ovando:

Researchers, policy makers, school administrators, parents, and teachers need to be passionate about providing a first-rate educational environment for all children, not only for those who speak standard English. Such quality education, however, will require action that articulates the past 30 years' positive research findings on bilingualism, clarifies misunderstandings about the nature of bilingual education, and overcomes xenophobic fears of a perceived attack on the hegemony of English (Ovando, 2003, p. 19).

EL advocates across the nation need to put their organizations into gear to work with the Congress and the incoming Obama administration to advocate for new federal resources, immigration reform and reauthorization of NCLB. One way to do this is to support a recently formed coalition known as the Forum on Educational Accountability (FEA)

(<http://edaccountability.org>), which was spearheaded by Monty Neill from FairTest. FEA

includes a large number of education, labor, religious, civil-rights, and other progressive organizations, such as the Institute for Language and Education Policy, National School Boards Association, National Education Association, American Federation of Teachers, National Council of Teachers of English, Children's Defense Fund and others. More than 150 groups have signed a joint statement calling for major changes in NCLB.

Finally, I urge educators to join forces with the Institute for Language and Education Policy (www.elladvocates.org) to help advocate for change that will benefit English learners across the nation.

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APPENDIX A

Definitions

Culturally and linguistically diverse (CLD): the broad population of individuals who come from homes in which the culture and language or dialect differ from the dominant language and culture of the society in which they reside. For the purpose of this paper, this term is preferred over “language minority” because of the negative connotation of the latter term.

Language minority students in the United States: are typically students living in households in which a language other than Standard English is spoken. Language minority students in need of language support services to succeed in English-medium classrooms are referred to as English learners (ELs) in this document. These students are the focus of this dissertation.

English learner (EL): As a subset of CLD students, ELs are students who are in the process of acquiring English as an additional language. For the purposes of this paper, EL is preferred over “limited English proficient” (LEP) unless reference is being made to an official classification used by a school district or governmental or state agency.

Second language learner: A student who is acquiring a language in addition to his or her native language. This term includes both English learners and students who are learning languages other than English.

Native English Speaker (NES): an individual whose first and/or dominant language is English. In CISD during the period of this study, English and Spanish proficiency was established through the Language Assessment Scales (LAS) as well as a home language survey (HLS).

Native Spanish speaker (NSS): an individual whose first and/or dominant language is Spanish. In CISD during the period of this study, English and Spanish proficiency was established through the Language Assessment Scales (LAS) as well as a home language survey (HLS).

Limited English proficient (LEP): in the state of Texas, where this study takes place, the term LEP applies if one or more of the following criteria are met: (1) the student's ability in English is so limited or the student is so handicapped that assessment procedures cannot be administered; (2) that student's score or relative degree of achievement on the agency-approved English proficiency test is below the levels established by the agency as indicative of reasonable proficiency; (3) the student's primary language proficiency score as measured by an agency-approved test is greater than his proficiency in English; or (4) the language proficiency assessment committee determines, based on other information such as (but not limited to) teacher evaluation, parental viewpoint or student viewpoint, that the student's primary language proficiency is greater than his proficiency in English or that the student is not reasonably proficient in English. (Texas Education Code s21.455, as cited in Anstrom, 1995).

English as a second language (ESL): Instruction designed to teach English to second language learners. Traditional ESL programs typically focus on teaching the oral aspects of the language, with an emphasis on the development of conversational proficiency.

ESL through content or sheltered English instruction: A program in which English as a second language is integrated into the content areas. All instruction is typically provided in English, with special support to help ELs access the core curriculum.

Transitional bilingual education (TBE): These programs provide instruction in the native language as well as in English. However, once a child attains a certain level of English

proficiency, he or she is exited into a monolingual English program. The early-exit transitional bilingual programs mainstream students after 2 years or by the end of the second grade. A late-exit transitional program delays exiting students until the fifth or sixth grade. Programs vary and may not always adhere to these guidelines.

One-way (90/10) bilingual education (OWBE): also referred to as developmental or enriched bilingual education, is an additive approach to EL education that promotes full bilingualism and biliteracy in English and the child's native language. OWBE is defined by Canutillo Independent School District (CISD) as:

an additive bilingual education program that provides all students with a variety of experiences in two languages and creates an environment that fosters academic excellence in two languages. It is supportive of full bilingual proficiency and biliteracy for non-native speakers of English. Extensive academic instruction is provided to English learners in the native language as well as in English. Unlike students in transitional bilingual education, those in a one-way program continue to receive part of their instruction in the native language even after they become proficient in English. Maintaining program integrity requires strict adherence to the following: (1) Context based curriculum is the Texas Essential Knowledge and Skills and CISD Curriculum Benchmarks); (2) The languages are not mixed within a lesson and both languages are each used for instruction as indicated by the time and treatment policy: 90% Spanish and 10% English in K-1st grade; 80% Spanish and 20% English in 2nd grade; 70% Spanish and 30 English in 3rd grade; 60% Spanish and 40% English in 4th grade; 50% Spanish and 50% English in 5th and 6th grade; (3) The curriculum spirals because lessons are never repeated in the

other language. Lessons build one on the other and teachers must remain true to the language of instruction. No code-switching is permitted by the teacher.

(Canutillo ISD Program Guide, 2004)

Two-way (50/50) bilingual education (TWBE): This program (referred to elsewhere in the U.S. as a dual-language program – DLP, or two-way immersion – TWI) is identical in design and goals to the OWBE except for the population of students, which is made up of both native English speakers and native speakers of the target language. Speakers of both languages are placed together in a bilingual classroom to learn each other's language and to work academically in both languages. In a two-way program, the native English children become bilingual and biliterate alongside the English learners. TWBE is defined by Canutillo Independent School District (CISD) as:

an additive bilingual education program that provides all students with a variety of experiences in two languages and creates an environment that fosters academic excellence in two languages. It is supportive of full bilingual proficiency and biliteracy for both native and non-native speakers of English. This model creates an additive environment because it promotes a positive attitude toward both cultures involved. Maintaining program integrity requires strict adherence to the following: (1) Context based curriculum is the Texas Essential Knowledge and Skills and CISD Curriculum Benchmarks; (2) Class composition is balanced between English learners and native English speakers; (3) The languages are not mixed within a subject and both languages are each used for instruction in approximately equal proportions; (4) The curriculum spirals because lessons are never repeated in the other language. Lessons build one on the other and teachers

must remain true to the language of instruction. No code-switching is permitted by the teacher (Canutillo ISD Program Guide, 2004).

Canutillo ISD Dual-Language Program *Non-Negotiables*:

- Student groupings are heterogeneous for all subjects with the exception of early literacy development, which is delivered in the native language to each group.
- Lessons are never repeated in the other language. Teachers ‘spiral’ the curriculum in order to scaffold instruction and provide instruction that is ‘comprehensible’ to students.
- Teachers stay ‘true’ to the language of instruction and do not ‘code-switch’ in the classroom. However, students are encouraged to use both languages as necessary to create new knowledge. Teachers should never discourage students from using L1 or L2 in any setting.

APPENDIX B

Home Language Survey

Admissions Package Canutillo Independent School District



**HOME LANGUAGE SURVEY
(PRE K- 8TH GRADE)
19 TAC CHAPTERS 89, SUBCHAPTER BB89.1215**

The state of Texas requires that the following information be completed for each student who enrolls for the first time in Texas public schools. This survey shall be kept in each student's permanent folder.

Student ID# _____ Campus _____

Name of Student:

Last First Middle

Grade Age

1. What language is spoken in your home most of the time?

2. What language does your child speak most of the time?

3. What was your child's first language?

Print Name of Parent/Legal Guardian

Date

Signature of Parent/Legal Guardian

Date

APPENDIX C

Research

STUDIES OF READING COMPREHENSION INCLUDED IN META-ANALYSES

	Slavin & Cheung (2005)	Roistad et al. (2005)	Willig (1985)	Greene (1997)	McField (2002)	Rossell & Kuder (2005)
Alvarez (1975)	-0.23					- .05
Huzar (1973)	0.31			0.18	.31, .01	0.16
Plante (1976)	0.5			0.52		0.52
Ramirez et al (1991)		0.01		0.12		0.25
Campeau et al (1975) Corpus Christi	0.45					0.45
Maldonado (1994)	1.66					0.12
Campeau et al (1975) Alice	0.49					0.45
Saldate et al (1985)	0.89	1.47			0.42	1.47
Morgan (1971)	0.26				0.26	0.27
Doebler & Mardis (1980)	0.15					0.15
Covey (1973)	0.72		0.74	0.74	0.74	0.66
Medrano (1986, 1988)		.10, -.18				
Kaufman (1968)	0.23		0.31	0.2	.49, .11	0.2
Danoff et al (1977)			0.01	-0.12		0.12
McSpadden (1979)			0.2			
Olesini (1971)			0.97			
Stebbins et. al. (1977)			-0.06			
Stern (1975)			-0.48			
Lindholm (1991)		-0.59				
Medina, Saldate & Mishra (1985)		-.3, -.57			-.22, -.13, -.51	
TEA (1988)		-0.06				
Powers (1978)				-0.33	-0.44	- .35
Rossell (1990)				-0.05		-.25
Bacon et al (1982)				0.68	.82, .98	0.7
Cohen (1975)	0					-.21, .08, -.28

Positive ES = positive effect for bilingual education; negative ES = negative effect. ES of .20 = small impact; .50 = modest impact; .80 = large impact.

Source: Krashen & McField (2005)

APPENDIX D

Professional Development

32 HOUR TRAINING SCHEDULE FOR TEACHERS

- ☐ One-Way and Two-Way Bilingual Program Models
- ☐ Cooperative Learning Strategies
- ☐ Second Language Acquisition Strategies
- ☐ Teaching Reading in Spanish
- ☐ Making Language Arts Come Alive for English Learners
- ☐ Enhancing Thematic Units
- ☐ Critical Thinking and Creativity
- ☐ Marketing Dual Language Education

TRAINING TOPICS OFFERED TO DUAL LANGUAGE TEACHERS ANNUALLY

One-Way and Two-Way Bilingual Education Models and Cooperative Learning Strategies

This workshop informs participants regarding the different bilingual program models (additive v. subtractive). It presents the myths and realities of bilingual education and informs participants on the necessary components of a successful program. The workshop also provides an overview of cooperative learning theory and introduces the participants to ways to incorporate these learning strategies in a two-way classroom.

Teaching Reading in Spanish

This workshop provides participants with the opportunity to enhance their Spanish language skills and to better understand the intricacies of teaching reading in Spanish. Workshop presenters illustrate how to provide students with authentic and relevant access to reading across the content areas. Presenters model how a lesson on a thematic unit evolves into a comprehensive unit of study, employing higher order thinking skills, and providing students with concrete and abstract examples.

Second Language Acquisition Strategies

This workshop provides participants with strategies that facilitate student's development of academic language acquisition in the target language. It presents different teaching strategies that could be integrated into numerous activities that give students an opportunity to engage in constructivist, active learning in interesting and creative ways. An overview of the theoretical frameworks on second language acquisition is also provided.

Making Language Arts Come Alive for English Learners

Sheltered instructional strategies help to captivate and involve students in experiencing and understanding, not just memorizing, new content and skills. The strategies are anchored in visual, interactive, hands-on activities that do not overwhelm students with text work. These strategies utilize activities that challenge students both cognitively and linguistically. Teachers can take these hands-on activities and immediately implement them in the classroom.

Critical Thinking and Creativity

This bilingual (English and Spanish) workshop actively engages participants in the exploration of acquiring strategies to increase critical thinking and creativity. The workshop emphasizes the process used to differentiate between essential and constructivist approaches.

Marketing Strategies and More on Thematic Units

This presentation provides information on how to develop communication tools and strategies to inform stakeholders about the two-way and/or one-way program. This workshop also provides

teachers with tips on how to create thematic units that cut across the curriculum to create an accelerated instructional classroom climate.

APPENDIX E

Parent Advocacy

LETTER TO THE EDITOR PUBLISHED IN *EL PASO TIMES*

Two Languages—not One

By Maggie Fraire (The parent of children participating in the dual-language program at Canutillo Elementary School)

Colorado voters sent an important message to the nation on November 5 that they support bilingual education and oppose the curtailing of educational options and opportunities that are currently available to their children. Voters rejected Amendment 31 that would have restricted the educational program choices available to teachers, community members, and parents of English learners (EL). Voters called it a misguided attempt to institute a one-size-fits-all mandate. Coloradoans have made it clear – they will not stand for it.

It is time that we acknowledge that bilingual education is an important key to our children's future. Many parents, teachers and administrators in my community of Canutillo know the benefits of bilingual education. We know what the research says about the importance of making sure our children fully develop their academic, cognitive and linguistic abilities. Addressing these domains should be the central goal of any effective educational program and the use of the first language plays a critical role in helping to achieve this goal.

The process of acquiring a second language takes time. The research shows that it takes four to seven years to master academic content in a second language. This is what is necessary for our children to have a bright future. We do not want our children to drop out of school, which is what happens when children are not provided with the opportunity to participate in a quality bilingual program that supports the cognitive, academic and linguistic domains. Children

in California, for example, are expected to function academically in a second language in only one year having learned only “playground” or social English.

We want our children to graduate from high school and go on to graduate from a four year college or university and the ability to fully express themselves in two languages will help them get there. “English Only” programs spend time and money to do away with our children’s first language in elementary school only to come back in high school to spend more time and money to re-teach it to our children through a foreign language program. This is nonsense. All children, English learners and native English speakers should have the opportunity to develop high levels of proficiency in two languages. Two-way bilingual programs like the program currently being implemented in Canutillo and other districts in the El Paso area are preparing our children to be fully bilingual and bicultural.

No one is disputing the fact that we need to teach our children to read and write English well. What we do question is the idea that our children need to learn only English in order to be considered successful in a country where English is only one of many languages spoken. We ensure a bright future for our children when we provide them with the opportunity to fully develop their academic, cognitive and linguistic abilities in more than one language.

If we truly care about our children’s futures, we—parents, educators, community members, and business partners—must work with our governor and our state legislature to ensure that quality bilingual programs are continually improved, and supported with appropriate funding so that English learners will receive the best possible education and native English speakers will have the best opportunity to learn a second language.

CURRICULUM VITA

Pauline A. Dow, a native of El Paso, Texas, received her B.A. degree in history from The University of Texas at El Paso in 1984 and her M.A. also in history from UTEP. In 1989, she received her M.Ed. from UTEP. She entered the doctoral program in 2001. Ms. Dow was named in Men and Women of Mines in 1984, served on the President's Advisory Committee on Women from 1985 to 1987, and was a member of the K-16 Collaboration Committee of UTEP's Centennial Commission in 2006. In 2006, Ms. Dow was named Associate Superintendent for Canutillo ISD. Ms. Dow was elected vice chair of the City of El Paso's Tax Increment Reinvestment Zone Board in 2007 and 2008. She has also provided leadership through her service on professional boards including the Texas Association for Bilingual Education, National Association for Bilingual Education, National Network for Educational Renewal, Girl Scouts of the USA, Community Scholars, Inc., and the Kellogg Fellows Leadership Alliance. Ms. Dow's research focuses on the achievement of students in dual-language programs in the El Paso region and the policy implications of cultivating a bilingual community. She was principal investigator for Project AVANZA: A Two-Way Bilingual Education Program Initiative. This \$1.4 million, five-year project is a system-wide effort to provide all students in grades K-12 in the Canutillo ISD with the opportunity to become academically proficient in both English and Spanish. Ms. Dow is the author of several federal and state grants that have added more than \$4 million to the education reform efforts for English learners in the Canutillo Independent School District. She is a founding member of the Institute for Language and Education Policy.

Permanent address: 108 Northwind Drive

El Paso, Texas 79912

pdow@elp.rr.com