

PROMOTING ACADEMIC SUCCESS  
FOR LIMITED ENGLISH PROFICIENT STUDENTS

by

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A Project Submitted to the Faculty of  
The Evergreen State College  
In Partial Fulfillment of the Requirements  
for the degree  
Master in Teaching  
2007

This project for the Master in Teaching Degree

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## ABSTRACT

This paper addresses effective strategies for promoting academic success of limited English proficient (LEP) students. With the growing number of LEP students entering the public school system, and the present push for high stakes testing and accountability under No Child Left Behind policies, it is imperative that all teachers effectively address the academic needs of LEP students. An examination of the historical context of schooling for language minority students depicts a pendulum movement between the promotion of bilingual education and the constrictions of English-only education policies. A critical review of the research shows that bilingualism is linked with increased cognitive abilities, that native language instruction can promote second language proficiency, and that dual immersion and late-exit bilingual education program models are effective for increasing student achievement in content areas. Though these research findings indicate that bilingual program models are more effective than placing LEP students in mainstream or ESL pull-out programs, there are still districts within our state, and country, that are unable to implement bilingual education. In schools where program feasibility is a barrier to providing effective bilingual education programs, it is recommended that efforts be made to use some of the effective practices that are part of successful bilingual program models. These practices include, valuing the native language of students, providing content area instruction along with second language proficiency, and creating interactive learning environments that are inclusive of LEP students. This paper is intended to serve as a resource for fellow educators, across the curriculum, who do not have a background in bilingual education or ESL instruction, but will still undoubtedly work with LEP students in their mainstream classrooms.

## ACKNOWLEDGEMENTS

This masters paper could not have been completed without the initial support of Evelia Romano and Stephanie Donchey, both of whom have demonstrated tremendous efforts in the field of bilingual education. It's amazing how one program or one teacher can have such a lasting impact on subsequent choices that we make in our lives. I also want to acknowledge the continued support of Sherry Walton during my first year in the MIT program. Her unwavering dedication to teaching has positively shaped the way I view the field of education, and the goals I have set for my own success as a teacher. Scott Coleman has also played an influential role during my time in the MIT program, and as my supporting faculty for this paper. My mother, Sue Laib, also deserves a great deal of acknowledgement for her continued support during the MIT program. She is an invaluable resource in the field of education and I am fortunate to have her always a phone call away. Finally, I must extend a considerable amount of gratitude to my partner Chris Rutledge, who was patient and willing to listen during this extensive writing process.

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## CHAPTER ONE: INTRODUCTION

Washington State has become increasingly diverse, particularly in regards to the students being served in the state's public education system. In the 2003-2004 school year, Washington public schools served 69,323 students of limited English proficiency (Office of English Language Acquisition, 2003), a 126.3% increase over the 2002-2003 school year. The most current state data indicated that 7.5% of students in Washington's public school system were part of the transitional bilingual instruction program as of May 2005 (OSPI, 2005). These recent figures indicate that Washington public schools are now serving approximately 76,572 limited English proficient (LEP) students, a 110% increase from the 2003-2004 school year.

Washington's transitional bilingual instruction program is set up to serve students who speak languages other than English, and/or have English language deficiencies that impair their learning in regular classrooms. These students who are considered limited English proficient by the state of Washington are also required to meet the same high academic standards of all public school students under the Elementary and Secondary Education Act, commonly referred to as No Child Left Behind (NCLB). With the growing number of LEP students entering the public school system, and the present push for high stakes testing and accountability under NCLB, I pose the question, how can teachers across grade levels and content areas promote academic success for Limited English Proficient students given the current policies, programs, teacher training, and state support behind bilingual education?

## Statement of Purpose

This paper examines the research literature concerning the education of LEP students, nationally and in Washington State. As a prospective teacher, with bilingual education training and ESL certification, I strongly believe that LEP students have a right to an equal and equitable education. Further, I believe that it is the responsibility of all educators to provide opportunities for these students to achieve success in multiple content areas. Given the increasing number of LEP students entering the public education system, the policies and pedagogy surrounding the education of these students has become more relevant and necessary. This is true for all educators, because of their responsibility to their students. As such, it is my stated purpose to provide a solid analysis and research base of effective pedagogy and program models that promote academic success specifically for LEP students. This paper aims to provide a resource for fellow educators, across the curriculum, who do not have a background in bilingual education or ESL instruction, but will still undoubtedly work with LEP students in their mainstream classrooms.

## Definition of Terms

In an effort to clearly discuss the question of academic success for LEP students in Washington, I will first begin with a list of terms that will be necessary for the reader to understand.

### *Student Groups*

ESL: An acronym used in place of English-as-a-second language. Typically this term is used in reference to programs that promote learning English as a second language, as opposed to a foreign language. This term also commonly used to refer to a population of students learning English as a second language. The term ESL will be most commonly used in this paper in



reference to ESL-pull out instruction, and not a student population. Research cited in this paper may use the term LEP, ESL, or ELL to address a similar student population. I will adopt the term used by researchers when citing their studies.

ELL: An acronym used in place of English language learner. Changes to NCLB in 2001 noted that LEP students were also known as English language learners, or ELLs (U.S Department of Education, 2004). Following these revisions was a shift in terminology from ESL students to ELLs in many government documents, school district programs, and research. As a personal preference, I choose not to use the term ELL to indicate a student enrolled in Washington's transitional bilingual instruction program. I feel that the substitution of language learner over a student who is learning English as a second language places higher importance on the English language than it does on the student's first language.

LEP: An acronym used in place of limited English proficient. As noted by the U.S Department of Education (2004), LEP students are not a demographic group but a classification that changes as a student gains language proficiency. Student membership to the LEP subgroup can change from year to year with language proficient students exiting each year and new LEP students entering into this classification. Under NCLB the specific definition of an LEP student is to be determined by the state. This means that individual states have the flexibility to define the LEP subgroup in a narrow or broad sense.

Washington State has defined LEP as students with a primary language other than English and whose English language skills are sufficiently deficient or absent to impair learning in an all-English classroom (Bylsma et al, 2003). Students are eligible for state funding for LEP students under the transitional bilingual education program if they score below a minimum level on an oral language proficiency test selected, and administered, by the school district of

enrollment. In addition, school districts are required to reassess LEP students on an annual basis using the Washington Language Proficiency Test Series by Harcourt, Inc. Enrollment in the LEP category ends once the student scores above the 35<sup>th</sup> percentile in the reading and writing portions of this test, or after three years of enrollment in the state's program (Bylsma et al, 2003). Throughout this paper the term LEP will be used to indicate a student participating in the state's transitional bilingual education program.

Native language, primary language, and first language: These terms will be used interchangeably in accordance to the author or researcher being cited. These terms equally define the first language of competence for the student. Some researchers also use the term L1 to denote first language and L2 for second language, which will be referred to in chapter three.

#### *Programs for Students*

Submersion: A term used when no native language support or ESL instruction is used (Ovando & Collier, 1985). This type of treatment has also been called "sink or swim" because some students are able to survive when immersed in a second language environment while others are doomed to fail academically.

Two-way bilingual education: This model is implemented when "speakers of both languages are placed together in a bilingual classroom to learn each others' language and work academically in both languages" (Ovando & Collier, 1985, p. 40). This model is also referred to as "dual immersion", and typically has a percentage of daily language instruction mentioned somewhere in its program title. For example, a 50/50 dual immersion program provides equal instruction in two languages, whereas a 90/10 model may use 90% Spanish instruction and 10% English instruction during the day. Typically, primary grade instruction

in these programs is conducted in the minority language at higher percent of the time as a means to counter the dominant language outside of school. In some programs, literacy instruction is also provided for both groups of students in the minority language first. Other programs choose to provide literacy instruction in the first language at the primary level and then move to second language literacy after first language proficiency has been obtained.

The two-way model is unique because it places both language groups together in a classroom, working towards an equal academic competence of both languages. The purpose of this type of program is to provide students an opportunity to become bilingual.

Transitional bilingual education: This model provides LEP students with instruction in their native language in all subject areas, as well as ESL instruction to achieve English language proficiency (Ovando & Collier, 1985). In these programs, native language instruction is provided for a limited time as a way to prevent students from falling behind in grade level skills. Once English proficiency has been obtained, subject area instruction will transition from the primary language to English. Programs under this model may provide strict percentages of language instruction during the years of participation. For example, a kindergarten classroom may use a 90/10 Spanish/English model and then move to 70/30 in first grade, 50/50 in second grade, and 20/80 in third grade. As students advance in grade, native language instruction decreases and second language instruction takes over in various content areas. This model is also referred to as “early-exit” bilingual education as it typically exits students from the dual language component around third grade. At this time students enter into mainstream classrooms, most often with 100% English instruction. This is the transitional aspect noted in the title.

Late-exit bilingual education: This program model is very similar to transitional bilingual education or early-exit models. In late-exit programs, native language instruction is provided for a longer period of time as a way to prevent students from falling behind in grade level skills, and maintain native language proficiency. Typically, late-exit programs will be implemented from kindergarten to sixth grade. Like early-exit programs, late-exit models provide strict percentages of language instruction during the years of participation.

ESL pull-out instruction: This type of instruction is conducted in English only with students receiving one hour to a half day of instruction in segregated ESL centers or classrooms. There is a difference between ESL pull-out instruction and ESL as part of a bilingual program. ESL in a bilingual program is focused on content-area subjects at the level of English proficiency of the students. Content area ESL places more emphasis on “hands-on, motivating tasks in math, science, and social studies, which encourages natural acquisition” (Ovando and Collier, 1985, p. 45). ESL pull-out is focused on instruction of the English language itself. It is dependent on the school or district implementing the program as to whether content area instruction is actually being provided in ESL pull-out classes. ESL pull-out instruction is almost always conducted in English, thus as Ovando and Collier noted, “ESL is an integral part of transitional, and two-way bilingual education; however, it is not by itself a form of bilingual instruction” (p. 44). According to the OSPI:

ESL pull-out programs are the most commonly utilized programs in Washington and unfortunately, the least effective as well. ELL students are “pulled” out of their mainstream classrooms each day for approximately 45 minutes each day. In this model, a teacher or para-professional provides students with focused assistance either

in English language development or academic assistance” (OSPI, “Description of bilingual instructional models”, n.d, para. 11).

Typically this model of instruction is used in districts with few LEP students, or in districts with a large number of primary languages spoken.

### *Terms Implemented Under Federal and State Reform*

NCLB: an acronym for No Child Left Behind. This is a term commonly used in reference to 2001 changes of the Elementary and Secondary Education Act which mandates “increased accountability for states, school districts, and schools; greater choice for parents and students, particularly those attending low-performing schools; more flexibility for states and local educational agencies in the use of federal education dollars; and a stronger emphasis on reading” (Department of Education, 2002). NCLB will be addressed more thoroughly in chapter two.

WASL: An acronym for the Washington Assessment of Student Learning. This is a standardized test used in Washington State to comply with NCLB which requires states to implement a statewide accountability system covering all public schools and students. The WASL “[requires] students to both select and create answers to demonstrate their knowledge, skills, and understanding in each of the state’s Essential Academic Learning Requirements—from multiple-choice and short answer questions to more extended responses, essays, and problem solving tasks” (OSPI, n.d.). The state’s Essential Academic Learning Requirements that are WASL tested include reading, writing, math, and science. All WASLs are untimed and allow for accommodations to be made for LEP students.

*AMAO's*: an acronym for Annual Measurable Achievement Objectives. These are performance targets for English language proficiency that are required under Title I and Title III of NCLB. The AMAO's for English language proficiency include:

Annual increases in 62 percent of students enrolled in the Transitional Bilingual Instructional Program/Title III making progress in learning English” and “annual increases in 25 percent of students enrolled in the Transitional Bilingual Instructional Program/Title III of children attaining English proficiency” (OSPI, AMOA notification letter, n.d.).

These annual increases are measured by the Washington Language Proficiency test. NCLB also requires districts to inform parents if the Transitional Bilingual and Title III Instruction Programs implemented by the district have not met the AMAO targets.

#### Washington State Bilingual Education Policies

The transitional bilingual instruction program is Washington's program for LEP students. Bylsma et al (2003) stated, “the major objective of the transitional bilingual instruction program is for students to develop competence in English language skills” (p. 9). In response, Washington has developed English Language Development Content standards to monitor academic success for LEP students. These content standards address listening, speaking, reading, writing, and comprehension. Students are measured in these areas by the Washington Language Proficiency Test, which is administered in English- regardless of the proficiency of the student.

According to Washington's Migrant and Bilingual Education Offices (2005), the purpose of NCLB Title III is to ensure that LEP students develop English proficiency while also meeting the same academic content and academic achievement standards that other

children are expected to meet. Title III places public schools accountable for increasing the English proficiency and core academic content knowledge of LEP students, not just their English proficiency. In Washington, content area standards are used to address student achievement in the areas of reading, writing, math, and science. The English Language Development Standards are closely aligned with the reading and writing achievement standards. Academic achievement for students in Washington is measured by the WASL exams. All LEP students are assessed in the areas of reading, writing, and math in fourth, seventh, and tenth grade. LEP students are assessed in the area of science in fifth, eighth, and tenth grade. All WASLs are untimed and allow for accommodations to be made for LEP students. Students can also be exempted from the WASL if their English proficiency is determined by the WLPT to be too low to perform on an English content area assessment. Students may also be exempted by their parents at any time, or by school staff within the first three years of schooling (Rivera & Stansfield, 2000).

#### Teacher Training for ESL and Bilingual Education Programs

The successful implementation of transitional bilingual education programs is dependent on the available staff to oversee and work within these programs. Studies have been conducted to examine teacher attitudes toward bilingual education in relationship to their years of experience and teacher training. Shin and Krashen (1996) conducted a study of teacher attitudes in regards to bilingual education. They surveyed 794 public school teachers, 44% of whom had no supplementary education credentials for working with LEP students. This study found that the effect of having supplementary education credentials was statistically significant when used to predict attitudes toward bilingual education. A more recent study also found that there were differences in teacher attitudes toward their ELL

students language use which positively correlated with the type of certification or endorsement they held (Garcı-Nevarez, A. G., Stafford, M. E., & Arias, B., 2005). These studies suggest that teachers who have received training in ESL or bilingual education are more likely to view bilingual education programs favorably than their untrained counterparts. To assure academic success, Byslama (2003) indicated that “LEP students need access to properly qualified, highly skilled teachers in order to meet high standards” (p. 13). Also noted in his report is the shortage of staff qualified to teach students with limited English proficiency within Washington state.

Washington has made efforts to address the shortage of ESL or bilingual certified staff. In 2001 Washington legislation create alternative route programs, under the recommendation of the Professional Educator Standards Board (Matson, 2002). These programs emphasized performance-based alternative routes to teacher certification, aimed at recruiting teachers in statewide shortage areas. Presently, ESL is listed as a shortage area in Washington state, as it has been since 2001 when recruitment programs began (“Teacher shortage areas”, n.d.). Bilingual education is not presently listed as a statewide shortage area; however, Bilingual education is listed alongside ESL and special education as one of the possible alternative program internships available for classified instructional staff holding an Associates Degree, with at least three years of employment within a school district. In the summer of 2002 a survey was conducted of 166 intern candidates for teacher certification through alternative routes. At the time of the survey, none of the interns were pursuing a bilingual education endorsement and 10% of the interns were pursuing an endorsement in ESL (Matson, 2002, pp. 37-42).



Additional efforts have been made to recruit teachers through federal loan forgiveness programs that forgive all, or part, of student loans for teachers entering the field in subject shortage areas. Washington State has a similar program that was implemented in 2000 called Future Teachers Conditional Scholarship and Loan Repayment Program which is designed to encourage students and paraprofessional to become teachers, and to encourage current teachers to obtain additional endorsements in teacher shortage subjects (WA Higher Education Board, 2002). In 2000, when the program was first implemented, the OSPI had designated both ESL and Bilingual education as subject shortage areas (WA Higher Education Board, 2002, p. 37). Currently, the Future Teachers Conditional Scholarship and Loan Repayment Program grants priority for individuals seeking endorsements in math, science, or special education and individuals with verified bilingual ability. This program does not give priority for individuals seeking endorsements in ESL or Bilingual education specifically, only the content areas listed above, and for bilingual ability that can be used in the public school classroom. As previously cited, Washington state still views ESL as a subject shortage area for teachers and as such individuals seeking endorsements in ESL would be eligible for the program, but their applications would not be granted priority over others.

The programs referenced above encourage new candidates to enter the field of education with endorsements in shortage areas. In addition to state recruitment efforts for new teachers, the state and local school districts also need to examine the amount of training available for teachers not seeking specific endorsements who are working with LEP students in their mainstream classrooms. The growing number of LEP students in Washington state will undoubtedly impact all teachers, not just those specialized in ESL or Bilingual

education. If teacher training for mainstream classrooms does not identify effective strategies for LEP students, it has the potential to leave LEP students dependent on the few trained staff that are available at the school to assist with language learning, and content area instruction. In traditional ESL pull-out instruction the focus is on English language oral and literary proficiency. Teachers within these programs may choose to integrate other content areas into their classroom, but typically they are given the materials to use by the district and asked to adhere to them. Requirements for teachers to adhere to a district prescribed curriculum is an area of concern in all parts of education, not just in the implementation of bilingual programs.

#### Statement of Limitations

Much of the research in the field of bilingual education is specific to transitional bilingual education or two-way language programs, and not ESL English-only models. In the field of bilingual education ESL instruction is commonly used as a part of a transitional or two-way bilingual program and is not by itself a form of bilingual instruction. Whereas ESL in a bilingual program is focused on content-area subjects at the level of English proficiency of the students, ESL pull-out is typically focused on instruction of the English language itself, and is conducted completely in English. Washington state uses studies of bilingual education to support their transitional bilingual instruction program, however the programs most commonly used in Washington state are ESL pull-out instruction (Byslama, 2003). There has been research conducted in ESL pull-out programs, but the bulk of the research over the last four decades has been conducted in bilingual education programs or outside of a specific program context all together. With the growing number of LEP students in the United States, and the increased achievement standards under NCLB, I anticipate that

the field of research examining LEP students in an ESL pull-out environment will grow larger as more states begin to examine the academic success of their LEP students under the most commonly utilized program model.

For the purpose of this paper, and informing my own teaching practices, I have sought out research relevant to Washington state's transitional bilingual education program knowing that there is a limited amount of research directly related to the effectiveness of ESL pull-out programs for LEP students. I have also limited the scope of my research to elementary age students, except in cases where student achievement was studied from elementary grades up to high school graduation. Very few longitudinal studies exist that follow LEP students from early elementary to high school so the majority of research studies analyzed, and included in this study, deal with samples of elementary age students from kindergarten to sixth grade. Chapter three will provide the theoretical framework behind my question through the examination of research dealing with elementary age students participating in both bilingual and ESL pull-out models.

### Summary

This chapter introduced the question of how teachers across the curriculum could promote academic success for Limited English Proficient students given the current policies, programs, teaching training, and state support behind bilingual education. The importance of this question, as it pertains to the educational community and my teaching practice, deals specifically with the increased population of LEP students within Washington public schools and the over use of ESL English-only programs in the state, despite research that evidences their ineffectiveness for LEP students. This chapter also provided pertinent information regarding current policies under NCLB and Washington's transitional bilingual instruction

program. Chapter two will take a step back from current policies and practices to provide the historical framework for ESL and bilingual education. This will serve as a map of the historical progress and regression up to the present context of NCLB.

## CHAPTER TWO: HISTORICAL FRAMEWORK

In pursuit of equity and social justice for all children, it is imperative that we first review how diverse groups have succeeded, or failed, in having their language needs met in the public school system. The history of language minority education is best represented as a pendulum that has swung back and forth as the political, economic, and social climate has changed. The history of language minority education encompasses major shifts in linguistic tolerance, schooling practices, and education policy. In addition, it is marked with local, state, and federal governmental restrictions along with government support. The pendulum of change has been a constant force present in bilingual education policy and history from the 1600's to present. The following chapter will provide a historical picture of the public education provided for LEP students in the United States during this timeframe.

### Language in Early American Schooling

From pre colonial days into the mid-1800s bilingualism was widespread, respected, and appreciated. Before the first Europeans arrived on the continent, between 200 to 500 languages in about 15 language families were spoken (Fitzgerald, 1993). Whereas the Spanish colonists created specific language policies, the English colonies did not. Despite the lack of language policy in the early American colony, the evidence of Anglicization reaches back to the 1600s- when English settlers first attempted to Anglicize Native American people on their own lands. "For English colonists, the cultural resistance of Native Americans was an affront to the teachings of Christ and a hindrance to colonial expansion" (Spring, 2005, p. 9). In 1615, the Virginia Company and Massachusetts Bay Company made plans for the first Native American college, to support missionary work within Native American tribes (Spring, 2005, p. 25). The funds collected for the college were covertly

reallocated and , and the college was never built. Instead of attempting Anglicization through education, the colonists moved to enact religiously intolerant laws aimed at Native Americans. The Massachusetts General Court declared in 1646 that all Christian or pagan individuals willingly denying the true God, would be put to death (Spring, 2005, p. 25). To assure compliance, the General Court also enacted a law that Native Americans were required to be annually “informed of their possible execution for denying the validity of the Christian God” (Spring, 2005, p.25). These type of laws would be a precursor to the intolerant policies that would effect Native American culture and language after the American Revolution.

The first political movement surrounding language schooling took place in the 1720’s in Pennsylvania. Pennsylvania was originally founded by the English Quaker, William Penn, who actively recruited fellow English Quakers to his settlement (Spring, 2005, p. 21). Pennsylvania soon after came to be populated by a large contingent of settlers from Germany, which caused the English colonists to fear that they might lose their cultural and linguistic dominance in the colony. In 1727 the English-controlled Pennsylvania Assembly began establishing laws and policies aimed at Anglicization of the German colonists. Benjamin Franklin was an advocate of this cultural Anglicization movement. Franklin contributed to this movement by establishing English language charity schools in 1755, which were aimed specifically at the German population. The strong German community in Pennsylvania successfully resisted this attempt at deculturalization, causing failure of these schools within the subsequent decade (Spring, 2005, p. 21). It appears that the first efforts to Anglicize Europeans into an American monoculture were met with apprehensions and resistance. This type of response has been mirrored by all language minority groups

throughout American history, and many of these groups- including the German population within Pennsylvania- were eventually unable to resist Anglicization efforts and forced to acculturate into “the melting pot” of American society.

Despite early Anglicization efforts, bilingualism was still very present within the American colony, and viewed favorably up through the 1800’s. Bilingualism was not reserved for the upper class, but instead was encouraged by many social and religious organizations. Multiple languages were used in the formation of government documents, by what have now been declared our “founding fathers”. As an example, the Continental Congress printed many of their official documents in German and French in the mid 1700’s (Heath, 1992). This included the Articles of Confederation, which were the precursor to the Constitution. Benjamin Rush was a member of the Continental Congress and a signer of the Declaration of Independence. Rush advocated for German and French to be taught in America’s English schools, “wherever learning is confined to one society, or to a few men, the government of that country will always be an aristocracy, whether the prevailing party be composed of rich or poor” (Rush as quoted in Heath, 1993, p. 23).

Around the time that the Constitution was coming to fruition, John Adams requested that the Continental Congress take on the position as the overseer of an American Academy of Language. Adams viewed language as an instrument of communication needed for state propagation of national ideals (Heath, 1993, p. 26). In Adam’s written request to the Continental Congress, he maintained his allegiance to the English language and insisted that America could also take on the role of expanding English as a world tongue if they established an Academy of Language before Great Britain. Adam’s push for expansion of the English language indicated his true intent of political advancement of America over Great

Britain, as opposed to his genuine appreciation for world languages. Possibly as a result, the Continental Congress was not convinced that an American Academy of Language aligned with American goals. The Academy was never erected under the congress and Adam's dream became lost until Noah Webster came out with a substitute for a language academy shortly thereafter

After the American revolution, Noah Webster did much to promote the idea of a standard American English language. In many ways, Webster's dictionary was a substitute for Adam's original vision of an American Academy of Language because it truly embodied an American dominance of the English language. In 1787 Webster proclaimed, "the United States were settled by emigrants from different parts of Europe. But their descendents mostly speak the same tongue; and the intercourse among the learned of the different States, which the revolution has begun, and an American Court will perpetuate, must gradually destroy the differences in dialect which our ancestors brought from their native countries" (Webster, 1992, p. 33). As evidenced by his writings, Webster was most concerned with establishing a uniform code for spelling and pronunciation of American English, as well as the instillation of patriotic American values. Webster's first spelling book reached sales of one-and-a-half million copies by 1801, 20 million by 1829, and 75 million by 1875 (Spring, 2005, p.48). The presence of Webster's textbooks in virtually every classroom across the nation was a powerful influence on the choice of language for instruction, as well as the instructional approaches that were used.

As Webster enjoyed his success and traveled a lecture circuit during the decades following the Revolutionary War, Native Americans and their languages were being severely impacted by official government policies. In 1819 the United States passed the Civilization



Fund Act to provide support for schools among Native Tribes, that would train them in the Agrarian way of life (Spring, 2005, p. 120). Though some tribes wanted literacy, they received an education designed to rid them of their tribal culture, and assimilate them into an Anglo-Protestant way of life. Across the United States Native children were being removed from their families and placed in English boarding schools, where they were punished for using their native language. This assimilationist policy was not explicitly reversed until 1990 under the Native American Languages Act (Reyhner, 1999).

While the Civilization Fund Act supported efforts to assimilate Native Americans, Native land continued to be purchased by the United States government. According to Spring (2005), these purchases more accurately resembled United States conquest of tribal land, as opposed to actual monetary purchases. In the 1830's, As part of a government treaty, the Choctaw and Cherokee tribes were forced to move from their land to separate Indian territory. In 1842 a tribal school system was successfully created by the Choctaws on their Indian Territory. The instruction in these schools was conducted in both Choctaw and English. The school system created in the Cherokee nation far surpassed the Choctaw schools upon their inception in 1841. The Cherokee nation was praised for their bilingual program which produced a tribe that was "almost 100% literate", a literacy level in English that "was higher than the white populations of either Texas or Arkansas" (Spring, 2005, p. 129). Though these two tribes successfully implemented bilingual education schools during the English centered common school movement, many other Native tribes were not as fortunate. In the 1990's Kraus (1990) estimated that there were 200-210 different North American languages still spoken by peoples of the United States and Canada, out of the total

of 300 plus pre-contact languages originally spoken. Around 100 native languages were lost during the 200 year period of persecution and preservation efforts.

### Early Bilingual Education Efforts

Despite efforts to abolish German language use under the early push for English only, the German speaking population stayed strong and fought for their language rights. In 1839, Ohio became the first state to adopt a bilingual education law, authorizing German-English instruction at parents' request. Louisiana enacted an identical provision for French and English in 1847, and the New Mexico Territory did so for Spanish and English in 1850. By the end of the 19th century, about a dozen states had passed similar laws. Elsewhere, many localities provided bilingual instruction without state sanction, in languages as diverse as Norwegian, Italian, Polish, Czech, and Cherokee (History of bilingual education, 1998). Enrollment surveys at the turn of the 20th century reported that at least 600,000 (4%) primary school students- public and parochial- were receiving part, or all of their instruction, in the German language (History of bilingual education, 1998).

Though these states and individual schools were passing laws to advocate native language use in the classroom, they were not implementing bilingual education programs. In these schools, native language was typically used as a stepping stone to learn the English language, and was discontinued once the student became proficient in English. The goal was not active bilingualism, but instead another method of assimilation for non-English speaking children. Stein (1986) referred to this time period as “missionary-style assimilation” as opposed to the military-style assimilation that had come before it. Stein noted that “the strategy was to convert or lure the youngsters into Anglo conformity, not to beat them over the head with it” (p. 10).

Though state efforts were made in the mid 1800's there was a growing resentment against bilingual education around 1880 (Fitzgerald, 1993). This was signaled by the Spanish American War and the subsequent military colonization of Puerto Rico and the Philippines in 1882. The U.S. imposed English as the language of instruction in mainstream schools of both of these newly "acquired" colonies. This was detrimental for Puerto Rico; whereas the Philippines had multiple languages present in their culture, Puerto Rico was entirely Spanish speaking at the time of colonization. New Mexico also evidenced a shift in language tolerance. Prior to the 1890's New Mexico had a strong inclusion of Spanish language in their elementary schools and in their legal framework, but in 1890 when the New Mexico Enabling Act made English the required language of instruction in public schools, and English literacy a requirement for holding public office.

At this time there was also a national movement towards English-only policy. The Nationality Act, of 1906, was the first legislation requiring immigrants to speak English to become naturalized citizens. WWI also played a role in the intolerance of non-English languages, specifically the German language. Many states adopted English-only mandates after WWI that were specifically aimed at public use of German. In 1923 the first supreme court ruling overturned an English only statute in the state of Nebraska. The statute was created in 1919 and declared that "no person, individually or as a teacher, shall, in any private denominational, parochial, or public school teach any subject to any person in any language than that English language" (OELA, 2006). A parochial school teacher, Robert Meyer, was found guilty of violating this statute by teaching a ten year old child a Bible story in German. The 1919 Nebraska mandate allowed foreign language instruction after the student had reached eighth grade, however this did not apply in this circumstance due to the

child's age. When the case was brought before the Supreme Court in 1923 there was a 7-2 ruling in favor of Meyer. This case served to repeal the English-only mandate in Nebraska, and led to similar repeals in Iowa and even in Ohio- which had moved from it's acceptance of bilingual education to an English-only mandate in 1919.

After the Meyer v. Nebraska ruling many states were left in an interesting predicament, how to teach students from a variety of language backgrounds. Though there were successful bilingual programs created by the Choctaw and Cherokee nations this was not common outside of these nations. In the 1930's a new education model was introduced- English as a second language (ESL) programs. These programs were initially developed by Charles Fries for the purpose of instructing foreign diplomats and businessmen in the English language. These programs were later used on university campuses for educating incoming foreign students. This program model was suitable for middle to upper-class pupils, already familiar with school culture (Stein, 1986, p.14). In the ESL program model all instruction was provided in English, so the adult learners could be immersed in the second language in a sheltered environment. This original program model bares stark contrast to English-only submersion programs used with language minority youth. The adults in the ESL programs held social status in their communities, and they were participating in these programs by choice. It wasn't until the 1950's and 60's that ESL methodology began to be utilized in the public school system with children across grade levels.

The ESL programs of the 1950's and 60's were mainly implemented in schools with large Hispanic populations. These students typically came from poor families, that were unfamiliar with school culture. The most common model for ESL programs in the public schools were pull-out instruction programs, in which students were taken from their regular

classes to learn isolated English skills on a daily basis. Stein (1986) noted that after several years using this methodology several consistent complaints surfaced:

Since it usually took several years to learn English, it was hard to learn the content subjects taught in English. Students fell behind and often had to repeat grades. The pull-out method exacerbated the problem by causing children to miss some of their content instruction. ESL students were often taunted by their classmates for having to go into the 'dummy' class (Stein, 1986, p. 14).

Despite these complaints, the ESL program model was the most commonly used in the public schools, during this time frame. Like early assimilationist programs, the goal was to teach students the English language so that they could survive in an Anglo dominate world. But, students could not fully assimilate into Anglo culture, as there were many obstacles blocking their educational access. Obstacles for these students included vocational tracking into less desirable blue collar fields, demotion in grade level based on ethnic heritage and perceived intelligence, and enrollment in educable mentally retarded classrooms due to low scores on English IQ tests (Stein, 1986). Though there were accommodations made for language in the public, these accommodations came at a price for LEP students. These students were labeled and tracked into a class system that few were actually were able to overcome.

During the ESL expansion to public schools, a shift in foreign language teaching also surfaced. The launching of Sputnik in 1957 brought national attention to the importance of foreign language. The U.S. was lagging far behind other industrialized countries, due to their abolishment of many foreign language programs after WWI. The federal government responded to this through the passing of the National Defense Education Act, which provided

grants for foreign language programs and teacher training. As a result, Spanish and French replaced Latin as the most commonly studied language (Stein, 1986, p. 16). This effort did not increase the acceptance of native Spanish speakers. Students who entered school knowing Spanish were discouraged from perfecting their language skills. Instead, middle-class English speakers were geared toward learning Spanish, something that Stein declared, “a classic mismatch” (1986, p.16). This type of mismatch would carry on into the 1960's-at which point the pendulum would again shift towards acceptance of bilingual education and equality for LEP students.

#### Opportunity Under Bilingual Education

The 1960's provided a backdrop for the resurgence of bilingual education in the United States. In Dade county Florida there was an influx of Cuban refugees in the 1960's. These immigrants were from Cuba's middle and upper classes. In 1962 the Dade County public school system applied to the Ford Foundation for funds to implement an educational program to serve their Spanish speaking population. The district was rewarded with \$350,000 for a three-year experimental Spanish-English program that would begin the following year (Stein, 1986, p. 21). This effort was known as the Choral Way project, named after the elementary and secondary school that facilitated the program. Choral Way implemented a bilingual program model, based on programs that were being used in Guatemala and Ecuador. The two-way model utilized an equal balance of English and Spanish instruction, so that “children from both ethnic groups would learn each others' languages and the content subjects in both languages” (p.22). This program aimed to produce highly educated bilingual students from Spanish speaking, and English speaking backgrounds. Bilingual program models had not been common place since the German

schools in the 1700's and the Native American schools during the mid 1800's so the success of the Choral Way project made way for a policy shift. "The word was out that bilingual education had been tried and it worked" (p. 22). During this time period, the research on bilingual children started to show bilingualism as an asset to intelligence, as opposed to an academic detriment. Unfortunately, little research was conducted on the effectiveness of early bilingual education programs like the Choral Way Project.

The 1960's was also a time of civil rights and equality. The war on poverty surfaced during this time, with specific attention being given to the overrepresentation of people of color living in poverty. In 1964 the Economic Opportunity Act was established to involve poor parents in the development and implementation of federal programs. From this effort came an increased awareness of the public education system's cultural deprivation of minority students. The war on poverty impacted the arguments for bilingual education because of this focus on people of color, and the perception that the key to upward mobility was education. As another measure to fight the war on poverty, the Elementary and Secondary Education Act (ESEA) was introduced in 1965 to address the growing achievement gap. ESEA allocated funds for schools serving poor students. Title I of ESEA allocated funds for ESL programs to serve poor students who needed remedial assistance learning English (Stein, 1986). At this point in time, funding for ESL programs was only given on the basis of income needs and not by language needs of public school students.

From the initial implementation of ESEA came a big push for bilingual education programs, like that used in the Choral Way project. In 1966 the National Education Association (NEA) became active in their support of bilingual education through the publication of a report on the negative effects of schools on Mexican American cultural

identity. The report challenged the dominant ideology that minority children were responsible for their underachievement due to their strong disinterest in education. Instead, the NEA report suggested that discriminatory school policies and practices were actually responsible for underachievement (Miguel, 2004). Finally, the NEA report recommended that schools implement bilingual education programs as a way to address the clear achievement gap present between English and Spanish speaking students.

Stemming from this movement, the Bilingual Education Act was drafted and first brought before the U.S. senate in 1967. Sen. Yarborough introduced the act by addressing the need for the senate to take action:

English-only policies, no-Spanish speaking rules, and cultural degradation have caused great psychological harm to these children and contributed to their poor performance in school and high dropout rates. Bilingual education can overcome many of these problems and improve their academic achievement (Yarborough, as cited in Miguel, 2004, p. 15).

The Bilingual Education Act was enacted by congress in December of 1967, and put into law by President Johnson one month later in 1968 when it was added to the ESEA as the seventh title. This was the first federal legislation that dealt with the language of instruction in public schools.

The Bilingual Education Act marked a change in monolingual public education to the permissive use of bilingual education, however the act itself was very ambiguous.

Projects funded under this amendment were intended as compensatory programs to make up for the deficiencies limited English speakers brought to school. Consequently, almost all programs addressing the needs of LEP students were eligible for funding whether or not they



indicated a specific methodology (Halcon & de la Luz Reyes, 1992). Aside from this ambiguity, the Act was vastly under funded in comparison to ESEA. The Bilingual Education Act was granted \$7.5 million while ESEA was provided over one billion dollars to use for compensatory programs (Miguel, 2004) This amount of funds was insufficient to start up new bilingual programs in schools across the nation, but more surprisingly these funds were completely underutilized. The Bilingual Education Act gave school districts the option of participating, yet no one actually used funds under the Act during it's first year (Miguel, 2004). This was presumably due to lack of interest or initiative on behalf of the school districts.

The proponents of bilingual education were not disillusioned by the Bilingual Education Act upon its inception. They were aware of the ambiguity and weakness of the initial act, and therefore took it upon themselves to adapt and reform it as a means to focus directly on bilingual education for all LEP students. Between 1968 and 1978 the Bilingual Education Act was strengthened and reformed. The first change came in 1969 when regulations for implementing bilingual education were published. In these guidelines, the poverty criteria was deleted so that all LEP children would be eligible to participate in bilingual education programs. In 1974 the scope of the legislation expanded to include financial assistance for implementing educational programs, teacher training, curriculum development, conducting research, and for federal administration of bilingual education (Miguel, 2004). Also in this year, regulatory changes were made to allow English speakers to enroll in bilingual programs as well. Funding for bilingual education also increased dramatically from \$7.5 million in 1969 to \$138 million by 1978. Other changes to the

Bilingual Education Act included a cap of 40% enrollment for English speaking students and the inclusion of Native American students in the eligible population.

1974 was the most significant year for the Bilingual Education Act (Miguel, 2004). Not only were major revisions made to the legislation, the Equal Education Opportunity Act was also created to assure that discrimination based on language was included in the definition of what constituted denial of equal educational opportunity. In addition, there was a landmark court decision that brought forth the local school's responsibility for providing appropriate instruction for LEP students. *Lau v. Nichols* was a class action suit representing 1,800 Chinese students against the San Francisco School District. The students "alleged discrimination on the grounds that they could not achieve academically because they did not understand the language of their English speaking teachers" (Ovando, 2003, p. 9). The Supreme Court ruled in favor of the Chinese students, concluding that equal treatment of English speaking and non-English speaking students did not constitute equal educational opportunity. This ruling placed further responsibility on schools for providing adequate instruction for LEP students.

the *Lau* decision did not prescribe a specific method of instruction for LEP students. At this point it was clear that public schools needed to provide equal academic opportunity for all students, but bilingual education was still voluntary under the Bilingual Education Act. Responding to this, the *Lau Remedies* were created by the federal government and released in 1975 to elaborate on the civil rights afforded to LEP students and enforce compliance with the Bilingual Education Act. The *Lau Remedies* were used to negotiate compliance plans with over 500 local school districts in the late 1970's (Miguel, 2004) These compliance plans mainly adopted transitional bilingual education that utilized the

students' native language for instruction for a period of time until English proficiency was obtained. In 1978 the voluntary aspect of the Bilingual Education Act was abolished, and all local education agencies had to implement bilingual education programs to serve their LEP students or face the withdrawal of all federal funding (Miguel, 2004). During this time bilingual education was being defined under the Bilingual Education act as "instruction given in, and study of, English and, to the extent necessary to allow a child to progress effectively through the educational system, the native language of the children of limited English speaking ability" (Public Law 93-380, as cited by Miguel, 2004, p. 31). In other words, The Bilingual Education Act required schools to develop programs to serve LEP students, but these programs were not required to use native language unless the student was unable to "progress effectively through the educational system". As such, immersion, transitional bilingual and ESL programs were all being used, with little to no native language instruction, under the Bilingual Education Act. The biggest problems in implementing bilingual programs were the lack of clear methodology, trained teachers, and the lack of programs to train administrators and teachers. Halcon and de la Luz Reyes (1992) noted, "after the first year, 76 programs were in place. Only two years later, 131 programs were funded. By 1980 that number had increased to 565 basic programs, 66% of which served only Spanish-English clients" (, 1992, p. 310). Though the Bilingual Education Act had come along way from its inception in 1968, there was still a great battle to be fought.

In 1978, the first report was released to the Department of Education to detail the effectiveness of bilingual education programs being implemented under the Bilingual Education Act (Danoff, 1978). This report was funded by the U.S. Office of Education Planning, Budgeting, and Evaluation in conjunction with the American Institutes for

Research (AIR). Ultimately, the AIR study was the first national study to examine programs being funded through the Bilingual Education Act; however, the researchers were later accused of using flawed research methods, primarily because their recommendations were based on limited student data, collected over a short period of time (Ramirez et al, 1991; Stein, 1986). The AIR study concluded that programs implemented with Title VII funding were not effective in producing student gains in the areas of English reading, language art, or mathematics, and as such these programs are less effective than submersion methods. This was a weighty conclusion in the field of bilingual education as it questioned the last decade of educational practices for language minority students. Though opponents of bilingual education referred to this study as proof that bilingual programs were unnecessary for LEP children, there were also voices in the field of education and policy that questioned the validity of these findings. Since the AIR researchers did not attempt to distinguish between the types of programs or methods of instruction being used in their sample, their conclusion of program effectiveness was not taken seriously in the bilingual education community (Ramirez et al, 1991; Stein, 1986). On the other hand, the AIR research findings were accepted in the political sphere without question. As such, the following decade would mark another pendulum swing towards English-only programs.

#### The Reagan Era and English-Only Movement of the 80's and 90's

Organized efforts for English-only policies and against bilingual education grew stronger during the 1980's. The start of this shift in bilingual education acceptance was marked by the election of President Ronald Reagan in 1980. Reagan's primary objective for his administration was to limit the role of the federal government, which directly affected the federally funded Bilingual Education Act. In 1981 Reagan stated, "it is absolutely wrong and

against American concepts to have a bilingual education program that is now openly, admittedly dedicated to preserving their native language and never getting them adequate in English so they can go out into the job market and participate” (Reagan, as cited in Ovando, 2003, p. 12). Fitzgerald (1993) suggested that a peak in immigration could be associated with a decline in the acceptance of bilingualism- “It is likely that increasing immigration creates a feeling of instability among citizens” (p. 50). In the 1980’s the largest group of immigrants arrived in the United States since the beginning of the century. Fitzgerald noted that this could have led to increased hostility towards this new immigrant population and the increased demands on the public education system. Whatever the fundamental causes may have been, during the first three years of the Reagan administration, bilingual education was clearly in jeopardy.

In 1981, a federal court ruling in the decision of *Castañeda v. Pickard* marked another significant court decision affecting language minority students. The plaintiffs claimed that the Raymondville, Texas Independent School District's language remediation programs violated the Equal Educational Opportunities Act of 1974. As a result, the Fifth Circuit Court of Appeals formulated the "Castañeda test" to determine school district compliance with the Equal Educational Opportunities Act. This test included the following criteria: (1) Theory: The school must pursue a program based on an educational theory recognized as sound or, at least, as a legitimate experimental strategy; (2) Practice: The school must actually implement the program with instructional practices, resources, and personnel necessary to transfer theory to reality; (3) Results: The school must not persist in a program that fails to produce results (OLEA, 2006). Though this ruling provided a framework for schools to follow, finding program models that were proven to be effective through

experimental research was difficult. Around the same time frame, the media got access to parts of the AIR study (Danoff, 1978) and published findings indicating that bilingual education was proven, through experimental research, to be ineffective (Stein, 1986, p.41). The debate continued, with both sides confident that their views were right and just. By 1984 the future of The Bilingual Education Act was uncertain.

In 1984, the Bilingual Education Act was reauthorized with the addition of new programs that were eligible for funding. These programs included: developmental bilingual education that combined native English speakers with language minority children, bilingual education for special populations like preschool, handicapped, and gifted children, and family English literacy programs. In addition, Special Alternative Instruction Programs (SAIPs) were introduced. SAIPs were programs that used English instruction to educate non English speaking students, under the premise that bilingual education did not work for all districts. 4% of the funds allocated under The Bilingual Education Act were reserved for SAIPs. “While intending to provide school districts greater flexibility in designing programs for their specific populations, these programs in a strict sense, actually authorized schools to by-pass Lau remedies in educating LEP students” (Halcon & de la Luz Reyes, 1992, p. 317). In many ways this reauthorization embodied both sides of the debate. 1984 was an election year and Reagan couldn’t afford to lose the Hispanic vote by completely discarding bilingual education, but the reauthorization was clearly laced with English-only sentiment (Halcon & de la Luz Reyes, 1992; Miguel, 2004).

Once Reagan’s second term was secured, another opponent of bilingual education was brought into his administration in 1985. In this year William Bennett was brought on as the new Secretary of Education. Bennett asserted that bilingual education programs had

failed; in his view, they taught native languages to the exclusion and detriment of English (Halcon & de la Luz Reyes, 1992). His English-only statements positioned him as the leading individual antagonist toward bilingual education. One of Bennett's first acts as secretary was to appoint three members to the National Advisory and Coordinating Council on Bilingual Education. Bennett appointed three men who had previously opposed federal support for bilingual instruction. Bennett also launched new initiatives that would enforce English-Only and supported title VII grants that favored programs emphasizing the transition to English as quickly as possible. Finally, Bennett was responsible for a mandate calling for the Office of Bilingual Education and Minority Language Affairs to remove all restrictions on title VII funding for English-only instructional programs (Halcon & de la Luz Reyes, 1992, p. 318). Bennett made the following statement about the federal role in bilingual education at the height of his bilingual education reform campaign:

Paradoxically, we have over the last two decades become less clear about the goal- English language literacy- at the same time as we have become more intrusive as to the method. But there ought to be no confusion or embarrassment over our goal. The rise in ethnic consciousness, the resurgence of cultural pride in recent decades, is a healthy thing. The traditions we bring with us, that our forefathers brought with them to this land, are too worthwhile to be discarded. But a sense of cultural pride cannot come at the price of proficiency in English, our common language (Bennett, 1985).

Bennett pushed for equal educational opportunity through English language instruction. Though he claimed to value cultural pride, it could not come at the expense of learning the language of power. In 1985 James Lyons, the executive director of the National Association for Bilingual Education questioned Bennett's definition of equal opportunity. Lyons (1985)

noted that proponents of bilingual education did not question the importance of effectively teaching English to language minority students, “however, no one with an ounce of sense would say that a child who has mastered English, but who has not learned mathematics, history, geography, civics, and the other subjects taught in school was educated or prepared for life in this society” (p. 365).

Despite the strong opposition by the National Association for Bilingual Education, and other proponents of bilingual education, Bennett was successful in passing many English-only reforms under the Bilingual Education Act. In 1988 the Department of Education increased the amount reserved for SAIPs to 25% and, except in special cases, set a three year limit on student enrollment in bilingual programs before exiting to an English-only classroom. Halcon and de la Luz Reyes (1992) noted that the original goal of the Bilingual Education Act had been lost, “The 1968 Bilingual Education Act, for example, proposed bilingual education as a way to achieve equity for language minority students. By 1978, and since then, bilingual education, redefined as English-only instruction for limited English speakers, has been perceived as the new way to achieve equity” (p. 320). This push for English-only instruction continued on into the 1990’s under the Bush Sr. administration.

The Bush Sr. administration supported bilingual education during the presidential campaign in 1992- just like his predecessor, Bush could not afford to lose the Hispanic (Miguel, 2004). During the 1990’s the climate for English-only was evidenced by the increased presence of political activist groups like U.S. English, English Only, and English First (Ovando, 2003). Also during this time was an increase of reports on bilingual education programs, stemming from the programs created under the original Bilingual Education Act. These reports demonstrated effectiveness of bilingual program models however their



methodology was being called into question by English-only advocates. The bilingual education debate reached a national high in 1998 with the passage of California's Proposition 227 which mandated English as the only language of instruction for California's public schools (Mueller, Singer, & Grace, 2004). Prop 227 required:

All children in California public schools shall be taught in English. In particular, this shall require that all children be placed in English language classrooms. Children who are English learners shall be educated through sheltered English immersion during a temporary transition period not normally intended to exceed one year (Article 2, para 305, as cited in Mueller, Singer, & Grace, 2004).

In order to remain in compliance with the Equal Opportunity Act, California allowed parents to use waivers to bypass Prop 227 language restrictions. To date, Prop 227 is still present in California's public school system. The California Department of Education noted that, "since the passage of Proposition 227, students across all language classifications in all grades have experienced performance gains on the Standardized Testing and Reporting Program" (American Institutes of Research and West Ed, 2006). These findings were reported in the executive summary of a five year study on the implications of Prop 227. The summary went on to state that there has been a slight decrease in the achievement gap between LEP and mainstream students, but that these findings could not be directly attributed to Prop 227 provisions (American Institutes of Research and West Ed, 2006). After California passed prop 227 Arizona followed with similar legislation. Proponents of bilingual education have continually called into question the lack of empirical evidence to support the success of these type of English-only programs for LEP student and English-only

advocates continue to dispute empirical research citing the benefits of bilingual program models.

Under the Clinton administration the reauthorization of the Bilingual Education Act and ESEA was proposed in 1999 under the Educational Excellence for All Children Act. This bill did not pass, and was not redrafted within the Clinton Administration. Instead, the politics of the late 1990's culminated in 2001 under the new Bush administration and the reformation of the Elementary and Secondary Act.

#### No Child Left Behind and Present Day Language Policy

No Child Left Behind (NCLB) was enacted in 2001 under the support of George W. Bush. NCLB is the most current legislation reform of the Elementary and Secondary Education Act. According to the Department of Education NCLB mandates “increased accountability for states, school districts, and schools; greater choice for parents and students, particularly those attending low-performing schools; more flexibility for states and local educational agencies in the use of federal education dollars; and a stronger emphasis on reading” (Department of Education, 2002, p.1). Spring noted, “in addition, this legislation erased the efforts by Native Americans, Mexican Americans, and Puerto Ricans to institute bilingual education in public schools. The efforts to create multicultural school systems were defeated as the new law mandated standardized tests and state standards to regulate the school curriculum to ensure that a single culture would dominate the schools” (Spring, 2005, p. 461). Further, Miguel (2004) noted “the opponents have finally succeeded in repealing bilingual education and in replacing it with an English-only one. The forces of conservatism, assimilation, and ignorance, in other words, have triumphed over pluralism and over enlightened pedagogy” (p. 93).

NCLB Title III deals specifically with the education of LEP students. The purpose of the title is to ensure that LEP students “attain English proficiency, develop high levels of academic attainment in English, and meet the same challenging State academic content and student academic achievement standards that all children are expected to meet” (U.S. Department of Education, 2004, para. 1). The title also grants state and local educational agencies the flexibility to implement language instruction programs, provided that they are “based on scientifically based research” (para. 9) and that the LEP students in these programs demonstrate improvement in English proficiency each fiscal year, and make adequate yearly progress on state assessments. This means that State and local districts can choose to advocate bilingual education programs, however the federal funding for these programs are based on their students’ annual improvement in English proficiency, as well as their annual academic improvement as indicated on a standardized test given in English.

Washington State supports bilingual education programs and ESL instruction. The Transitional Bilingual Instruction program is Washington’s program for LEP students. Bylsma et al (2003) stated, “the major objective of the transitional bilingual instruction program is for students to develop competence in English language skills” (p. 9). This aligns directly with Title III objectives under NCLB. To elaborate on this objective, the authors addressed the transitional aspect of Washington’s program:

Bilingual education is the use of two languages in instruction, English and one other. The non-English language is a bridge, a language the child understands that can be used while English skills are being acquired. As a student learns more English, there is a corresponding decrease in the use of the primary language. This is the “transitional” aspect of the program as established in Washington. Although the

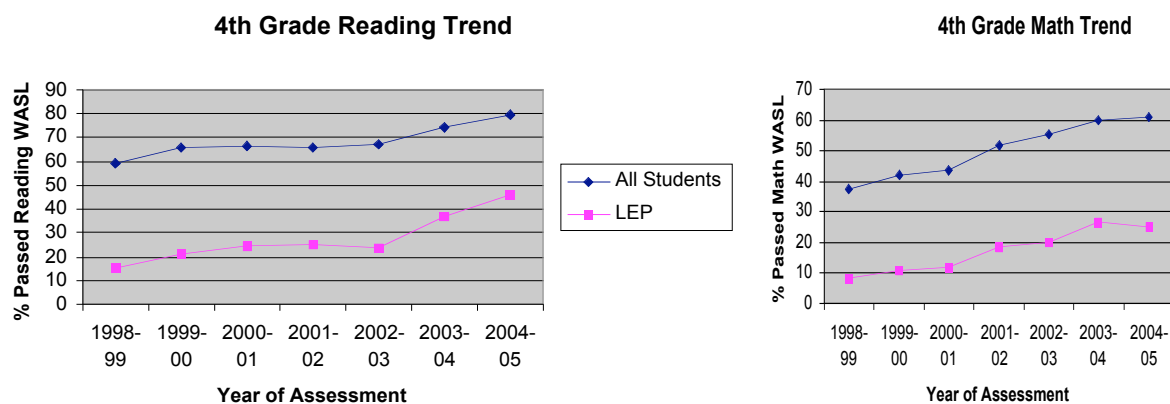
program is for ‘bilingual instruction’, relatively few students in the program actually receive much formal instruction in their primary language. Thus, the program could more accurately be called an ESL program” (p.9).

The Office of Superintendent of Public Instruction for Washington noted, “ESL pull-out programs are the most commonly utilized programs in Washington and unfortunately, the least effective as well” (OSPI, “Description of bilingual instructional models”, n.d, para. 11). This statement is based, in part, on the findings of Thomas and Collier (1997 & 2002), which indicated that ESL-pull out programs, dealing only with English language development, were the least effective in bridging the achievement gap the existed between mainstream and LEP students. Regardless, ESL-pullout instruction still remains the most commonly used program model for LEP students.

The Washington Assessment of Student Learning (WASL) is a standardized test used in Washington State to comply with NCLB. All WASLs are untimed and allow for accommodations to be made for LEP students. To measure academic content achievement, the federal government monitors the standardized test results for multiple student populations. LEP students make up a student population that is measured separately on the WASL. This means that 95% of the LEP students are required to take the test, and annual yearly progress must be obtained within that student group in order for the school to meet NCLB standards. If any of the student groups- which are grouped by race, income, and special services- fail to make annual yearly progress for two consecutive years on their WASL scores their school will be labeled as “needs improvement” by the department of education, or as “failing” by the local media. Once a school is labeled as such, federal money is forcibly reallocated and students are eligible to move to a non failing school in the

surrounding area. To date, the achievement gap between mainstream and LEP students is still very much present in Washington’s elementary WASL scores (see Figure 1). This trend is also present in secondary, and high school WASL scores.

In addition to annual WASL testing for LEP students, there are also annual language proficiency assessments administered. This is done through the Washington Language Proficiency Test (WLPT), created by the Harcourt company in Texas. LEP students are subject to Annual Measurable Achievement Objectives according to their WLPT results. AMOAs are performance targets for English language proficiency that



*Figure 1: Depicting the Achievement Gap.* Data depiction shows percentage of all students passing the WASL in reading and math compared with percentage of LEP students passing the WASL in reading and math. Data obtained from Washington state report cards (OSPI, 2005).

are required under Title I and Title III of NCLB. The AMAOs for English language proficiency includes:

Annual increases in 62 percent of students enrolled in the Transitional Bilingual Instructional Program/Title III making progress in learning English” and “annual increases in 25 percent of students enrolled in the Transitional

Bilingual Instructional Program/Title III of children attaining English proficiency (OSPI, n.d., AMOA notification letter).

NCLB also requires districts to inform parents if the Transitional Bilingual and Title III Instruction Programs implemented by the district have not met the AMAO targets. The WLPT also serves as an indicator of when an LEP student is ready to exit the transitional bilingual education program and receive full-time mainstream instruction. Washington's transitional bilingual education program, and the majority of national transitional programs, aims to exit students after three years.

The current struggle for bilingual education is the battle against English –only methodology based on “scientifically based research”. The policy most effecting LEP students is the mandating of “scientific based reading,” which is phonics based instruction. The National Reading Panel was put together in 1997, to determine effective reading strategies. This group is responsible for advocating classroom emphasis on reading fluency and accuracy through phonics instruction, which has subsequently been required under NCLB based on its “scientifically based” approach. The NRP's findings were based on 35 quantitative studies which were chosen out of over 100,000 pieces of quantitative and qualitative research dealing with reading (National Reading Panel, 2000). Phonics based instruction has not proven to be effective for LEP students or proficient English speaking students beyond grade three (NCTE, nd). LEP students are more likely to acquire literacy using the phonemic structure of their native language. Once oral language has begun, the LEP student can begin to transfer their oral language skills into their English reading skills, and begin to pick up on the differences in word pronunciations (Cummins, 1979; Kaufman, 1968; Lindsey et al, 2003; Lopez & Greenfield, 2004; Modiano, 1968). Also in regards to

student literacy, NCLB legislation aims to ensure that every student can read at grade level or above no later than grade three. Some dual language programs begin minority language reading instruction at kindergarten, and wait to teach reading in the majority language until grade three (Porter, 1990). When this is combined with the emphasis on English language acquisition it becomes clear that NCLB expects schools to facilitate reading accuracy in the English language by third grade through the use of phonics based instruction. Though NCLB does not completely rule out bilingual programs, this clear expectation for reading instruction definitely runs counter to many of the bilingual models. Though these policies seem discouraging, there are still dual immersion programs that are succeeding despite.

In conclusion, NCLB title III advocates a more English focused approach to educating LEP students. As stated above, the most commonly used program model in Washington is ESL-pull out instruction, and the achievement gap between LEP and mainstream students in content areas is still present (OSPI, 2005). Whereas, the department of education views this legislation as providing greater flexibility for states and local education agencies, it leaves many educators questioning the equity of these federal mandates. It is apparent that ESL and bilingual education teachers have their work cut out for them. Advocates of bilingual education argue that LEP students, particularly at the elementary level, still need support in their first language. Title III does not deny this type of support; however, it does make it more difficult to fully implement bilingual education programs because the standards for Title III are so closely aligned with the standards for mainstream students.

## Summary

The history of bilingual education marks a pendulum of policy changes regarding the education of language minority students. The fore fathers of the United States Constitution did not establish a national language however the dominance of the English language has paralleled the oppressive dominance of Anglo culture throughout U.S. history. Though language policies appeared to be tolerant of bilingual education it was mainly a façade for covert assimilation practices. The colonization of Puerto Rico and the Philippines marked a shift in language policy off of U.S. soil, while the fear of WWI resulted in restrictive language mandates of English-only shortly thereafter. During the civil rights movement of the 1960's and 70's equal opportunity in education was at the forefront of education policy. The Bilingual Education Act of 1968 was implemented during this era. Though it took many years to get programs up and running, the Bilingual Education Act marked a landmark policy decision for minority students in the U.S. public education system; but just as the pendulum has swung in favor of bilingual education, the 1980's marked a slow swing back towards English-only. The Reagan administration made many changes that would effect the education of language minority students and the implementation of programs under the Bilingual Education Act. ESL-pull out programs became overwhelmingly utilized for the education of LEP students and the achievement gap that was the focus of the original ESEA persisted. As a final blow to bilingual education NCLB was enacted as a revision of ESEA in 2001. Though some state that this is the unofficial end of bilingual education (Miguel, 2004; Spring, 2005) we are still in the midst of this current era of policy. With the existence of so many LEP students in the current public education system this issue will undoubtedly



stay at the forefront of educational debates: for proponents of bilingual education, it's just a matter of waiting to see if the pendulum will swing back again.

This chapter has described the historical context of education for LEP students in the United States. In pursuit of equity and social justice for all children, it is imperative that a clear sense of the historical context of bilingual education policies is provided, as well as an understanding of the pedagogy that underlies bilingual education efforts. The next chapter will provide a critical review of the literature dealing with the education of LEP students to provide a clearer view of this pedagogy.

### CHAPTER THREE: CRITICAL REVIEW OF LITERATURE

As described in chapter one, much of the research in the field of bilingual education is specific to two-way language programs, and not ESL English-only models. Washington State uses studies of bilingual education to support their transitional bilingual instruction program; however the programs most commonly used in Washington State are ESL pull-out models (Bylsma et al, 2003). Though research has been conducted in ESL pull-out programs, the bulk of the research over the last four decades was conducted in bilingual education programs where two languages were being used as a vehicle for instruction. As educators, it is imperative that we provide a high quality education to LEP students, just as we would for English proficient students. In order to determine what a high quality education for these students would look like, bilingual or otherwise, we need to examine the research under multiple program models, and with various student groups. The following research will address bilingualism related to intelligence, cross language transfer, age and rate of language acquisition, ESL and bilingual education effectiveness in content areas, and effective program models.

#### Bilingualism Related to Intelligence

Prior to 1960's research relating bilingualism to intelligence showed that knowing more than one language created a deficit in overall intelligence. Most of the research about bilingualism based student intelligence on the results of English IQ tests. In the public education system, language minority students were often placed in special education classes because of their low scores on similar English IQ tests (Stein, 1986, p. 17). While this English bias was occurring in the research and education practice, the Anglo dominant culture also linked English proficiency with their overall superiority. Based on this body of research

and social beliefs, Peal and Lambert (1962) aimed to examine the effects of bilingualism on the intellectual functioning of children and to explore the relations between bilingualism and school achievement. Peal and Lambert were the first researchers to assess student intelligence using a non linguistic measure of assessment. They were also the first researchers to demonstrate a positive relationship between bilingual ability and overall intelligence.

Peal and Lambert's (1962) sample consisted of 164 ten year old students from six French schools in Montreal. The subjects were selected from the results of several assessments, which were given to all 10 year old students (n=364) in the six schools. Assessments included, a questionnaire about home language use, a self-rating of language use, a word association test, a word detection test, and the Peabody Picture Vocabulary test. The selected sample consisted of 75 monolingual students and 89 bilingual students (96 boys and 68 girls). Peal and Lambert used three assessments to measure the intelligence of the sample. Measures of Intelligence included the Lavoie-Laurendeau test, Raven Progressive Matrices Test, and Thurstone Primary Mental Abilities. These tests were chosen due to their balance between verbal and non verbal measurements. For example, the Thurstone Primary Mental Abilities assessment focused on figure grouping, space, perception, and number. Overall, this assessment relied least on verbal skills. School Achievement was obtained through teacher ratings and school grades. For each subject, teachers rated him or her on a five point scale in regards to their achievement in general, in English, and in French. Grade levels and French midterm 'marks' were also obtained for these students. Once the assessment scores and achievement ratings were obtained, the values were analyzed for group differences, using t-values to detect significance between the two sample groups.

Upon analysis, Peal and Lambert (1962) found that the bilingual group performed significantly better than the monolingual on the Raven Progressive Matrices ( $t$  value = 5.44), and the Lavoie-Laurendeau Nonverbal IQ ( $t$  value = 5.78) and Verbal IQ ( $t$  value = 6.06), and most of the subtests that were non-verbal. On certain non-verbal subtests, there were no significant differences between the groups, while on others the bilinguals performed better. In this study the monolingual group did not exceed the bilingual group on any of the assessment tests. The bilingual group performed significantly better than the monolinguals on non-verbal tests involving concept-formation and symbolic flexibility. Also interesting, is that of the 10 year old students, the bilinguals were significantly more advanced in school grade than their monolingual counterparts. This runs counter to previous beliefs that bilingual students were behind in grade level due to their “language handicap”. The researchers attribute this significant relationship to the bilingual students’ higher intelligence as indicated by their research findings.

Peal and Lambert’s (1962) study was one of the first pieces of research to suggest that there was an advantage in bilingualism, and that bilingual students were achieving in verbal and non-verbal areas over their monolingual counterparts. The findings of this study are most intriguing because they run counter to the hypotheses that were formed by the researchers prior to their data analysis. Peal and Lambert’s findings made way for a shift in bilingual education research, as it demonstrated that bilingualism could actually benefit students’ overall intelligence and academic ability. From here, researchers began to look more closely at bilingualism in relation to intelligence.

In the 1980’s Bialystok completed multiple research studies to test increased metalinguistic ability in bilingual students. The overall hypothesis was that bilingual

children should have increased ability to perform metalinguistic tasks-specifically control tasks- because they can more easily focus on the forms or the meanings separately (Bialystok, 1986, p. 499). Metalinguistic ability is defined as the development of two separate language skill components: the analysis of linguistic knowledge into structured categories and the control of linguistic processing. A metalinguistic task is one which places relatively high demands on these skill components. Control problems demonstrate the process of selective attention to the relevant aspects of a representation during problem solving. Analysis problems demonstrate the process of restructuring a mental representation so that it becomes more explicit, more formally organized, and eventually symbolic (Bialystok & Majumder, 1998).

Bialystok (1986) investigated the question what is the function of age and bilingualism in completing metalinguistic tasks? This research was conducted with two groups of children (n=119 and n=128) equally distributed into age groups of five, seven, and nine. Half of the participants in each age group were fluent in a language other than English. In all cases, bilingual children spoke the other language at home with their families, although their education was being conducted in English. Teacher assessments indicated that the bilingual children were as fluent in English as their monolingual classmates. To test metalinguistic ability, three different tests were administered to the students in a fixed order. First, a digit span where students were asked to reproduce random digits in the correct order until they reached the maximum length of digits they could create. At the time this was used as a “rough measure of overall intelligence” (Bialystok, 1986, p. 501). The second task consisted of judgments where a child was asked to judge 24 sentences that were grammatical or not meaningful or not. As an example “If I am sick again tomorrow, I will have to see my

fireman” is grammatically sound, but lacks appropriate meaning. A puppet character explained the procedure to the students and said the sentences orally. The puppet explained that sometimes he says things the wrong way, and sometimes he says things that are silly but it is fun to be silly so they just need to tell him when he says something the wrong way. The third measure consisted of tasks where the child was asked to orally correct syntactic errors in sentences that were not grammatical or meaningful. These were 12 new shortened sentences with one correction. Two scores were recorded, the first for the grammatical correction and the second for the amount of meanings that were left anomalous. The meaning score was intended to represent the child’s ability to look through the meaning to the grammar thus intentionally making the correction with control, which is a metalinguistic ability

Bialystok (1986) found that in both participant groups, the age five group had the most difficulties with the correction tasks using analysis skills whereas the age seven and nine groups demonstrated equal difficulty. Bialystok also found that age had the greatest influence on children’s abilities to solve analysis problems, which corresponded to Piagetian theory relating cognitive development to age. In the second participant group the correction task showed marked advantages for the bilingual children in their ability to use control and resist altering the meaning of a sentence. Bialystok commented, “the English program monolingual children at age nine were performing at about the same level as were the French immersion program bilingual children at age seven” (p. 508). The grammatically correct sentences that lacked meaning were consistently easier for the bilingual children than the monolingual children. The two factors, age and bilingualism both affected the way the children solved the problems. Bilingualism mainly affected ability to perform control related

tasks. The authors acknowledge that the two non-English languages varied greatly in oral and written form, as did the overall cultural backgrounds of the three groups. These differences in language and culture could have contributed to the differences found in the performance of the children in each group.

In a more recent study Bialystok and Majumder (1998) expanded on this research. They questioned whether metalinguistic advantages for bilingual children extended into non-linguistic problem solving, whether control problems would be solved better by bilingual children, and whether balanced bilingual children would demonstrate an advantage in solving analysis problems over partially bilingual students. This study included 71 third grade children (38 females, 33 males) from middle class homes. The children formed three linguistic groups: 28 monolingual English speaking children recruited from a public school in a largely monolingual area, 26 French-English bilingual children recruited from two schools with instruction given in French, located in English speaking metropolitan areas, and 17 Bengali-English bilingual children recruited from the Bengali community in the same metropolitan area from a school where full instruction was given in English, with students hearing or using Bengali at home or in their communities. This group was considered to be partially bilingual because they were much stronger in English than in Bengali.

Within Bialystok and Majumder's (1998) study, the students were given a total of five assessment tasks. First, the Peabody Picture Vocabulary Test (PPVT) was used to determine language proficiency for each student. There were two versions of the test used. PPVT-L was administered in English to all of the children. PPVT-M was administered to the bilingual children after it had been translated into the second language. Second, students were given a Grammaticality Judgments task in which each child listened to sentences and

decided whether they were grammatically correct, regardless of their meaning. This was used to determine whether the results obtained in previous research with bilingual children would be replicated in this sample. Third, each child was given a block design task in which they were asked to replicate patterns that they saw in 2D drawings, using colored blocks with a restrictive time limit. The time limit demands control of attention to focus on the individual blocks, and not the pattern as a whole. The fourth task dealt with water level, which assessed the development of the concept of horizontal base. This was done by giving each child a booklet with three examples and 14 problems in which a bottle was tilted, and they would need to draw a line indicating how it would look if the bottle was half full. Finally, the fifth measure of assessment was the Noelting juice task. This task examined the concept of proportion with the use of displays containing a pitcher and glasses of water and glasses of juice with different amounts of liquid. The children were asked to evaluate which pitcher would have a stronger orange taste once the contents of all the glasses were combined in the pitcher. This required examining the proportions, and not quantities of glasses.

To assess student data, Bialystok and Majumder (1998) conducted a one-way analysis of variance was conducted on the PPVT-L standard scores to determine whether there were differences between the three groups in English proficiency. The results indicated equal proficiency in English by all the children. A test was conducted on the difference between the PPVT-L and PPVT-M. For the French bilinguals this confirmed that they were equally proficient in French and English. The results for the Bengali-English children confirmed that they were more proficient in English, thus confirming that they were partially bilingual. The Grammaticality Judgment test replicated previous research (Peal and Lambert, 1962; Bialystok, 1986) indicating that the bilingual children solved control items better than



monolinguals. There were two tasks that the balanced bilingual students performed better on than the partial bilinguals or monolinguals. They were the Block design test and the Water level test, which both required control of attention. There is no evidence in this study to suggest that ability to use mental representations to solve problems, which is a product of analysis, has an influence on children outside of the domain of language. None of the bilingual children in this study showed any advantage over monolingual children in solving problems requiring high levels of analysis, only an advantage in completing tasks that required control.

Bialystok and 's (1998) study was unique as it measured metalinguistic ability by examining non-verbal problems in addition to tasks within the domain of language. The finding aligned with Vygotsky's (as cited in Bialystok and Majumder, 1998) hypothesis that bilingual students would have a more advanced ability in solving Piaget's sun-moon problem because words and their referents are more detachable when a thing has multiple names. This task deals with control of linguistic processing as the task requires students to change the name of sun to the moon, and the name of the moon to the sun. The current study found both balanced bilingual and partial bilingual children performed better than their monolingual peers on metalinguistic task requiring high levels of control, but not better on tasks requiring high levels of analysis. In addition, this study did not find that balanced bilinguals performed better on metalinguistic tasks requiring high levels of analysis. This suggests that there is a metalinguistic advantage for bilingual students in performing control tasks, but the advantage of analysis tasks is dependent on the type of task students are asked to complete.

Hakuta (1987) also conducted research on the advantages of bilingualism in elementary aged students. Hakuta noted that the body of research indicating increased cognitive ability for balanced bilinguals had mostly taken place outside of the United States. He attributed this to the overall lack of balanced bilinguals within the American education context as a result of language and education policies that aim to move language minority students into English proficiency as quickly as possible (p. 1372). Hakuta's research took place in the late 1980's but his perception of United States policy effecting language minority students is still very much a factor in present day. His original study sample consisted of 155 first and second grade students and 152 fourth and fifth grade students from a New Haven bilingual education program. These students were all of Puerto Rican backgrounds, and had Spanish as their dominant language. Due to high attrition during the three year study period, the sample was reduced to 83 kindergarten and first grade students and 111 fourth and fifth grade students, leaving a total sample of 94 being described in the research findings. All students included in this sample qualified for the school's free lunch program, indicating an overwhelming trend of low socioeconomic status. The selected students were non-balanced bilingual children in a transitional bilingual program that typically provided support in the native language for an average period of three years. The bilingual program at New Haven used a teacher pairing method where two teachers were paired together, with one teacher being primarily responsible for English instruction and the other for Spanish instruction. The teachers are assigned to two groups of students that alternate between them during the day.

Hakuta's (1987) study was longitudinal, as it took place over three years. The students were placed in four cohorts, depending on their grade level and year of entry into the study. One cohort of kindergarten students and one of first grade students were observed

over a three year period. One cohort of fourth grade students and one cohort of fifth grade students entered into the study during the second year, and were thus followed for the remaining two years. At the beginning of the research period, Hakuta (1987) used the Peabody Picture Vocabulary Test in English and Spanish to estimate the relative abilities of the sample in their first and second language. This test was selected because it was one of the few assessments that was deemed appropriate for the range of age levels present in the study, and it could be administered in a short 20 minute time frame (p. 1375). Hakuta also assessed each cohort in the fall and spring of each year using various measures of Metalinguistic awareness. These metalinguistic measures were different for the younger and older cohorts. Kindergarten and first grade cohorts were asked to identify the correctness of seven ungrammatical Spanish sentences, and then orally correct the sentences that they judged as incorrect. The second task for these younger cohorts was used to monitor metalinguistic awareness. Students were given a total of seven sentences in Spanish, four of which contained an English word somewhere in the sentence. Students were asked to judge whether each sentence was said correctly in Spanish or not. The fourth and fifth grade cohorts were given more advanced tasks for monitoring metalinguistic control. These students were given seven sentences played on a tape recorder, and asked how many meanings each sentence contained. The student was then asked to paraphrase the meaning of each sentence, and then finally was shown pictures of two different meanings and asked to judge whether the sentence could represent either of the pictures. Next, all cohorts were given non verbal assessments to measure cognitive abilities. First, the cohorts were given the Raven's Coloured Progressive Matrices, which was also used in Peal and Lambert's (1962) study. Then, the Thurstone's Primary Mental Abilities Test was used to assess spatial

relations for all cohorts- the kindergarten cohort having taken it during their second year in the study. Finally, the kindergarten cohort was given the Chandler's bystander cartoons that assessed the students' capacity to take on the perspective of a cartoon character from a story.

In analyzing the assessment data, Hakuta (1987) felt that it was necessary to test for evidence of "practice effect", which is from repeated exposure to the same assessment. Practice effect may have confounded Hakuta's data because a student in the kindergarten cohort would have taken the same assessment measures in fall and spring of the first year, in the fall and spring of their first grade year, and yet again in the fall and spring of their second grade year. To measure this potential practice effect Hakuta compared the results from the kindergarten cohort with the first grade cohort in the second year and third year of the study. If the original kindergarten cohort was benefiting from multiple exposures to the test they should be able to demonstrate an advantage over the original first grade cohort that had taken it for the first time. This comparison did not elicit consistent trends leaving the researcher to conclude that there were no practice effects for the younger cohorts. There were however practice effects present for the fourth grade cohort, as they scored significantly higher than the fifth grade cohort during their second year of exposure to the ambiguities task, and the Thurstone Primary Abilities test measuring spatial perception. Once the data had been collected, the researchers attempted to evaluate the affect of bilingualism on cognitive ability using a stepwise regression equation for each cohort. The overall pattern of this regression analysis showed that bilingualism accounted for a significant proportion of the variance for the kindergarten cohort on measures of nonverbal cognitive ability. This pattern was not replicated in the first grade cohort or in the older fourth and fifth grade cohorts. It was found in both the kindergarten and first grade cohorts, that metalinguistic awareness was strongly

related to native language ability, instead of bilingualism. In the fourth grade cohort it was similarly found that the ambiguity task measuring metalinguistic ability was strongly related to native language ability, and not bilingualism. These findings were very different from Bialystok's (1986) research that linked bilingualism with increased metalinguistic ability for students around this age. Overall, the results of this study indicated that there were positive correlations between bilingualism and non verbal measures of cognitive ability in children that began testing at the kindergarten level. However, other measures of metalinguistic awareness were not significantly affected by the levels of bilingualism in these students. Instead, metalinguistic awareness was most commonly attributed to native language ability. Though Hakuta tried to replicate Peal and Lambert's (1962) findings, he was unable to do so. This could be related to the high attrition rate in his sample, and thus small sample of student data to analyze. These findings could also be related to the choice of assessment measures for older students, or the repeated exposure to these assessment measures. Either way, it appears that the advantage of bilingualism on metalinguistic abilities was not found in a sample of non-balanced bilinguals within the context of this United States study.

Cummins and Mulcahy (1978) also investigated the effects of second language on metalinguistic development, specifically the analytic orientation of linguistic input, and the arbitrariness of word-referents. The study consisted of 72 first and third grade students from four Edmonton Canada, public schools. All four schools used a Ukrainian-English bilingual program model where approximately half of the school day was instructed in Ukrainian. Of the 72 students in the sample, 24 comprised the bilingual student group. These 24 students were selected according to teacher rating of second language use and the results of a home language survey. Candidates for the sample were chosen on the basis of their Ukrainian

speaking skills being rated a three or higher on a scale of one to five, and a rating of two or more on the home language interview that was based on a four point scale. This criteria meant that all of the bilingual sample had Ukrainian spoken in the home, and were rated as having “relatively fluent” Ukrainian speaking skills (p. 1240). The other sample group within this study was comprised of 24 Ukrainian as a second language learners. The students in this group were part of the same bilingual classes, but there was little to no Ukrainian spoken in their homes, and their Ukrainian speaking skills were rated less than three by their teachers. The third group consisted of 24 monolingual English speakers, selected from the regular classes going on in these schools. The monolingual students came from homes where English was the only spoken language. In all three sample groups, 12 of the students were boys and 12 girls.

Cummins and Mulcahy (1978) obtained data from a variety of measurement for their sample. First, the scores of all sample students were pulled from the vocabulary subtest of the Elementary Reading Test, administered by the Edmonton public school system. The first grade and third grade mean scores were .4 and .2 SD above the school system means, indicating that this sample of students scored slightly above average in the area of vocabulary. These findings were not found to be significant. To test out the students’ ability to analyze linguistic input the children were given two ambiguities tasks. First, the students were shown four line drawings and the researcher read a sentence describing two of the drawings. The sentence read aloud described two of the line drawings, but depicted it using a different meaning. The students were asked to pick the correct drawings to go with the sentences and justify their selections. They were rewarded with two points if they gave the two meanings and correct justifications on their own, one point if they gave the two

meanings and correct justification after probing, and no points if they failed to choose the two correct pictures or if their justifications showed they had not grasped both meanings. For the second task, the researchers more closely analyzed the students' awareness of the arbitrary nature of word-referent relationships by using Vygotskian sun-moon questions. The researchers asked the students three questions involving the relationship of sun and moon, cat and dog, and book and chair. The question was formatted to say, 'suppose someone was making up names for things, could he then call the sun the moon and the moon the sun.' The students were also asked to justify their responses. The only justifications judged as correct, were the ones that recognized the arbitrary nature of word-referent relationships, or those that argued that you wouldn't want to change the word name because it would confuse everyone.

The results of these tasks were analyzed for variance and demonstrated a significant main effect for grade on all variables (Cummins & Mulcahy, 1978). Third grade students performed better than first grade students which supports Vygotsky's views on child development as a being affected by age. Also, under the first task there were significant main effects for language groups; favoring bilingual students on surface structure ambiguities [ $F(2,66) = 6.03, p < .01$ ], underlying structure ambiguities [ $F(2,66) = 9.61, p < .01$ ], and total ambiguities [ $F(2,66) = 10.16, p < .01$ ]. The researchers also noted that the bilingual groups at both grade levels were given fewer prompts than either of the other two groups, and were noted to have made a better use of the prompts that they were given. This study did not find significance in the bilingual group's support of the arbitrary word referent relationships during the second task. The researchers noted that the lack of significance between the groups is most likely due to the factor of age being a stronger predictor of understanding the arbitrariness of language, instead of bilingualism. Overall, the significant main effects found

under the first task indicate that the bilingual student group had demonstrated an increased ability for analytic orientation of linguistic input, while their demonstration of the arbitrariness of word-referents was found to be developing at a similar rate of the other two subgroups.

Diaz (1985) addressed three problems within the research on bilingualism related to increased cognitive ability. First, Diaz felt that research comparing the cognitive abilities of monolinguals with bilinguals was too likely to be confounded by sociolinguistic factors. Second, he felt that the exclusive focus on balanced bilingual children in the current research was not representative of the majority of children schooled in the United States. Finally, Diaz wanted to determine whether bilingualism actually fosters cognitive development, “or whether the more intellectually gifted children become the most proficient, balanced bilinguals” (p. 1377). In order to address these areas of limitations, Diaz conducted a study of 100 Spanish-English bilingual children in kindergarten and first grade. First, Diaz examined the relationship between bilingualism and cognitive ability with a group of bilingual children. Diaz determined second language proficiency using the English and Spanish versions of the Peabody Picture Vocabulary Test (PPVT). English was the second language of all of the students in the sample so the PPVT was used to assess English proficiency. The Spanish PPVT was used assure that students in the sample were also proficient in their first language. Students that scored one standard deviation below the mean on the Spanish PPVT were not included in the sample group. Next, Diaz separately examined groups of students that possessed relatively low and high second language proficiency. These students were grouped into high and low groups according to their



English PPVT scores. The top 50 scores were put in the high proficiency group and the bottom 50 were put in the low proficiency group.

In order to assess cognitive ability, Diaz (1985) administered a series of assessments and metalinguistic tasks at two different points in the year. The Stanford-Binet Intelligence Scale Sub test of opposite analogies was used to assess analogical reasoning. Metalinguistic awareness was assessed using similar tasks as those used by Bialystok (1986) and Bialystok and Majumder (1998). These tasks measured the subject's awareness of grammatical errors, awareness of English and Spanish as two different language systems, and ability to correct ungrammatical sentences (Diaz, 1985, p. 1380). Additionally, to measure non-verbal abilities, the subjects were given the Raven's Coloured Progressive Matrices and the visual relations sub test of the SRA Primary Mental Abilities Test. Diaz readministered all of these assessment measures, as well as the PPVT in both languages at the end of the school year, which was approximately six months after they were initially administered. According to an analysis of variance, Diaz found that at the beginning of the school year the high proficient students showed significant advantages in analogical reasoning ( $F(1,88) = 8.21, p < .01$ ), Raven's performance ( $F(1,91) = 6.32, p < .01$ ), and spatial abilities ( $F(1,88) = 4.96, p < .05$ ). These students were also significantly more aware of English and Spanish as being two different language systems. Diaz noted that the superior cognitive scores of the high proficient students, at the beginning of the year, could suggest a positive relationship between increased second language proficiency and more advanced cognitive abilities. However, Diaz found that the two English proficiency groups were significantly different in multiple socioeconomic variables. The high proficient group had a higher overall socioeconomic status, their parents were more likely to be employed, and their families had

been in the United States much longer than the low proficient students which indicated a higher degree of geographical stability (p.1381). Toward the end of the school year the differences in cognitive abilities between the two groups decreased, leaving spatial abilities as the only significantly different measurement that favored the high proficient students. Diaz considered this to be evidence of the “catching up effect” in the LEP students. The difference in socioeconomic status was only found to be significantly related to group differences at the beginning of the year, and not during the second testing when the low proficient students had caught up to the high proficient students on the assessment measures.

In order to assess the effect of the degree of bilingualism on cognitive abilities, Diaz (1985) performed a series of hierarchical multiple regression analyses on student data from the first and second testing times. The high and low student groups were analyzed separately to gauge whether degree of bilingualism was a significant predictor of cognitive abilities. Diaz found that degree of bilingualism predicted a substantial amount of cognitive variability with the low group, but did not serve as a predictor of cognitive variability in the high group. Diaz tested to see if the increased socioeconomic factors were playing a significant role in predicting cognitive abilities in the high proficient group and found that this confound was minimal for both low and high groups. Diaz concluded, “degree of bilingualism is a strong predictor of cognitive variability for children of relatively low second-language proficiency. On the other hand, the relation between degree of bilingualism and cognitive variability seems to diminish for children of relatively high second-language proficiency” (p. 1384). As a final analysis, Diaz (1985) tested the direction of causality between degree of bilingualism and cognitive abilities using a multiple regression equation model. Diaz conducted this analysis using data from both testing times, and controlling for the cognitive performance

during the first test time. This analysis was also done separately for both high and low groups. The analysis supported the idea that English proficiency at testing time one predicted significant portions of metalinguistic ability during time two. Diaz found that if there is a cause-effect relationship between degree of bilingualism and cognitive ability then bilingualism is most likely the causal factor in the relationship.

Overall, Diaz (1985) provided further support of the idea that bilingualism is related to the development of cognitive abilities. In Diaz's research this was especially true during the initial period of second language learning when proficiency was still low. Diaz's study also cautioned researchers to analyze socioeconomic status as a highly potential confound in studies of bilingualism and language proficiency measures. During the initial testing of Diaz's sample socioeconomic status played a significant role in the differences between low and highly proficient student's cognitive abilities. Though this significance was not present six months later it still suggests that researchers must analyze socioeconomic status as a confounding variable whenever student achievement is being analyzed.

In summary, this section has provided information on the relationship between bilingualism and various aspects of intelligence. Whereas early research indicated that bilingualism was a detriment to academic achievement, there have been more recent findings that indicate otherwise. Peal and Lambert (1962) found that bilingual students performed better than monolingual students on non verbal intelligence assessments. Hakuta (1965) also found this in kindergarten students, though he did not replicate these findings in other grade levels. Bialystok (1986) found that bilingual students performed significantly better than monolingual students in metalinguistic tasks that demand linguistic control. Bialystok later expanded on these findings with Majumder (1998) by analyzing balanced bilingual and non

balanced bilingual students. These researchers found that increased metalinguistic ability was evident in balanced and partially bilingual students. Cummins and Mulcahy (1978) found that bilingual students demonstrated increased analytic orientation, and finally, Diaz (1985) more closely examined this relationship to find that increased levels of second language proficiency resulted in increased cognitive abilities in non verbal and metalinguistic tasks. When combined, this research makes a strong case for supporting student bilingualism as a means to foster cognitive development. The next section will examine another relationship within the field of bilingual education, that first and second language interdependence in bilingual students.

#### Cross Language Transfer

In 1979 Cummins published his interdependence hypothesis that suggested that high levels of L1 proficiency help L2 acquisition, and equally, high proficiency in L2 has positive effect on L1 development; thus, learners are able to transfer skills across languages. This hypothesis can be viewed as an advantage for bilingual education as it suggests that first language literacy skills are a positive predictor of second language literacy ability (Cummins, 1979). Additional research has also been done to test the relationship between first and second language literacy skills (Lindsey et al, 2003; Lopez & Greenfield, 2004; Modiano, 1968; Proctor, 2006), and more specifically the interdependence of the two languages which results in a cross language transfer of basic interpersonal communication skills (BICS) and cognitive academic language proficiency (S) (Hardin, 2001; Kaufman, 1968). If first language skills can transfer to a second language, the implications are supportive of bilingual programs that provide first language instruction. The following will review literature in the

area of cross language transfer to explore the relationship between first and second language skills, as well as the implications of first, or native, language instruction for LEP students.

Kaufman (1968) investigated the effect of Spanish reading instruction on the English reading ability of Spanish speaking children. Kaufman wanted to know whether reading skills taught in one language could be transferred and applied in another. This study was one of the earlier pieces of research used by Cummins to support his interdependence hypothesis (Cummins, 1979). Kaufman's study was conducted in two junior high schools in New York City. The subjects were seventh grade Spanish speaking students, whose average reading grades on the sixth grade Metropolitan Achievement Test were significantly below grade level (average 3.5-5.0 reading scores). All subjects had attended New York schools for three years or more, and lived in a home environment where Spanish was spoken. The subjects in each school were randomly assigned to an experimental ( $n = 75$ ) or control group ( $n = 64$ ) that determined the treatment of instruction for the two year research period. The experimental group received instruction in standard Spanish with an emphasis on specific reading skills, such as word attack, using context to develop word meaning, determining main ideas, paraphrasing, recalling, and following written directions. At school A, the experimental group received Spanish reading instruction four times a week in 45 minute sessions. At school B, the experimental group received Spanish instruction three times a week for 45 minutes sessions. The control groups in this study were given non literacy instruction during these sessions, such as art, music, and health. Experimental and control groups all received equal instruction in English during the two academic years at School A, and one academic year at School B.

To assess student reading abilities and improvements, Kaufman (1968) used a series of tests at the beginning of the study, and then retested the subjects at the end of their school's research period. The tests used for both pre and post measurement were the Cooperative Inter-American Test Pruebas de Lectura, Nivel Intermedio, the Durrell-Sullivan Reading Capacity and Achievement Tests, and the Hoffman Bilingual Schedule. School A, whose research period was two academic years, took post tests after the first year and again after the second. The scores from these tests were analyzed for covariance to determine the effect of the instruction in reading Spanish on the students' achievement in reading English. When the retest scores of both the experimental and control groups were compared 10 out of 13 analyses favored the experimental group, with two of these analyses showing significant difference between the groups average retest scores ( $F= 6.5222$  and  $F= 5.472$ , with significance at the .05 level). Both of these significant findings were between the experimental and control group at school B. The researchers attribute this to the difference between initial Spanish reading ability in the experimental and control groups at school B. School A still demonstrated higher post test scores in the experimental group than in the control group, but the difference in the achievement between the two groups was not significant. Also noted in this research is that there was no reliable evidence of interference in English reading ability at either school. Overall, these findings suggest evidence of positive transfer of learning from instruction in reading Spanish to reading ability in English.

Another early study was conducted by Modiano (1968), which was also cited by Cummins (1979) in support of native language instruction being a predictor of second language achievement. Modiano examined the relationship between first and second language skills by examining Mexican Indian language minority students taught in their

native languages, and those taught in the national language of Spanish. Modiano's study took place in 26 schools located in Chenalho, Oxchuc, and Zinacantan, Mexico. The schools in this study served 1,601 students of Mexican Indian descent. Of these schools, 13 were federal or state schools which used Spanish as the medium of instruction. The remaining 13 were Institute schools, which were funded by the local Indian peoples. All schools in the sample were comparable to U.S. primary grades, but other aspects of the attitudes and culture marked these schools as comparatively different. Enrollment averaged about 50 students per class, but a high rate of absence lowered attendance to an average of 33. Teacher absence was also prevalent in these schools, which decreased instructional time, as substitutes were not financially feasible for these school systems. Taking this into consideration, classes met on average for four hours per day. There were 29 teachers providing instruction in the classrooms in this study. The teachers in the Federal and State schools were primarily recruited from the local Mestizo population which was comprised of mixed European and indigenous ancestry. Modiano noted that these teachers were of the ancestry of those that had exploited the Mexican Indians for decades, and had a very limited knowledge of the native languages spoken by their students (p. 38). In comparison, the teachers at the Institute schools were recruited from the local Indian populations. The Institute schools provide reading instruction through the mother tongue of the students in their classrooms, which was a different dialect in each tribal area.

To collect initial student data, Modiano (1968) had the 29 teachers rate their students' abilities to understand what they read in Spanish. These ratings were based on a yes or no response. Additionally, Modiano used a Spanish reading comprehension test to evaluate the students' actual Spanish reading comprehension. The Spanish reading comprehension

assessment was created by the researcher as a means to make the test relevant to the lives of the youth in the sample. Only those students that were selected by their teachers as “able to understand what they read in Spanish” were given the Spanish reading comprehension test (n=455). The internal reliability of the assessment was  $r = .965$  when  $n = 455$  (p.41). The researcher also noted that the assessment was formatted similarly to comprehension tests that were currently being used in the United States. Interestingly, it was found that a larger proportion of students in the Institute schools were selected by their teachers as being able to understand what they read in Spanish, which was significant at the .001 level (p. 40). Additionally, the Institute school students demonstrated a higher mean score on the Spanish reading comprehension test in all three tribal areas, in comparison to the students at the Federal and State schools that had received reading instruction in Spanish. The results from the Spanish reading comprehension test showed that the students at the Institute schools were not just more likely to be selected by their teachers as ‘able to understand what they read in Spanish’, they also demonstrated a quantitatively higher ability than the students at the federal and state schools. Overall, this study found that children of linguistic minorities learned to read with greater comprehension in the national majority language when they had first learned to read in their mother tongue (p.42). These findings also support Cummins’ hypothesis as the students who were instructed in their native language demonstrated more progress in their second language than those who had been instructed only in their second language. Modiano’s findings represent a noteworthy contrast to traditional submersion or immersion program models. However, her findings took place in a linguistically diverse area of Mexico where school systems are very different from those present in the United States. Modiano acknowledged these differences in her discussion of findings, but her research did



not actually address the effect of educational motivation for students, high absenteeism, or the possible implications of Mestizo instructors providing Spanish instruction to Native youth given the history of oppression and assimilation practices that took place in these tribal areas. All of these factors could have significantly impacted the achievement of students in federal and state schools. These findings serve to represent initial instances of language transfer from mother tongue instruction to second language literacy skills, but it does not provide a holistic view of the many factors that are also at play for language minority students that could impact their second language reading achievement.

In the 1970's research on the relationship between first and second language was expanded, as a result of the influx of research on the new Canadian French Immersion programs. These Canadian programs immersed majority language speakers in the minority language, thus instruction was conducted in French for both native French and native English speakers. These programs generated more questions about the relationship between first and second language, and more specifically whether the initial language of instruction impacted students' overall achievement. Cziko (1976) conducted a comparative study of students learning to read in their second or first language under two different immersion program models. Cziko wanted to compare the English and French reading skills of these students and to investigate the interlanguage transfer of reading skills from first to second language and from second to first language. He questioned whether or not the initial language of reading instruction made a significant impact on the ability to transfer reading skills.

Cziko's (1976) study contained four groups of fourth grade students. The first group consisted of 26 fourth grade bilingual students that had participated in a French immersion program from kindergarten to fourth grade. These students were taught solely in French in

kindergarten and first grade and were slowly introduced to English language arts for 60 minutes a day in second grade, 70 minutes a day in third grade, and 85 minutes a day in fourth grade. The second group contained 17 English speaking students who had followed a conventional English curriculum in first through third grade with French as a second language instruction for 40 minutes per day. At the fourth grade level these students began a late immersion program in which French was the sole medium of instruction for all subject matter except for a 45 minute period of English language arts. The third group was comprised of 18 English speaking fourth grade students who had received English instruction in all subject matter except for 200 minutes of French as a second language per week. The fourth group was comprised of 18 French speaking fourth grade students who had received all of their schooling in French. Two tests were used to measure each student's French and English reading abilities. The French test was adapted by the researcher from curriculum developed for French as a second language students. It consisted of five short passages, each followed by four to five multiple-choice questions to assess comprehension. The English reading test was a sub test of the Metropolitan Achievement Test, which consisted of eight passages followed by four to eight multiple-choice questions. Finally, parts B and C of Raven's Progressive Matrices were administered to all children to obtain a measure of nonverbal intelligence. Two types of statistical analyses were performed on the data collected from the French and English comprehension tests and the Raven's Matrices. First, the researcher conducted an unweighted analysis of variance to compare English reading and French reading ability among the student groups. Then, the researcher controlled for non-verbal intelligence, as measured on the Raven's Matrices.

Cziko (1976) found that there were no significant differences in performance on the English reading test between the three groups of students who had received English language arts instruction. This means that neither the late or early immersion program models had detrimental effects on the development of English reading skills. There was a significant group effect on the French reading test scores indicating that that group that had received all French instruction performed significantly better than the group that had been immersed in fourth grade. This makes logical sense considering the latter group had just begun their instruction in French language arts. However, it was also found that both immersion groups performed similarly on the French reading assessment, though the significance was not determined until the nonverbal intelligence variable had been controlled. When comparing the two immersion groups, it was found that both groups were significantly similar in English and French reading scores when controlling for nonverbal intelligence (kindergarten immersion:  $r = .58, 17 df, p < .05$ ; fourth grade immersion:  $r = .58, 11 df, p < .05$ ). This means that there were significant correlations for both groups that suggest the transfer of reading skills from one language to another. The researcher stated that this transfer took place regardless of whether they were first taught to read in native or second language.

Cziko's (1976) research supports immersion programs like those in Canada where language majority, English speaking, student are given initial reading instruction in the minority language of French. The goal of these Canadian immersion programs is to produce fully functioning bilingual students. As such, the findings of this study demonstrate the existence of language transfer, but they may not be generalizable to immersion programs within the United States, as the designs of these programs are very different. The U.S. programs instruct students in the majority language of English first with the goal of students

eventually demonstrating proficiency in English. Overall, the ability of students to transfer literacy skills from one language to another is very relevant to the field of bilingual education. However, the idea that skills will simply transfer from the student's first language to their new second language is not enough to foster academic achievement across subject areas. These students will benefit from language transfer, but they also need effective programs to support them academically. Completely immersing LEP students in a second language and waiting for transfer to occur, as is done in many submersion and U.S. immersion programs, is not adequate. Language skills can transfer, but students need to be provided with specific instruction on how to use these language skills.

More recent researchers (Lindsey et al, 2003; Lopez & Greenfield, 2004; Proctor, 2006) have tried to isolate skills that can transfer from first to second language and determine whether initial instruction in the first language plays a significant role in the transfer of skills. Lindsey et al (2003) sought to understand the relationship between cognitive skills in the first language at the kindergarten level with reading competence in the first and second language at the end of first grade. The aim of the researchers was to examine the presence of cross language transfer and to assess whether cognitive assessment in the first language could be used as a predictor of progress in the second language. This study consisted of 249 Latino kindergarten children attending school in Texas near the Mexican border. 98% of the sample qualified for the free lunch program, indicating that the socioeconomic status of students in this study was very low (p. 484). These students participated in an early transitional bilingual curriculum during the first two years of school. In kindergarten the students were provided with phonological awareness activities, multisensory introduction of new letters, and oral language training in Spanish and English. At the kindergarten level English instruction was

limited to one hour per day. In first grade students begin cursive handwriting, explicit phonics activities, reading decodable texts, daily spelling practice, and activities in writing and listening comprehension in both Spanish and English (p. 484). In the middle of first grade many of the students were transitioned to a similar English only curriculum program, depending on their teacher's assessment of their preparedness to exit the dual language curriculum. Students in the sample were tested three times during this study, during their first semester of kindergarten, in May of their kindergarten year, and in May of their first grade year (Lindsey et al, 2003). The students were individually tested in a quiet room during regular school hours. The first and second testing time took approximately 45 minutes to administer, while the third testing time took 50-90 minutes. The assessment measures administered in Spanish included the Picture Vocabulary, Memory for Sentences, Sound Matching, Sound Categorization, Rapid Automated Naming, Letter Knowledge, Concepts about Print, Letter-Word Identification, and Spanish Passage Comprehension. This Spanish test battery covered phonemic awareness skills, non verbal intelligence measures, Spanish vocabulary, and reading comprehension. During the third testing time at the first grade level the following tasks were administered in English: letter names and letter sounds, letter-word identification, word attack, passage comprehension, picture vocabulary, sound matching, and rapid automated naming. The data was analyzed for correlations and then later subject to a hierarchical regression analyses.

Upon reviewing the two analyses, Lindsey et al (2003) found evidence of cross language transfer of phonological awareness and decoding skills. The Spanish measure of letter-sound knowledge correlated with the English letter-sound knowledge and English word attack scores (.37,  $p < .001$ ). In addition, Spanish letter-word identification and passage

comprehension correlated with English letter-word identification (.66,  $p < .001$ ) and passage comprehension (.50,  $p < .001$ ) by the third testing time. The regression analysis revealed that concepts about print and rapid automated naming were the most consistent predictors of the English reading variables between the first and third testing times and the second and third testing times. Thus, this data demonstrated that cross-linguistic transfer was not unique to phonological skills. As a final component of this study, the researchers attempted to discriminate between good and poor first grade readers on the basis of six variables that were assessed during the two testing sessions in their kindergarten year. Poor reading was defined as below the 25<sup>th</sup> percentile while good reading skills were defined as above the 25<sup>th</sup> percentile. The researchers found that the percentage of correctly classified children, when compared with their first grade test results, ranged from 63.4% to 76.6% for poor readers and 60.1% to 78.3% for good readers. These ranges were found to be statistically significant in a chi square analysis, but they did not yield the level of accuracy that the researchers were hoping for. The researchers stated, “the generally disappointing prediction accuracy in the literature points to the need to consider other factors in the curriculum and home environment” (p. 492). Overall, the researcher found that literacy skills in Spanish can be used to predict reading skills in English, however her study did not yield a high level of accuracy for these predictions. Perhaps there would have been increased accuracy if the study had taken place over a longer period of time, or had the initial testing taken place at a later grade level after more reading instruction had taken place. What the range of prediction accuracy may suggest is that cross language transfer does not take place at a similar rate for all students, thus the results after one year of Spanish and English instruction may not completely evidence full transfer of skills. The evidence of cross language transfer is

demonstrated in this research most strongly by the significant correlations found between the Spanish and English assessment variables. Lindsey et al demonstrated that skills in phonemic awareness, decoding, and reading comprehension can be transferred from the first to second language in primary grade students.

More recently, Lopez and Greenfield (2004) studied the interlanguage relationships of Spanish and English for Spanish-speaking preschool children. They researched both oral language skills and phonological awareness of these students. The study participants consisted of 100 Hispanic children (49 males and 51 females) with a mean age of 56 months. Study participation was offered to children in 11 classrooms within three different Head Start centers, which were chosen based on the ethnicity of the children served. Oral language proficiency was measured with the pre-Language Assessment Scale 2000 edition which utilized a convergent approach to measure receptive and expressive language. The assessment consisted of both oral language and preliteracy components and has identical formats in English and Spanish. Each child was assessed once in English and once in Spanish with a week in between the two as a way to avoid practice effects. Approximately half of the sample was tested in Spanish first and the other half in English first. If a child did not understand the instructions in the assigned language, the child received instructions in his or her native language. The Phonological Sensitivity Test was created by the researchers to measure the phonological awareness of the children (Lopez and Greenfield, 2004). The test measured rhyming, alliteration, and sentence segmenting. The first task was rhyme matching, which involved a child choosing between three pictures, one target and two choice. The child's task was to choose the choice picture that rhymes with the target picture. Three trials were given with feedback. Then the child performed the test sixteen times without

feedback. The alliteration matching task was identical to the rhyme matching except that one of the choice pictures started with the same sound as the target picture and the other choice picture did not. Again, three trials were given with feedback followed by the child performing the test sixteen times without feedback. The final task was sentence segmenting which measured the child's ability to segment words in a sentence. Within this task six blocks were placed in a line in front of the child. The task was then modeled for the child by orally stating a three word sentence while the examiner moved one block for each word. The child was given two trials with feedback and was then asked to repeat the same sentence while moving one block for each word. Then the child is given ten more sentences which they are to repeat and move the blocks on their own to indicate each word. As a final assessment of language abilities, Lopez and Greenfield administered the preLAS 200. The PreLAS was designed to provide a composite measure of both receptive and expressive language abilities.

Lopez and Greenfield (2004) attempted to correlate the assessment measures in both languages. The Pre Language Assessment Scale was found to be significantly correlated between language (English  $r=.52$  when  $p<.01$  and Spanish  $r=.33$  when  $p<.01$ ), as was the phonological sensitivity ( $r=.41$  when  $p<.01$ ). These correlations made it possible to use one composite score for overall student achievement. These composite scores were used in subsequent hierarchical regression analysis in which English phonological awareness was used as the dependent variable. The regression showed that English oral proficiency, Spanish oral proficiency, and Spanish phonological awareness were all significant predictors of English phonological awareness. These findings indicate that phonological awareness in English was directly related to phonological awareness in Spanish in Hispanic Head Start



Children. English phonological awareness was also related to both English and Spanish language proficiency. Like Lindsey et al (2003), Lopez and Greenfield's findings suggested that phonemic awareness skills can transfer from first to second language in preschool age children.

A more recent study was conducted by Proctor et al (2006), which examined the transfer of skills between languages. Proctor felt that the current research base on language transfer dealt mainly with the transfer of skills like phonological awareness, word recognition, and vocabulary knowledge. Proctor wanted to expand on this research to determine the effect of first language literacy skills on second language decoding skills, oral language proficiency, and reading comprehension. Proctor's study included 135 Spanish-English bilingual Latino fourth grade students, from three large, urban elementary schools in Boston, Chicago, and El Paso. These schools were selected because they used the Success for All literacy curriculum that disallows simultaneous first and second literacy instruction. Instead, Spanish literacy is taught first until proficiency and then English literacy curriculum begins. In this sample, roughly 1/3 of the students had begun their initial literacy instruction in English prior to their inclusion in these districts, and the Success for All curriculum. This means that 2/3 of the sample had received no reading instruction in English until they passed the Spanish portion of the curriculum. The initial English speakers also had to wait for continued English literacy instruction at these schools until they passed the Spanish portion; which took an average of two to three years, depending on the student. The researchers noted that the inclusion of both groups of initial readers made their sample more representative of the general population of ELL students in the United States, whereby some possessed native language literacy skills and others did not.

Proctor's (2006) study took place over a four year period. The sample was tested in their fourth year of the study using the Computer-Based Academic Assessment System to measure decoding skills, and the Woodcock Language Proficiency Battery to measure vocabulary knowledge, listening comprehension, and reading comprehension. These assessments were administered outside of the classroom, by trained research assistants who were native speakers of Spanish or English. The Computer-Based Academic Assessment System contained 40 pseudowords presented one at a time, on a computer screen. The student read each word into the microphone using the phonological and orthographic conventions of either Spanish or English. Each word differed by one letter from the previous word, and the target language was altered throughout the test. Afterwards the students were presented with 40 additional words, one at a time on the computer, and asked to read each Spanish or English word as it appeared. The computer analyzed the speed at which the word was read, and the accuracy. The Woodcock Language Proficiency Battery Measures contained a cloze test in English and Spanish, a listening comprehension test, and a picture vocabulary test.

Proctor (2006) found no significant differences between English and Spanish decoding skills. Oral language skills, however, varied significantly between the two groups, showing a stronger ability in Spanish. Spanish vocabulary knowledge and listening comprehension both averaged at the third grade level, whereas English oral language skills, English vocabulary knowledge, and English listening comprehension skills were at the second grade level. Proctor noted that the relationship between Spanish and English oral language measures did not significantly correlate to demonstrate cross language transfer of oral skills. Instead, Proctor's research indicated that English and Spanish alphabetic

knowledge correlated significantly with fluency (-.43 and -.48, p, .001) and reading comprehension (.43 and .20, p,.001), which supports the idea of language transfer in literacy skills. Proctor used multiple regression techniques to investigate the role of first language oral and decoding skills as a predictor of second language reading comprehension. Again, Proctor did not find evidence of oral language skills being a significant predictor. Instead, he found that first language vocabulary knowledge was a significant predictor of second language fluency and reading comprehension. Despite this repeated relationship being demonstrated through data analysis, Proctor's concluded, "the results described here certainly suggest that a compelling relationship exists...however, the fact that the variation explained by the L1 and L1 X L2 predictors was so small also indicates that L1 development is not a prerequisite for Spanish-English ELLs to be facile comprehenders of English text" (p. 168). Proctor thus supports Cummins' hypothesis, though he questions the necessity of first language literacy instruction. These research findings support cross language transfer in the area of vocabulary, phonemic awareness, and reading comprehension; but it does not provide the evidence that listening comprehension and other oral language skills are also transferable, which is what the researcher originally intended to prove.

In summary, Cummins (1979) proposed that language skills can transfer between languages because high levels of first language proficiency help second language acquisition, and high proficiency in the second language has positive effect on first language development. The evidence of language transfer can be found for skills in phonemic awareness, decoding, and reading comprehension (Cziko, 1976; Kaufman; 1968; Lindsey et al, 2003; Lopez & Greenfield, 2004; Modiano, 1968; Proctor, 2006). Some of the researchers also advocate first language instruction as a means to facilitate language transfer

(Hardin, 2001; Lopez & Greenfield, 2004; Modiano, 1968) while others found that language transfer will occur regardless of initial language of instruction (Cziko, 1968; Lindsey et al, 2003; Proctor, 2006). As previously stated, the ability of students to transfer literacy skills from one language to another is very relevant to the field of bilingual education. Though language transfer can occur from first to second language or second to first language, it is not enough to place students in a new language environment and wait for this transfer to take place. Students need to be provided with specific instruction on how to use these language skills in a language that is comprehensible to them. This process is not instantaneous. Language transfer takes time, and is only part of the overall process of gaining second language proficiency. The next section will analyze the age and rate of acquisition of LEP students as a means to determine when second language proficiency typically occurs.

#### Age and Rate of Language Acquisition

With Washington State's push to mainstream students within three academic years of bilingual or ESL instruction, it is imperative that research pertaining to the age and rate of language acquisition is examined. Cummins (1979) proposed that there were two types of language proficiency. The first is basic interpersonal communication skills (BICS) which consists of a student's ability to communicate in the second language. This could also be considered oral language proficiency. The second level of proficiency is cognitive academic language proficiency (CALP), which include the student's ability to think and act academically in the second language. Whereas, BICS allows the student to orally communicate with others, CALP enables the student to perform across content areas like

reading, writing, math, and science. Cummins felt that true second language proficiency was not obtained until students had obtained both BICS and CALP.

Collier (1987) conducted a study that was designed to understand age variables in language acquisition. Within this body of research Cummins' (1979) theoretical framework that differentiates BICS from CALP is taken into consideration to analyze the type of second language proficiency needed for academic purposes. Collier wanted to find out how many years of schooling in English were required for LEP students' achievement in reading, language arts, social studies, science, and math to reach national average scores of native English speakers. Collier also wanted to know if a student's age of arrival to the United States influenced his or her rate of language acquisition and content-area achievement.

Collier's (1987) sample included 1,548 LEP students in grades k-11 within the United States. The students were selected through cross-sectional data from 1977 to 1986 of language minority students attending a large public school system on the East Coast of the United States. At the time of the study Collier noted that 11% of the district's student population consisted of language minority students. Over 75 different languages and over 100 different countries of origin were represented within this district. In addition, almost all language minority students were relatively recent immigrants to the United States (p. 620). The sample of 1,548 students consisted entirely of language minority students who were placed in beginning level ESL classes upon entry to the district. These students also had to test at grade level in their first language skills during their initial placement testing, as a control measure for the study. This placement test was administered by a group of placement center staff. The students were asked to read a short paragraph and to write a short language sample in their native language. The students were also asked to complete six math problems

using notation common to their first language. In the school district studied, LEP students were tested and placed in the appropriate grade level, and then given special assistance from ESL teachers. ESL instruction took place for part of the day, in the area of English language arts. The ESL staff assisted students in the development of BICS and CALP development in English. Students did not receive any formal instruction in their native language at school, and were typically mainstreamed from the ESL program within two to three years of entry into the school system.

Collier's (1987) sample was analyzed for age on arrival, rate of language attainment, and for some aspects of CALP in English and content-area achievement. School records were used to determine age on arrival, length of residence, sex, primary language, placement scores, and grade level in which they were initially placed. These records were measured against student scores on the Science Research Associates Achievement Series test of reading, language arts, social studies, science, and mathematics. These test scores were from grade level four, six, eight, and eleven. Testing was done in English. For comparison, the students were separated into strata samples based on their age of arrival. The means and standard deviations of the standard scores for all five Science Research Associates Achievement Series test areas were computed, and converted into normal curve equivalents (NCEs) for comparison. Academic achievement is indicated if a student has reached at least the 50<sup>th</sup> NCE in the individual subject areas.

Collier (1987) found several consistent patterns that emerged from her analysis. Across all subject areas tested and all grade levels combined, LEP students arriving between the ages of eight and eleven were the fastest achievers, as indicated by their NCE scores. Students within this group reached the 50<sup>th</sup> NCE in language arts, social studies, and math

within two years of English schooling. The 50<sup>th</sup> percentile was reached in reading and science within three to four years of English schooling. Seven year old arrivals were slightly below the performance of the eight and eleven year olds, while students arriving at ages five and six were projected to need at least two to three more years to reach the eight to eleven year old arrivals' performance levels. The LEP students arriving between the ages of 12 and 15 had the lowest achievement levels of the group, with none of them reaching national average scores in any subject area, except mathematics, after 4-5 years of English schooling. Students that arrived between the ages of 12 and 15, were estimated to need at least another two to three years to reach the 50<sup>th</sup> NCE on all subject-area tests. Collier concluded:

whereas some groups may reach proficiency in some subjects in as little as two years, it is projected that at least four to eight years may be required for all ages of LEP students to reach national grade-level norms of native speakers in all subject areas of language and academic achievement. (p. 617)

Collier's (1979) findings are directly related to the transitional aspect of programs serving LEP students. In the push to mainstream students within three academic years of ESL or bilingual instruction, these programs could actually be exiting students before they are fully proficient in academic language skills. If NCLB is concerned with bridging the achievement gap, these findings should certainly be taken into consideration. Language proficiency is not synonymous with oral language proficiency. Instead, students need to be able to work within both BICS and CALPs, in order to secure academic achievement. Collier's findings indicate that this can take between two to eight years to fully develop for students under English only ESL model programs. Collier also noted that this study did not measure all aspects of language proficiency. The standardized tests used in the study

required only the language skills of reading and comprehension. Most of this research uses standardized tests established by the school districts to assess student achievement. As such the validity of these findings is related to the validity of multiple-choice standardized tests. Nevertheless, as long as these tests are used in the mainstream classroom as a measurement of achievement, they should also be used with LEP students for the purpose of comparing academic achievement.

As part of a large scale quantitative study on educational programs for language minority students, Thomas and Collier (1997) again found a similar time frame of four to ten years for English language learners to reach the 50<sup>th</sup> NCE in their second language. Their 1997 study reviewed assessment data of over 700,000 language minority students from five school systems in geographically dispersed locations across the United States. In summary, Thomas and Collier declared,

It takes typical bilingually schooled students, who are achieving on grade level in L1, from 4-7 years to make it to the 50<sup>th</sup> NCE in L2. It takes typical 'advantaged' immigrants with 2-5 years of on-grade-level home country schooling in L1 from 5-7 years to reach the 50<sup>th</sup> NCE in L2, when schooled all in L2 in the U.S.. It takes the typical young immigrant schooled all in L2 in the U.S. 7-10 years or more to reach the 50<sup>th</sup> NCE, and the majority of these students do not ever make it to the 50<sup>th</sup> NCE, unless they receive support for L1 academic and cognitive development at home (Thomas & Collier, 1997, p. 36).

Ultimately, these findings suggest, that although students can reach grade level norms within two years, on average it takes between four and seven years without schooling in the first language, and up to ten years if schooling is done completely in the



student's second language. Thomas and Collier's study will be more closely examined in the final section of this chapter, as it speaks most strongly to strong and weak bilingual program models used to educate LEP students.

It is important to closely examine LEP student achievement, in relationship with the native speaking population over time. If LEP students score, on average, at the 20<sup>th</sup> NCE in comparison with native speaking peers at the 50<sup>th</sup> NCE there is a significant need for increased performance of LEP students to bridge the gap of 30 percentile points. It is also important to consider that the native speaking population is continuing to raise the standards of the 50<sup>th</sup> NCE with each passing grade level, thus the LEP students are aiming at a moving target. De Avila (1997) hypothesized that the common practice of expecting growth of one level per year on assessments was unreasonable for LEP students for this reason. To examine his hypothesis, De Avila conducted a small-scale longitudinal study to analyze the expected gains of students on the commonly used Pre-LAS test of oral language development. De Avila examined the relationship between time and oral language proficiency, as well as expected gains on the Pre-LAS over time. To examine this relationship, a sample of 203 LEP students, between the ages of four and six, were administered two versions of the Pre-Las test. The time interval between the test administrations ranged from three to sixteen months. Data on the first test scores were collected from school records while the second test scores were collected from a new parallel version of the Pre-LAS test series. De Avila (1997) calculated the expected gains by calculating the difference between the two tests administered, and regressing it against first test's standardized total scores. The resulting scores were added to the students' initial Pre-LAS scores to represent their "expected gains" in oral language development.

De Avila (1997) found that a student with an initial score on the Pre-LAS of five can be expected to gain approximately 40 raw score points. A student with an initial score of 65 standard score points would be expected to gain approximately seven standard score points. Finally, a student with an initial score of 75 would be expected to gain only five standard score points, as a score of 80 points indicates basic proficiency. De Avila's findings indicated that the biggest gain in language proficiency took place during the first year of English instruction, with language development leveling off in the subsequent years. De Avila concluded that it would take about three years to master sufficient oral skills to be comparable to the students' native speaking peers. These findings are interesting as they parallel Collier's (1979) findings that language proficiency requires anywhere between two and eight years of language instruction. De Avila's data only relates to oral language proficiency, which would be considered as BICS for Cummins and Collier. These results do not demonstrate that total academic proficiency is present after three years of English instruction. De Avila also affirmed this by stating, "while the student may have mastered sufficient oral skills to fully participate in an English speaking environment, there is no guarantee that he or she has mastered literacy or other academically related skills" (1997, p. 21).

Ramsey and Wright (1974) also sought to determine the relationship between age of arrival and second language achievement. The researchers hypothesized that their findings would indicate that young learners would learn a second language more rapidly than older learners, and would thus demonstrate a more rapid level of achievement. To examine this relationship, Ramsey and Wright used a random sample of 25% of the classrooms in fifth, seventh, and ninth grades across the city of Toronto. Background information and test

measures were obtained for over 5,000 students, of which those who had acquired English as a second language were abstracted and used as the student sample (n= 1,210). The test scores analyzed in this research were the Picture Vocabulary Test and the English Language Skills Test which contained six sub tests. Mean test scores were calculated for the three grades with students grouped in two-year intervals, according to age of arrival. This data did not indicate any clear generalizable patterns, so the data was collapsed across grade levels using standard scores. In the combined data a critical age is apparent. The early age groups performed similarly, but a steady decline in scores was obvious after the six to seven age group, thus Ramsey and Wright thought that students who arrived after age seven were less likely to succeed on grade level assessments. Ramsey and Wright noted that the decline in scores after age seven was consistent for all of the assessment measures except for English sub test III, which dealt with interpreting intonation.

To further analyze this data Ramsey and Wright (1974) separated the mean scores into “early arrivals” which were those arriving at age six or younger, and “late arrivals” which were those who arrived at age seven or older. This was done to calculate correlation coefficients to examine the relationship of age of arrival to test performance. Ramsey found 19 significant negative correlations which involve the late arrivals. A selection of negative correlations include the Picture Vocabulary Test (5<sup>th</sup> grade,  $-.272$ ,  $p = .05$ ; 7<sup>th</sup> grade,  $-.423$ ,  $p = .05$ ; 9<sup>th</sup> grade,  $-.380$ ,  $p = .05$ ), and the English Skills sub test I (5<sup>th</sup> grade,  $-.261$ ,  $p = .05$ ; 7<sup>th</sup> grade,  $-.416$ ,  $p = .05$ ; 9<sup>th</sup> grade,  $-.244$ ,  $p = .05$ ). There were no significant positive correlations for the late arrival group, nor were there any significant positive or negative correlations from the early arrival group. Ramsey’s findings suggest that students who arrived in Canada at the age of seven or older will have lower performance on achievement measures over time.

The researchers concluded that there was a clear negative relationship between age on arrival and performance.

Cummins (1981) questioned the findings of Ramsey and Wright (1974) as they did not take into consideration the cognitive demand of the language skills being assessed or how long the students had been learning the second language. Cummins challenged the notion that younger children were better second language learners on the basis that some skills of language proficiency are strongly related to cognitive and academic development. For example, reading skills require a higher level of cognitive ability than oral fluency and phonology skills. Cummins asserted, “because of older children’s greater cognitive maturity, we would expect them to display an advantage over younger children in acquiring those aspects of L2 which are strongly related to cognitive and academic skills” (p. 132).

Cummins cited a body of research that demonstrated advantages for older language learners in mastering second language syntax and morphology, as well as literacy related skills (Appel; Birstall, Jamieson, Cohen and Hargraeaves; Ekstrand; and Genesee, as cited in Cummins, 1981). Cummins also cited research that indicated oral production as being the only skill that younger learners had an advantage in mastering over older learners (Asher & Garcia; Asher & Price; and Ekstrand, as cited in Cummins, 1981). Based on these previous research findings, Cummins reanalyzed the findings of Ramsey and Wright (1974) to compare the standard scores of older and younger learners with the length of residence for the student groups.

Cummins (1981) reexamined the student population of Ramsey and Wright’s (1974) study, in which 1,210 non-English speaking immigrants were sampled. Cummins calculated the length of arrival for study participants by subtracting the given age of arrival from the

current grade level of the student. The approximated length of arrival variable was then used as a measurement. By graphing the age of arrival, length of residence, and norm referenced standard deviations; Cummins demonstrated how a student can have the same age of arrival, but different lengths of residency depending on their current grade level. For example, using figure 2, it is apparent that students who arrived at the age of 10 or above had only been in residence for one year, prior to their fifth grade test results. This can be compared to students who had arrived at age two or three, and had a length of residence of nine years prior to their fifth grade testing. It is clear in Cummins' reanalysis that length of arrival has a substantial effect on the rate at which immigrant students approach grade norms. The rapidity with which grade norms are approached. The critical age of seven, that Ramsey and Wright (1974) suggested, appeared to have some importance in terms of progression towards grade norms, but this was most likely related to the five years of residency that occurred for the students arriving at age six prior to their testing in fifth grade. Cummins demonstrated that

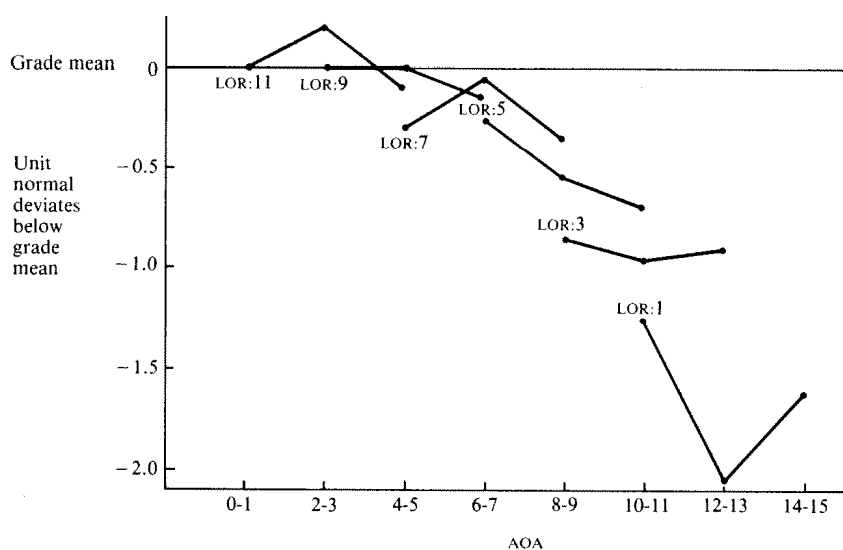


Fig. 1. Age on arrival (AOA), length of residence (LOR) and picture vocabulary test (PVT) scores

*Figure 2: Length of Residence vs. Age on Arrival.*

Age on arrival (AOA), length of residence (LOR) and picture vocabulary test (PVT) scores (Cummins, 1981, p. 139).

the negative relationship between age of arrival and performance after age seven, which was reported in Ramsey and Wright (1974), was also due to the length of residency of the students at the time of testing. These findings indicate that age of arrival may in fact impact academic achievement, but primarily in relation to the length of residence with the second language environment. Thus students who arrive before age six may develop BICS more rapidly than their older peers, however they will still need sufficient time to develop S which aide in overall academic achievement. As evidenced by Collier (1981), Thomas and Collier (1997), and De Avila (1997), true second language proficiency, the ability to use both BICS and S, can take between two and seven years with average projections being four to five years. When examining the programs that are implemented for LEP students it is not the age of the students that will most accurately predict their second language proficiency, but instead the time spent in the second language environment learning both oral and academic language skills.

Burnham-Massey and Pina (1990) conducted a smaller scale longitudinal study, that took place over seven years to assess whether LEP students could achieve academically in English like native English speakers and fluent English proficient students in a district using a transitional bilingual education program. This study was conducted in the Baldwin Park Unified School District which had a bilingual program that placed LEP students in classrooms with reading and language arts taught in Spanish until they could meet the criteria to be transitioned to English reading programs. The transition to English reading instruction took place after students were near native proficiency in oral English as measured by the LAS test with a score of 75 or more and Spanish reading proficiency at or above the third grade level. The Burnham-Massey and Pina study began in 1983. The sample consisted of

607 fifth grade students, enrolled in the Baldwin Park bilingual program. During this research period the school district had 40% LEP students who were dominant in Spanish. The researchers did not directly state how the students were selected, however it can be gathered by the data that these students were selected based on their enrollment in the school district from 1<sup>st</sup>-12<sup>th</sup> grade and their completion of the CTBS test annually from 1<sup>st</sup>-8<sup>th</sup> grade, and the High school Proficiency test in 9<sup>th</sup>-12<sup>th</sup> grade. The group was subdivided into two categories. There were 115 students who began instruction in Spanish, but were now being taught primarily in English, and there were 492 students who were native English speaking students who had received only English instruction. The two groups of students were compared using the CTBS test to compare the mean percentile scores for fifth grade. This test included sections in reading, language, and math. Then, a longitudinal study was conducted to show trends over time in English for the students who received Spanish reading instruction initially by comparing the results of their CTBS tests score for the following five years. An analysis of their performance in 7<sup>th</sup> and 8<sup>th</sup> grade was also conducted using their grade point averages, and 8<sup>th</sup> grade proficiency test results. When these students were in high school their achievement was annually measured using their grade point averages and the High School Proficiency Test.

Burnham-Massey and Pina (1990) examined the results of the CTBS test scores and found that LEP students began to close in on national grade level norms in fourth grade. In fifth grade, the bilingual students (n=115) actually surpassed the norm for language. The mean score of the bilingual students was in the 50th percentile, while the means score for the native English speaking students was in the 48<sup>th</sup> percentile. This group continued to surpass the English proficient sample in seventh grade in language, and then leveled off in eighth

grade. In reading, the bilingual students and the English proficient students were both at the 46<sup>th</sup> percentile. In this study, the bilingual students always scored in the percentiles at grade level or above in the area of mathematics.

The high school data also suggested that the formerly LEP students are achieving academically in English at a level at least comparable to that of their native English speaking peers as evidenced through grade point averages and percentiles on the High School Proficiency Test. The High School Proficiency Test measured writing, reading, English, and math. The researchers did not go over the format of the test, or the reliability. Whereas, the CTBS test is a nationally normed reference test, the high school assessment is not. Also, it should be noted that using a grade point average to reference the achievement of students is a meaningless score without knowing the courses of study of these students. For example, if LEP students were taking basic skill courses and being compared with proficient English speakers taking gifted or honors programs the expectations in these courses would not be congruent and therefore the comparison of GPA is not a reliable measure of student achievement. The researchers did not address the congruence of courses in their research, nor did they address this weakness within their study methods.

When examining Burnham-Massey and Pina's (1991) elementary and middle school grade level data only, it can be concluded that LEP students in the study matched the academic achievement in English of fluent English proficient students by fifth grade. This study indicated that transitional bilingual programs may provide LEP students with the opportunity to reach academic achievement at the level of their English proficient counterparts, and that achievement continues beyond elementary school, once students have exited the transitional bilingual program. This study aligns with Collier (1987), Thomas and



Collier (1997), and Cummins (1981) as it found that student reached grade level norms by fifth grade, which is after approximately four to five years in a transitional bilingual program that develops second language skills. The fact that Burnham-Massey and Pina used students from a transitional bilingual education program also suggests that bilingual education models still facilitate LEP student achievement over time. Later in this chapter, effective program models will be examined to look at how specific program models impact initial student achievement and increased achievement over time.

In examining research dealing with the rate of second language acquisition, it is also valuable to examine the effects of exiting students before they are fully proficient in second language skills. As previously stated, students need to be able to work within both BICS and S, in order to secure academic achievement. The findings suggest that full language proficiency in BICS and S typically takes four to five years with a range of two to seven years (Collier, 1987; Cummins, 1981; Thomas and Collier, 1997), yet NCLB Title III programs need to be transitional in nature, encouraging schools to exit students from ESL or bilingual programs after three years. More recently, Pappamihiel (2001) examined the effect of anxiety related to moving from an ESL to a mainstream environment.

Pappamihiel (2001) was interested in examining the effect of mainstreaming LEP students, and comparing gender as a variable to see if girls were more anxious than boys when exiting ESL programs. With the push to exit students from ESL or bilingual programs within three years, this research intended to address the anxiety level of students when they were included in mainstream classrooms before they fully possessed cognitive academic proficiency level of the English language. This study was conducted in a state where students are given approximately three years before they are encouraged to be completely

mainstreamed. The sample size consisted of 178 middle school students (91 boys and 87 girls) from Mexico, residing in the southwestern part of the United States and attending school in a medium-sized urban area. All the participants had been in the United States for at least one year with a mean length of residence of 2.47 years. All participants were enrolled in ESL classes and spent at least a portion of their school day in mainstream classes. Students were all at an intermediate level of English as identified by their teachers and placement in ESL classes. Participants were given the English language anxiety scale (ELAS) during class time to determine their levels of anxiety in multiple settings and scenarios. The ELAS had been tested for validity and internal consistency by Horwitz and Cope (as cited in, Pappamihel, 2001). The ELAS consisted of 47 Likert questions in English and Spanish. These questions prompted participants to respond to statements concerning their feelings using English in two separate scenarios, within the ESL classroom and within the mainstream classroom. Responses ranged from strongly agree to strongly disagree, with a neutral option. Upon completion of the ELAS, a paired t-test was conducted to assess the differences between ESL and mainstream environments. Additionally, an analysis of covariance was used to examine significant differences among the variables. Finally, a factor analysis was used to target different indicators of anxiety within ESL and mainstream classes.

In Pappamihel's (2001) study, the results of the paired t-test showed significant differences between anxiety levels in ESL and mainstream classes. The factor analysis concluded that the main factor for English language anxiety in the mainstream classroom was a type of performance anxiety more related to interactions with peers, which accounted for 24% of the total variance in anxiety levels. In ESL classes, the main source of anxiety was

more related to academic anxiety and worries about achievement which accounted for 26% of the total variance. These findings showed a clear existence of peer anxiety within the ESL classroom, and academic anxiety within the mainstream classroom regardless of gender. The covariance analysis found that gender did act as a contributing variable for increased anxiety levels in mainstream classrooms. The ELAS showed a significant difference ( $\alpha = .001$ ,  $p < .05$ ) in the attitudes of female students when using English in mainstream classes. Female students showed an overall mean ELAS score that was almost 10 points higher than male students did with a standard error of 1.9. This significant finding was apparent in mainstream classes but did not occur in the ESL class.

Pappamihel (2001) concluded that in ESL students experience anxiety in the mainstream classroom that is related to their academic abilities and beliefs. Though these students also demonstrated anxiety in the ESL classroom, this type of anxiety was more related to their peers and not their academic abilities. The anxiety in the mainstream classroom was significantly higher for girls than it was for boys in this study. Pappamihel thought that heightened anxiety for ESL students in the mainstream environment suggests that mainstream teachers need to carefully plan their inclusion of ESL students in their classrooms. Pappamihel concluded, “by looking at social competence along with academic and linguistic competence, we provide a more complete picture of a student's ability to enter the mainstream, especially concerning female students. In our rush to be equal, we must be fair” (p. 37). The idea that students would have increased anxiety in the mainstream classroom, particularly in the area of academics, certainly calls into question the students’ abilities to work with the English language at the cognitive academic language level. This is even more alarming when the mean time of residence is 2.47 years. This makes the data

particularly relevant to the subjects being studied as many of them will be moved to the mainstream environment permanently once they reach three years in the ESL program.

In summation, Cummins (1979) has distinguished a difference between BICS and S, which are both needed for full language proficiency. In order to make academic progress on achievement measures, it is not enough to possess basic oral language skills. Students also need to have academic language skills available to them. Collier (1987) found that second language proficiency typically takes students four to five years, with a range of two to seven years. Collier noted, that though some students have evidenced their ability to reach both oral and academic proficiency in two years, it typically takes longer for most students. Cummins (1981) reexamined the Ramsey and Wright (1974) study and found that length of arrival is a more significant predictor of language proficiency than age of arrival. Thus, according to Cummins' findings, students who had been in the second language environment for at least five years were more likely to meet the achievement levels of their native speaking peers, regardless of age of arrival. Burnham-Massey and Pina (1990) examined academic achievement in reading, language, and math for LEP students. In their study, students caught up with their native speaking peers by the fifth grade, which also suggests a similar time frame of four to five years. De Avila (1997) examined achievement gains in oral language proficiency, and found a similar acquisition period of four to five years. De Avila also found that the biggest gain in language proficiency takes place during the first year of English instruction, but then levels off in the subsequent years. This is most likely due to the students having very limited language proficiency when they enter a second language environment, and increasing their BICS by the end of the first year of English instruction and exposure to English. Throughout this section the need for both BICS and S

had been addressed, without the command of academic language a students will have a more difficult time demonstrating their academic knowledge in the classroom and on standardized assessments. Pappamihiel (2002) found that LEP students experienced increased anxiety when included in the mainstream classroom, especially girls. In the push to exit students from ESL or bilingual services there is a risk that these students will not have the academic language proficiency needed to achieve in a mainstream classroom, in a manor similar to native speaking students. If research suggests that language acquisition most commonly takes four to five years to reach proficiency the program models and services should mirror this time frame. This would most likely decrease student anxiety around their abilities in their second language before entering a mainstream classroom. This would also assure that LEP students had a more equal opportunity to reach grade level achievement norms. The next section will further analyze student academic achievement across content areas, which will allow for further examination of student achievement in areas where S are most definitely needed to succeed.

#### ESL and Bilingual Education Effectiveness in Content Areas

In the previous section, age and rate of language acquisition was addressed as a means to determine the time needed for students to develop proficiency in both BICS and S. Students in public schools are required under NCLB to make annual yearly progress in multiple content areas, which requires a base of academic language. In Washington state these areas include reading, mathematics, writing, and science. Title III of NCLB was set up to ensure that LEP students “attain English proficiency, develop high levels of academic attainment in English, and meet the same challenging State academic content and student academic achievement standards that all children are expected to meet” (U.S. Department of

Education, 2004, para 1). If LEP students are expected to meet these requirements in both language proficiency and content area achievement, the need for S becomes even more necessary. The schooling of LEP students has to extend beyond oral language proficiency and the development of BICS. Classrooms as a whole must prepare students for academic achievement across content areas, for all students. This section will address the effect of ESL and bilingual education program models on the academic achievement of LEP students in the content areas of science, math, reading, and writing.

In many bilingual program models science has been a common content area for native language instruction or native language use (Amaral, 2002; De Avila, 1981; Hampton & Rodriguez, 2001; Lopez & Tashakkori, 2004). Science is built on the idea of inquiry and discovery. As such a science classroom can be a place of wonderment where many students are engaged in a process of discovery together. Amaral and Garrison (2001) wanted to find out how an inquiry based science program would effect the achievement in science content process skills, and writing for English learners. Their study was conducted in the El Centro Elementary School District in California's Imperial County, located close to the Mexico border. The district had 11 schools with 6,179 students in kindergarten through eighth grade. At the time of the study, Imperial County ranked highest in poverty of all 58 California counties. 84.9% of the students in El Centro District are Hispanic with 53.9% of the students being classified as English Learners. 71.8% of the students in El Centro are free/reduced lunch compared to a state average of 47.3%. The population of the study included 615 students in fourth grade and 635 students in sixth grade, all of whom had been enrolled in the El Centro District for the previous four years regardless of school attendance.

The El Centro School District participated in the Valle Imperial Project in Science where students were exposed to four instruction units per year, except at the kindergarten level where there were three (Amaral & Garrison, 2001). Teachers spent eight weeks teaching lessons from these units which were designed to be more hands-on and centered on big ideas in science. Teachers are provided with over 100 hours of professional development, over a four year period of time, designed to deepen their own content understanding address pedagogical issues, and to prepare them to teach the units at their grade level. The four instruction units include life science, Earth science, physical science, and another subject area that varied by grade. Most of the instruction in bilingual and sheltered immersion classrooms was provided in English. Students were encouraged to interact in English but were allowed to use Spanish as necessary during instruction. Student entries in science notebooks could also be written in Spanish if needed. In order to meet California's curricular standards the Valle Imperial Project in Science designed a study that would document the learning of students who had participated in the inquire science program. The study assessment consisted of administering the science section of the Stanford Achievement Test, 9<sup>th</sup> ed, Form Y, to all fourth and sixth grade students. The state required all students who were enrolled in California public schools for at least one year to take the test in English regardless of language background or proficiency level. Students in the El Centro district were also assessed using the district writing proficiency test, which had been administered by teachers and analyzed by a team of trained evaluators at the district level. These writing assessments assessed using a four-point holistic rubric covering content and the conventions of writing. The fourth grade focus was descriptive writing and the sixth grade focus was reporting information to describe a procedure. These achievement scores

were measured against the number of years students had participated in the science program. To measure mathematics ability, scores from the Stanford Achievement Test, 9<sup>th</sup> ed. were also measured against the number of years students participated in the science program. All data from the assessment measures was disaggregated to form groups that represented the number of years the students had participated in the science program.

Amaral and Garrison (2001) found that there were consistent improvements among English learners the longer they were exposed to the program, as indicated by higher achievement scores in science. A linear regression analysis between years in program and the respective mean science achievement scores established a positive correlation with  $r=.9909$  for grade four and  $r=.9934$  for grade six. The fourth grade student writing assessments also showed increased percentage of passing depending on the years of participation in the program, however the rate did not increase proportionally. Students with two years of participation were almost equal in pass rate at 80.1% as those with four years of participation at 86.8%. This lack of proportional increase could have to do with the writing task focus on descriptive writing, and not on describing a process or procedure as in the sixth grade assessment. The sixth grade student writing assessment pass rates increased proportionately in relation to the number of years of participation in the inquiry science program. The students participating in the inquiry based science program also demonstrated consistent achievement in the areas of reading and mathematics, but these findings were not statistically significant. Overall, the results showed a positive correlation between the number of years students participated in the program and student achievement in science and writing. This suggests that interactive, inquiry based programs may be effective for LEP students, even when the language of instruction is predominantly English.



Hampton and Rodriguez (2001) also conducted a study within a classroom using an inquiry science based curriculum in a bilingual classroom. These researchers felt that, “traditional programs in bilingual communities often eliminate science in order to focus on more rigid vocabulary development or implement a text book approach where the children are exposed to words but denied the opportunity to interact with materials from which to build related concepts” (p. 422). Hampton and Rodriguez’s goal was to determine the value of an inquiry science program for students in the process of developing second language skills. Their sample consisted of kindergarten through fifth grade students from three different schools, near the Mexican border. The majority of the students were Spanish-dominant English language learners. The schools in the study all participated in bilingual education models, where most of the primary grade instruction was provided in Spanish. As the students advanced in grade level, English instruction was increased. During the research period, over 100 interns from the University of Texas El Paso taught six to twelve lessons in one of the three schools. The interns provided instruction in the language recommended by the regular classroom teacher. It turned out that approximately half of the classes were conducted in English, and half in Spanish. The interns used FOSS kits on a weekly basis to conduct their lessons in the classroom. These kits are similar to that which was described in Amaral and Garrison’s (2001) study, however the latter study did not provide the name of the curriculum being used. In Hampton and Rodriguez’s study, it is important to note that the three schools did not provide regular science lessons or have a district wide curriculum to work from prior to the research period. The interns were responsible for bringing in the FOSS kits, which were the first consistent science curriculum the students had been exposed to at these schools.

The data from Amaral and Garrison's (2001) research study was included the written responses of 100 interns and notes from three focus group sessions with 20 interns. The written responses detailed, the interns' experiences implementing the lessons, evidence of the students' development of a specific concept, and evidence of students' development of language in English or Spanish. The focus group met after the sixth week of teaching to address the question "what was the effect of implementing the inquiry curriculum in this school community?" This qualitative data was analyzed using constant comparative method through coding and categorizing the comments and selecting the most common themes and strands. Student data sources were an attitude survey from 80 third grade students, and a written assessment from 107 fifth grade students. The third grade attitude survey was supportive of the science lessons, however the structure of the survey was not appropriate for drawing conclusions. Similarly, the fifth grade assessment was a written post assessment about the concepts that were covered in the science lessons. Each question on this assessments were rated as "appropriate response" or "inappropriate response". The actual assessment and data was not presented in the research findings. Though the researchers stated that the data provided evidence of student understanding of the scientific concepts, the student measurement tools are not reported in a way that enables the reader to draw conclusions about actual student concept attainment. However, conclusions can be drawn from the common themes from the qualitative data. The interns provided many examples of students making observations that evidenced critical thinking, and participating in small group, or whole class discussions. This common theme suggested that this was a highly interactive environment for the students. In addition, 43 regular classroom teachers observed the interns leading two science lessons. All of the teachers indicated in their post lesson

surveys that their students demonstrated evidence of science learning during these lessons, and that the lessons provided increased student engagement and interaction. Overall, these findings speak to the rich discourse and conversation that can take place in an inquiry based science classroom. It is important to note that the use of FOSS kits does not automatically create an inquiry based science lesson; however, the interns conducting the lessons had been trained to use these kits in a manor that was consistent with an inquiry based model. Amaral and Garrison produced qualitative data that connected LEP students' engagement with inquiry based science curriculum. These findings suggest that LEP students may experience increased concept attainment, and classroom discussion participation when engaging with science manipulative like those present in the FOSS kits. This type of highly interactive environment can be a rich place for LEP students to begin using their critical thinking skills and their oral language to interact with academic concepts.

De Avila (1981) was also interested in inquiry based science program that included mathematics concepts, within a bilingual program model. He developed the Multicultural Improvement of Cognitive Abilities (MICA) program to address the critical thinking needs of LEP students in the areas of science and math. De Avila believed that the overall content of bilingual programs had a tendency to foster a dependence on predetermined problem solving approaches, instead of critical thinking abilities to move beyond basic skills. De Avila wanted to examine students participating in a program that focused on evaluative thinking instead of rote memorization of procedures and skills to see how it would facilitate intellectual, academic, and linguistic development for LEP students. The research sample consisted of 307 students in second, third, and fourth grade, who participated in the MICA program for ten consecutive weeks. This sample was chosen from nine different bilingual

classes, in five separate school districts around the San Jose, California. The students were selected based on the participation of the classroom teachers. The MICA curriculum was taught by nine volunteer teachers who underwent in-service training beginning in the spring of 1979. All nine teachers were given initial training which consisted of an introduction to the activities, practice working with the materials, brief rationale for the overall program and individual activities, and a description of classroom management and record keeping associated with the activities. De Avila noted that the original research design called for five control teachers who would be used for a comparison with the MICA program teachers. Unfortunately, of the 15 teachers that were interviewed, “it was found that teachers did not teach science in any systematic fashion” (p. 14). De Avila decided that a control group of teachers that were not providing systematic science instruction would be of little use in this study. The MICA program model was a bilingual, experienced based instructional program where students were engaged in math and science activities for 30 to 60 minutes each day over a 10 week period. These instructional activities were in agreement with Piagetian theory as they attempted to provide experiences that would contribute to intellectual development and academic performance. The researcher noted that “activities are presented in both languages and are accessible to all students” (De Avila, 1981, p.10). The activities within the MICA project were also selected based on laboratory studies, existing programs, and direct experience that has shown them to be within the grasp of children of different developmental levels (p.10). The activities were conducted individually and in small groups as a way to necessitate increased cooperation and verbal interaction with the teacher, aides, and peers. As in Amaral and Garrison’s (2001) study, all students in the MICA program had

already been exposed to a bilingual education program model, but in all nine classrooms this was the first time that a consistent science curriculum had been used with the students.

De Avila (1981) assessed student progress on a pre and post test basis using a variety of tests to gauge language development, intellectual development, and academic achievement in science concepts. All 307 students were assessed with these instruments prior to the ten week MICA program, and afterwards. The assessment instrument used to measure language proficiency was the Language Assessment Scales (LAS) focusing on comprehension and production. To measure intellectual development the Cartoon Conservation Scales (CCS) was used in the areas of: length, number, substance, distance, horizontality, egocentricity, probability, and volume. The CCS was used to measure intellectual development as it is a non-verbal measurement and could thus measure the understanding of concepts without the influence of language proficiency. Academic achievement was assessed using the CTBS in reading vocabulary and comprehension, and mathematics applications, concepts, and computation. Science and Math concept attainment was measured using the MINI I, II, and III that measured vocabulary, concepts, and concrete applications. The MINI assessments were created by the researcher as a way to evaluate the specific concepts covered during the 10 week MICA program. MINI I and II are presented in pictorial and written formats that are read to the students in the language appropriate to the child. Scores are reported as number correct over number answered. Mini III is a 13 question multiple-choice response assessment, that is judged on accuracy as evidence of mastering the concept or not. The MINI III was administered to a sub-sample of the total sample group, on the basis of language proficiency skills (n= 69). The analysis of data was conducted using univariate and multivariate techniques.

Overall, De Avila (1981) found that students who had participated in the MICA program demonstrated increased achievement in all tests that required the application of thinking skills. This means that there were positive gains for the MICA students on the CCS, MINI tests, and CTBS. The MICA students also demonstrated positive gains from their pre assessment scores, in comparison to a selected control group participating in the schools' ongoing bilingual programs and in reference to national norms on the CTBS assessment. The performance of participating MICA students was compared with an equivalent sized control group of students selected from the sample schools. As these schools were all using a bilingual program model this control group served to represent students from these schools that did not experience the MICA program, but were still part of a bilingual program. CTBS pre-test scores for the MICA students and the bilingual control group were virtually the same at the beginning of the academic year, and both groups improved on their pre-test scores after the ten week period. However, The MICA group exhibited gains that were almost twice that of the bilingual control group on their post-tests, and almost two percentile points more than the norm referenced group. De Avila (1981) conducted a third series of analyses to compare the percentage of students gaining on the national norm percentile from the MICA program, and those gaining on the norm within the control group of non-participants. The results of this analysis showed that, with the exception of slight difference in reading comprehension, the percentage of student gaining on the norm was consistently greater for the MICA group. For example, the CTBS scores on mathematics were revealed to have a significant difference ( $p = .035$ ) for third grade MICA students over the third grade bilingual control group. Approximately 85% of the students participating in the study were third grade students so the

significant effect at the third grade level could be considered indicative of the population as a whole.

In addition to gains in science, reading, and math, De Avila (1981) also found that the English LAS post test scores improved in eight out of nine schools. De Avila noted that observational data from the classroom that did not demonstrate increased language proficiency scores revealed that, “in contrast to most of the classrooms, the MICA program in this classroom was primarily a teacher run experience. That is, the teacher did most of the talking and did not allow a great deal of verbal interaction” (p. 64). Taking this into consideration, it is important to realize that overall outcomes of this study were undoubtedly impacted by individual teacher variables that were not controlled. These variables include teacher and student attitudes, teacher perceptions of the MICA program, teacher language proficiency, teacher aide language proficiency, and teacher content knowledge. These variables are undoubtedly present in the majority of bilingual research studies, as they can exist within any classroom. De Avila also noted, “several teachers felt that the activities would be too difficult, or too complex for the students” (p.65). The fact that none of these classrooms had ever been exposed to regular science instruction may have suggested that the overall perceptions of these teachers were that they were not capable of teaching scientific concepts, or that their students were not capable of processing these concepts. Regardless, these findings suggest that significant gains were made in science, reading and mathematics as well as second language proficiency thus indicating that an inquiry based content area program can positively impact the academic achievement of LEP students in multiple content areas.

In later studies, reading and mathematics achievement was monitored under bilingual education programs that utilized native language instruction in various content areas (Burnam-Masey, 1990; Lindholm, 1991; Lindholm & Zierlein, 1991). Lindholm (1991) examined the extent to which a bilingual education program contributed to the academic achievement of bilingual students in math, reading, and language arts. In addition, Lindholm examined the relationship between oral proficiency and academic language proficiency for the students participating in this program. Lindholm's study consisted of 66 second and third grade students participating in a bilingual education program in San Jose, California. The bilingual program instructed both native English and native Spanish speaking students. At the second and third grade level 80% of the instruction was being provided in Spanish and 20% in English. In addition, English reading instruction was not introduced to students until the third grade. Lindholm also used a sample of 118 second and third grade students that were not part of this bilingual program, as a means to compare achievement of students within the same school. Background information was not given in the study for the control group of non-bilingual students. Also, socioeconomic status was not provided for either group. The researcher used the CTBS to assess achievement in English reading, math, and language arts. Spanish reading and math were assessed using the La Prueba Riverside de Realizacion en Espanol. In addition, students' oral language proficiency was assessed using the Language Assessment Scale for English and Spanish, and the Student Oral Language Observation Matrix (SOLOM). The SOLOM was a rating scale, developed by the California Department of Education to measure the oral language proficiency of a student in five areas: comprehension, fluency, vocabulary, pronunciation, and grammar. Teachers were responsible for assigning scores in these areas after having worked extensively with the



student in a number of different situations. The researcher used the Language Assessment Scale to determine whether students in the sample were balanced bilinguals, English dominant, or Spanish dominant. The study was conducted with a small sample size, and Lindholm was only able to find two Spanish dominant students, and four English dominant students within her sample. Lindholm chose to place these students in separate groups for analysis in her study but the sample was considerably smaller than what was needed to make a significant correlation in any of the data analysis. Lindholm chose to report findings for these two small groups of students, but due to the sample size those findings will not be discussed here. Without these students, the sample consisted of 60 balanced bilinguals, that were orally proficient in both Spanish and English.

Lindholm (1991) was able to compare percentile scores on both the CTBS and La Prueba to see where students were comparing to the national norm and the non-program participants. In this comparison, the second and third grade students scored in the 76<sup>th</sup> percentile and 65<sup>th</sup> percentile for Spanish reading, and at the 43<sup>rd</sup> percentile and 67<sup>th</sup> percentile for Spanish math. These Spanish scores indicate a much higher achievement above the nation norm of the 50<sup>th</sup> percentile. The English reading, language, and math scores were all below the 36<sup>th</sup> percentile at the second grade level, and between the 29<sup>th</sup> and 50<sup>th</sup> percentile at the third grade level. The consistently low scores in English achievement areas for balanced bilingual students may come as a surprise since these students were judged to be equally proficient in both languages. However, the second grade students in this study had not had English reading instruction at the time of testing, and the third grade students had only been exposed to it for nine months before demonstrating the positive gains in all English areas. Also, the balanced proficiency of these students was determined through an oral

language assessment. These findings suggest that oral language proficiency is not a valid measurement of academic language proficiency or content area achievement. Most scholars would not argue with this idea; After all, a person's ability to speak fluently does not automatically grant them the ability to read. Despite this, oral language proficiency exams are commonly used as measurements for exiting students out of bilingual or ESL programs. The low achievement for both second and third grade students in Lindholm's study suggests that bilingual students may have a native like command of the oral language, but still lack the academic language needed to perform at nationally recognized levels of achievement. When compared to the non participating students (n=118), there were no significant differences in group performance in the area of math. There were however significant differences in group performance at the second grade level in English reading and language arts scores. At the third grade level, these differences still existed, but were no longer significant. The final portion of Lindholm's study was a correlation analyses to determine the relationships between achievement across languages and achievement areas. In conducting this analysis, Lindholm found that math achievement was highly correlated with reading achievement in Spanish and English. This was true whether the researcher attempted to correlate Spanish math, or English math abilities. Overall, this shows an interconnectedness between math and reading in both languages. This could be one of the reasons that second grade students performed so much higher on the Spanish math assessment than on the English assessment prior to receiving reading instruction in English.

In summation, Lindholm's (1991) findings indicated that bilingual students made considerable progress in English reading, language arts, and math between second and third grade, but she was unable to demonstrate how this achievement was related to bilingualism

specifically. When comparing the bilingual students with non program participants, it is important to be aware that native Spanish speakers that were not participating in the dual immersion program were at least partially bilingual. This was evidenced by their ability to function in an all English classroom, despite their native Spanish speaking background. This could then suggest that the native Spanish speaking students' academic achievement is attributed to their existing bilingual abilities. The researcher does not elaborate on this student group, nor did she administer the Language Assessment Scales to determine the language proficiencies for the students that were not participating in the bilingual program. This factor leaves Lindholm's findings more related to program effectiveness instead of increased achievement for bilingual students as a collective. Lindholm's study would have benefited from further elaboration about the language proficiency of students in the control group, as would she have benefited from expanding her study to assess students during multiple years.

Fortunately, Lindholm and Zierlein (1991) further analyzed the effects of this dual immersion program on a larger student population, and released their findings in the same year. Their study examined 249 first through fourth grade students from the same two schools in Northern California. This study expanded on the student data to include students from first grade and fourth grade, making it more descriptive of student achievement across grade levels. In this study, the total sample consisted of 249 students; 159 (64%) of which were native Spanish speakers. As described in Lindholm's (1991) previously cited study, the dual immersion program provided students from both language backgrounds with instruction in Spanish and English. Both groups received 90% of their kindergarten and first grade instruction in Spanish, and 10% in English. In second and third grade instruction was 80%

Spanish and 20% English. In third grade all students began reading instruction in English for the first time. Finally, in fourth grade the program used a 50/50 instructional model, with reading instruction continuing in English.

In Lindholm and Zierlein's (1991) study the students' language proficiency, in Spanish and English, was measured using the SOLOM. According to these SOLOM scores, students were categorized into three groups: High bilingual proficient (scoring 24-25 in both Spanish and English), medium bilingual proficient (scoring between 19-23 in both Spanish and English), and low bilingual proficient (scoring between 19-23 in a first language, and below 19 in the second language). Two sets of test were used to measure achievement of all students in the sample. The CTBS was used to measure achievement in English reading and mathematics. La Preuba was used to measure achievement in Spanish reading and mathematics. Both tests were taken in March through May, while the SOLOM was conducted by teachers in January. In this study, Lindholm and Zierlein analyzed the scores from all of the assessment measures and found that there were no significant differences related to proficiency and achievement levels in first grade. At the first and second grade levels there were only students in the low and medium bilingual proficiency categories according to their SOLOM rankings. For second grade students in Spanish reading, there was a significant main effect for proficiency level for both native Spanish speakers ( $F(2, 45) = 4.9, p < .02$ ) and native English speakers ( $F(1, 23) = 7.7, p < .02$ ). This means that there was a significant correlation between bilingual proficiency and Spanish reading achievement for native speakers of both languages. By third grade, all three proficiency levels were represented in both native Spanish and native English speakers. At third grade there was also a significant link between achievement on the English reading assessment and proficiency

level for both native Spanish speakers ( $F(2, 52) = 7.3, p < .01$ ) and native English speakers ( $F(2, 21) = 10.7, p < .001$ ). This is a strong correlation because English reading instruction had not been introduced until third grade. Though this link is significant, at third grade English reading abilities were below average for the native Spanish speakers. However, it is noteworthy that native Spanish speaking students' English reading abilities rose to the 55<sup>th</sup> percentile on the CTBS-U test by fourth grade for highly proficient students and the 34<sup>th</sup> percentile for the medium proficient group. The native English speakers scored higher on the English reading portion of the CTBS-U earlier than the native Spanish speaking bilingual students. The native English, high proficient group scored in the 68<sup>th</sup> percentile, the medium proficient group in the 37<sup>th</sup> percentile, and the low proficient group in the 42<sup>nd</sup> percentile. This shows that English reading performance was approaching average for the English speakers by third grade, and for the Spanish speakers by fourth grade, as assessed by the CTBS-U.

Lindholm and Zierlein (1991) also noted gains in mathematics achievement for both native Spanish and English speakers. This is interesting because all of the students' mathematics instruction had been in Spanish. According to the research, third grade students demonstrated a significant correlation between bilingual proficiency and achievement in Spanish mathematics ( $F(2, 52) 3.4, p < .05$ ) and English mathematics ( $F(2, 51) = 5.2, p < .01$ ). The researchers attribute the English mathematics achievement to cross language transfer of skills from Spanish (the language of instruction) to English (the language of assessment). The researchers also asserted that consistently comparable scores in Spanish and English mathematics show that students at all proficiency levels were developing mathematical concepts and skills through Spanish, which they were able to apply on an English assessment

that required “considerable knowledge of English reading in order to understand and solve the problems correctly” (p. 110). The scores in English and Spanish mathematics were comparable in first through fourth grade assessments.

Lindholm and Zierlein (1991) demonstrated that students in dual immersion program, were demonstrating yearly progress in reading and mathematics, despite the language of instruction. This research study provided a more complete picture of student progress in reading and mathematics than Lindholm’s (1991) initial study about second and third grade students under this same program model. Lindholm and Zierlein (1991) examined students from first to fourth grade, and were thus able to determine that native English speakers typically reached national norms on the CTBS test around third grade, and native Spanish speakers around fourth. If the researchers had only analyzed student assessment data up to third grade it would have appeared that native Spanish speaking students were not benefiting from the dual immersion programs like their native English speaking peers. Instead, the research indicated that all students were making yearly progress in reading and mathematics in both English and Spanish when data was examined over time. Also, the data shows that primary instruction in Spanish was not a detriment to native English speakers in English reading and mathematics, which has been used as an argument against dual immersion programs as a whole.

The area of reading has been closely examined by many researchers attempting to find a relationship between first and second language literacy skills (Cziko, 1976; Hardin; 2001; Kaufman; 1968; Lindsey et al, 2003; Lopez, 2004; Modiano, 1968; Proctor, 2006). As previously discussed, language transfer can occur between two languages; but it is not enough to place students in a new language environment and wait for this transfer to take

place. LEP students benefit from an interactive environment where they can test out their critical thinking, and language skills. The content area of reading is no different, students benefit from active reading instruction and practice. Lopez and Tashakkori (2004) investigated the effect of a two-way 70/30 bilingual education program on the English literacy skills for native Spanish and native English speaking students. The researchers used two sample groups for comparison in their study. The experimental group consisted of 48 kindergarten students and 57 first grade students that had participated in the school's 70/30 dual immersion program. The control group consisted of 41 kindergarten students and 71 first grade students that participated in the school's mainstream classes. These mainstream classes still provided Spanish language arts instruction to students due to the overwhelmingly high percentage of native-Spanish speakers at the school, and in the community. Spanish language arts instruction comprised 10% of the school day for mainstream students. This means that the biggest difference between the experimental and control group was percentage of instruction provided in Spanish during the day (30% compared to 10%). In both the mainstream and dual immersion programs, English literacy instruction was provided for twice the amount of time as Spanish literacy instruction. This marks the experimental program model as comparatively different from most primary dual immersion programs as it does not have Spanish reading instruction as a precursor to English literacy instruction. Instead, both are happening concurrently with a higher focus on English literacy.

Lopez and Tashakkori (2004) compared pre and post test assessment scores given at the beginning and end of the year to kindergarten and first grade students. The kindergarten students were subject to a survey of alphabetic knowledge, letter production, and letter sound. These students were also asked to read sight words for a list of high frequency words

from children's literature. Finally, their writing ability was assessed through a written task where students were asked to draw a picture and write about it. These writing samples were evaluated according to a district wide rubric. First grade students were assessed using a standardized district assessment that contained sub tests in alphabetic knowledge, phonemic awareness, and oral reading fluency analysis. The first grade students were also asked to read words from the list of high frequency words and to provide a narrative and expository writing sample. These writing samples were also scored by two teachers, using a rubric for evaluation purposes. After pre and post test data had been collected for both groups and grade levels, the scores were analyzed using a multivariate analysis of variance (MANOVA). At the kindergarten level, the MANOVA showed a significant difference between pretest scores of the experimental and control groups ( $F[3,81] = 70.241, p < .01$ ). The post test scores for these same students indicated a bridging of this significant difference in performance for writing and sight words. In these two areas no significant difference in performance was determined after one year of instruction for the experimental or control group. the experimental group still performed significantly lower than the control group in alphabetic knowledge, however in the first grade student data this significant difference disappeared. Had the researchers followed the same student sample for two years, instead of one, this finding may have indicated that the experimental kindergarten students had caught up with the control group between kindergarten post test and the first grade pretest. Since the same student group was not used, this would not be a reliable assumption. At the first grade level the experimental group had lower scores in all six pretest areas, with four of the areas being significant. The posttest results showed no significant differences between the



experimental and control groups, which suggests that the experimental group had caught up with control group at the first grade level, just as they had at the kindergarten level.

Lopez and Tashakkori's (2004) research has shown that after one year of instruction in a dual language program LEP students demonstrated academic achievement that was comparable to their native-speaking peers. This is similar to De Avila's (1997) findings that LEP students make the most progress in language proficiency during the first year of English instruction, but then language development levels off in the subsequent years. Lopez and Tashakkori found that both the kindergarten and first grade students in a bilingual program caught up with their mainstream classroom peers, but they did not provide a complete analysis of academic progress across grade levels or after students exit the bilingual program. It is likely that if researchers would follow student cohorts across grade levels they would be able to more accurately describe LEP student achievement. Achievement is not instantaneous in a mainstream classroom or under bilingual education, yet policy makers "want to see instant success in both languages on the part of students in bilingual programs" (Lindholm, 1991, p.16). When policy makers examine the body of research around specific program models or teaching methodologies they want to get straight to the point. If LEP students are shown catching up to their native speaking peers after one year it does not appear that maintained services for these LEP students are needed beyond that time frame. Equally, if students are shown as being below grade level norms during the first years of a bilingual education program then it appears that these programs are not effective. Research that only presents one or two years of student data only show part of a bigger picture. Student achievement takes place over time for mainstream and LEP students. This is why longitudinal data is so important to the field of education, and for LEP students specifically.

In summary, the research presented in this section has shown that dual language programs that use students' native language can result in increased academic achievement for LEP students in the content areas of science, writing, math, and reading. In addition, research suggests that LEP students increase their academic and language proficiency within highly interactive environments (Amaral, 2002; De Avila, 1981; Hampton & Rodriguez, 2001). Students learn by doing, and as such it can be confirmed that participating in small group discussions and whole class inquiry allows students to use their second language skills along with their existing ability to critically think and postulate. It isn't enough to provide LEP students with oral language instruction and wait for them to perform comparably to their native speaking peers. It is imperative that LEP students are given equal opportunities in the classroom to engage in critical thinking and practice within multiple content areas. This is true in mainstream English only classrooms, ESL-pull out, or in bilingual programs. The next section will address effective program models for LEP students by examining qualitative research on teaching methodologies and longitudinal research about student achievement over time, in various program models.

#### Effective Program Models

Upon the inception of the Bilingual Education Act of 1964 schools were required to develop programs to serve LEP students. Under the Lau Remedies, schools needed to provide instruction to LEP students in a language that was comprehensible to them. The Bilingual Act or Lau Remedies did not require these programs to use native language unless the student was unable to progress effectively through the school system. As such, immersion, transitional bilingual and ESL programs included little to no native language instruction, under the Bilingual Education Act.

The most common native language program used in districts at this time was called transitional bilingual education (TBE). This type of program used the students' native language in the primary grades for instruction, and limited English literacy instruction until literacy was obtained in the first language. Based on Cummins' interdependence hypothesis, a well-implemented bilingual programs should be successful in developing English academic skills, if the program was aimed at developing proficiency in the first language. Transitional bilingual education programs have been most notably argued against by Porter (1990), a former teacher and current advocate for English immersion programs. Porter argued that TBE programs deprive students from learning English, by providing instruction in the native language. Porters refuted Cummins' interdependence hypothesis, by stating "there is no reliable evidence to support this" (Porter, 1990, p.10). Porter instead advocated English-only programs on the basis that 'time on task' will undoubtedly lead to more rapid English proficiency. What Porter does not address in her critique of bilingual education is the difference between oral language proficiency (BICS) and academic language proficiency (CALP), or the three to seven year time frame that it can take to acquire a second language, as argued by Cummins (1980) and Collier (1987). Though Porter has been cited as an influential opponent of bilingual education throughout policy and literature, her opinions are not backed by solid research. Instead, they are based on her perception of the Massachusetts implementation of bilingual education programs when she was a teacher in the 1970's and 80's. As a way to address bilingual education program models it is imperative that we review research of multiple program models that use native language instruction. Multiple program models should be analyzed as a way to determine the effects that these programs have on student language proficiency and academic achievement. The following will review

multiple studies comparing student achievement within a variety of bilingual education program models (Alanis, 2002; Danoff, 1978; de La Garza, 1985; Ramirez et al, 1991; Thomas & Collier, 1997 & 2002).

The AIR impact study (Danoff, 1978) was one of the first studies to examine programs that were implemented under Title VII of ESEA around 1974. The study was funded by the U.S. Office of Education Planning, Budgeting, and Evaluation in conjunction with the American Institutes for Research. The aim of the study was to determine the cognitive and affective impact of bilingual education on students in Spanish/English bilingual education programs that were being funded through ESEA Title VII, and to determine the educational practices that resulted in greater achievement for the students being served. The impact study had a very simple design. The AIR team pooled all Title VII classrooms that existed during the 1975-76 school year and conducted a stratified random sample so that there would be at equal grade level distribution, and so that at least one classroom would be included from each of the 38 school districts that received title VII funds. In all, there were 384 classrooms, containing 11,500 students, in 150 schools (Danoff, 1978, p. 3). These students were distributed across grade levels in two categories Title VII students and non- Title VII students. In most instances the sample of Title VII students outnumbered the sample of non-Title VII students which indicated that this sample was not equally distributed between experimental group and control group. Also, the researchers did not differentiate between program models that were being implemented under Title VII meaning that the experimental group could have been instructed in a variety of programs ranging from ESL-pull out to the rare dual immersion program.

The AIR team used a variety of assessments for both student groups (Danoff, 1978). Each student was assigned a testing package that contained tests appropriate to their grade level and language proficiency. The student sample was tested in the fall and spring of the 1975-76 school year, and a subsample was additionally tested in the fall of the 1976-77 school year. The tests included the English CTBS in language arts and reading, or the Prueba de Compresion Additive Ingles (an ESL test that is administered orally in English for Spanish speakers) and the Prueba de Lectura. To assess mathematics achievement the English and Spanish version of the CTBS was used. Again, the students were assigned a testing package that contained tests in their dominant language. Surprisingly though, the level of language proficiency was not assessed for each student in this study. Instead, the teachers of these students completed a survey to provide the researchers with information about their dominant language, as well as data about their parents income and education. It is surprising that the researchers collected language and socioeconomic data from the teachers. A parental interview or survey would have been more methodologically sound, along with a language proficiency assessment. Having the classroom teachers determine the testing language for their students, without having a criteria for determining language proficiency, could have certainly confounded the assessment data. For example, a student who is orally proficient in English may have been assigned to the English testing packet, without possessing academic language proficiency in English, or strong English reading skills. As addressed in previous sections, there is a clear difference between BICS and S and “language proficiency” is not always judged as being proficient in both of these areas.

To assess academic achievement, the AIR researchers compared student test data to determine whether significant improvements had occurred between testing times (Danoff,

1978). The findings from fall to spring during the first research year showed no significant gains in English reading, language arts, or Mathematics for Title VII students. The subsample of students tested again the following school year also showed no significant gains in English reading or mathematics between their first testing in the fall and their fall testing a year later. In both the sample and subsample of Title VII students the reading and language arts scores were around the 20<sup>th</sup> percentile at all testing times, and at around the 30<sup>th</sup> percentile in mathematics. These results were considerably lower than the nationally recognized norm (50<sup>th</sup> percentile). The researchers thus concluded that Title VII programs were not effective in producing student gains in the areas of English reading, language art, or mathematics. In fact, the only increase in scores of Title VII students was in the area of Spanish reading, yet there weren't any normal percentiles or comparison groups to assess whether this was actually significant in an academic context. Ultimately, the AIR impact study was the first national study to examine programs being funded through ESEA Title VII, but the researchers used flawed research methods to analyze student data over a short period of time. Though opponents of bilingual education referred to this study as proof that bilingual programs were unnecessary for Hispanic children, there were also voices in the field of education and policy that questioned the validity of these findings. Regardless, the AIR impact study served to strengthen research methods in future bilingual education program studies, particularly in the area of program description and control methods.

De La Garza (1985) sought to compare the academic outcomes for Spanish-dominate Mexican American children exposed to a transitional bilingual program, with the academic outcomes of English-dominant children exposed to an English-only program determined to be English-dominant. De La Garza examined achievement scores from standardized tests of

students from the transitional bilingual program and the English-only program. The researcher noted that the main difference between the bilingual program and the English-only program “were in the utilization of appropriate bilingual teaching methodology, the use of L1 for instruction and the inclusion of the home culture of the students in the curricular content areas” (p. 251). The transitional bilingual program used Spanish for instruction 75% of the time in first grade, 70% in second grade, and 50% in third grade, with the other percentages indicating instruction in English. English reading instruction was initiated in third grade, once students had demonstrated mastery of Spanish reading skills, and oral language competency in English. This program model very closely resembled that which was discussed, and criticized, by Porter (1990) in her critique of bilingual education. De La Garza noted that “Formal reading instruction in English began with a grade level transfer as the goal, Instruction across the curriculum was conducted alternating languages to provide practice and subsequent mastery for the transition” (p.252).

De La Garza’s (1985) sample was comprised of 24 Mexican American students who had participated in a transitional bilingual education program for three years in first, second, and third grade; and 118 Mexican American students who had participated in a monolingual English program in first, second, and third grade. The total sample of 142 students came from four elementary schools in Tucson, Arizona. The 24 students in the transitional bilingual program were determined to be Spanish-dominant, as measured by the Shutt Primary Language Indicator Test, and the 118 students in the English-only program were determined to be English-dominant. The relatively small sample of Spanish dominant students was attributed to lack of overall Spanish-dominant students who had completed three years under the transitional bilingual program- which could be related to migration

patterns. Also, noted in the research is that 19 out of 24 Spanish-dominant students qualified for free or reduced lunch, which indicates a low socioeconomic status. The English-dominant sample had 41 students that qualified for free or reduced lunch, indicating that the socioeconomic status of this group was higher than that of the Spanish-dominant group.

De La Garza (1985) analyzed student achievement by examining their scores on the Stanford Achievement Test, which all subjects took at the end of first grade, and the California Achievement Test scores, which was administered to all subjects in second and third grade. Four sub tests were measured within the California Achievement Test, reading vocabulary, reading comprehension, mathematics computation and mathematics concepts. In addition, some students from the Spanish-dominant group were measured against national norms for the CTBS testing, based on their CTBS Espanol test data from first, second, and third grade. The sample of this group differed based on assessment scores available for all three grades in reading ( $n = 21$ ) and mathematics ( $n = 16$ ). The raw scores from all three assessments were transformed to T-scores using national means and standard deviations as a way to compare the academic performance of all subjects. The researcher also conducted an ANOVA to measure possible effects of socioeconomic status, and found that main effects were not significant ( $F(1,51) = .01, N.S$ ), thus socioeconomic status was eliminated from further analyses. The examination for main effects revealed that, when all grade levels were combined, the two sample groups did not differ significantly on their performance on the vocabulary sub test, reading comprehension sub test, reading comprehension sub test, mathematics computation sub test and the mathematics concepts sub test. These findings, though not determined to be significant, do demonstrate a remarkable pattern of achievement for the transitional bilingual students as their mean scores were very close to the students in



the English-only program. The fact that no significant difference exists between the two groups' achievement, demonstrates that the transitional bilingual program was not a detriment to the Spanish-dominant students' abilities to perform consistently with the English-dominant sample group in reading or mathematics. When the data was compared by grade level there was one significant difference in the performance of second grade transitional bilingual students on the vocabulary sub test ( $F(2,280) = 5.39, p = .0051$ ). This was the only significant finding for increased performance of the transitional bilingual students over the English-only student sample.

De La Garza (1985) also examined the achievement gains across the three year research period for the transitional bilingual students, in comparison to nationally referenced norms on the achievement tests. De La Garza found that there was a significant gain in English vocabulary from first to third grade for the transitional bilingual students ( $F(2,242) = 9.24, p = .0005$ ). This indicates that over three years, vocabulary mean gains progressed from below to above national referenced norms on the California Achievement Test. These gains were also evidenced in the analysis of the CTBS Espanol scores for the smaller sample of Spanish-dominant students. Though these gains were not determined to be significant, it is again noteworthy that achievement levels of reading and math were maintained at or above national norms for all three years of study. An assessment of the impact of the transitional bilingual program relative to national norms demonstrated that after one year of exposure to bilingual instruction, the Spanish-dominant students scored at national norms on English subtests for reading comprehension and mathematics computation while sub tests for vocabulary and mathematics concepts reached the norm by second grade. After two years of participation, all four sub test means were at or above national norms for English

achievement, meaning that these students were learning to read in English one to two years before formal reading instruction began in that language. These positive findings resulted from participation in a transitional bilingual education program where Spanish was the primary language of instruction, but student performance was evaluated through achievement measures in English. The researcher noted that further longitudinal research would be needed to determine if specific bilingual program models would have a more immediate academic impact for LEP students. Also, the small sample of transitional bilingual students (n=24) made these findings hard to generalize to larger student populations when in isolation. Fortunately, this study was at the forefront of published research supporting bilingual education program models that used first language instruction. Other studies of this nature will also be evaluated as a way to strengthen these findings.

Ramirez et al (1991) conducted a longitudinal study of bilingual program models across the United States over a period of four years. This study is commonly referred to as the “Ramirez study”, and will be labeled as such in further review of the research. The Ramirez study was conducted for the California Department of Education, with the goal of examining three commonly used programs for language minority students and the overall program effectiveness in English language proficiency and non-language academic skills. The study began in 1988, when amendments to The Bilingual Education Act required bilingual programs be transitional in nature, and that services for LEP students not exceed three years. The programs under examination were English immersion strategy, early-exit transitional bilingual programs, and late-exit bilingual programs. Ramirez’s biggest concern was the lack of empirical evidence supporting English Immersion strategy programs for language minority students. Immersion programs were seldom being used in the United

States at the time, but the department of education urged the researchers to examine this model in their study. The Canadian research showed that English speakers in Canada were demonstrating positive gains in French and English language and academic skills when immersed in the French language for instruction. Canadian programs were focused on producing proficient bilingual students, whereas the United States immersion programs aimed at producing proficient English speakers. Thus, the key differences in the Canadian programs and those implemented in the United States was the status of the language of immersion, and the end goal for students. Thomas (1992) critiqued the Ramirez study for failing to include ESL programs in the study, as they were the most commonly used program during the 1980's, followed by TBE (also known as early-exit) programs. Immersion strategy and late exit programs were seldom found in the public school system during the 1980's.

The Ramirez study (1991) was the first study to closely examine English immersion programs in the United States, and to compare their effectiveness with early and late-exit bilingual programs. To more closely examine these three program models, Ramirez et al collected data from a sample of 13 programs in California, Florida, New Jersey, New York, and Texas that served Spanish speaking LEP students. There were five immersion strategy programs, five early-exit programs, and three late-exit programs. The teachers in these program sites were selected by the program directors at each school, and students were divided into cohorts under these teachers. In the first year of the study one cohort of kindergartners was selected from each of the three instructional programs, a cohort of first grade students from the immersion and early-exit program, and a cohort of third grade students from the late-exit program. These students were followed for all four years of the

study. Another cohort of kindergarten students began during the second year of the study and were followed for three years of the study. During the second year of the study new cohorts of kindergarten and third grade students were brought into the study and followed for the remaining three years of the study. The student sample consisted of 749 immersion strategy students, 939 early-exit students, and 664 late-exit students (Ramirez, 1991, Vol. I, p. 369). Characteristics of this student sample were gathered from parent interviews with Spanish speaking research assistants. Of the students in the sample, the average length of residence prior to kindergarten was 4.5 years, with 32% of the students attending preschool prior to kindergarten.

The Ramirez study (1991) included both qualitative and quantitative data. Qualitative data was collected at each site through interviews and surveys. Quantitative data was collected from language and content area achievement assessments. The Test of Basic Experiences (TOBE-2) was administered to kindergarten students in their first year in the study in their dominant language in the fall, and in both Spanish and English in the spring. The CTBS was administered to all other non-kindergarten students in their first year in the study in both English and Spanish in the fall and spring, and to all continuing students in the spring of each successive year. In addition, a series of English and Spanish proficiency tests were administered to all of the students. These tests included; the IDEA Oral Language Proficiency Test, the Student Oral Language Observation Matrix (SOLOM), and the Wechsler Intelligence Scale for Children.

Qualitative data was collected through teacher focused and student focused observations (Ramirez et al, 1991). These examined how teachers and students used language in the classroom for communication. Three microphones were set up in the classrooms

during observations to record both teacher and student speech. The recordings from these observations were transcribed and coded according to themes. When the researchers coded the transcriptions they found that student language use patterns mirrored that of their teachers. Students in immersion programs spoke English in the classroom more than 94.3% of the time, across all grades (Ramirez, 1991, Vol. I, p. 94). Early-exit students in kindergarten and first grade used English approximately 65% of the time, while second and third grade students used English between 71.5% and 77.2% of the time, and fourth grade students used English almost all of the time at 96%. The student's English language use in late-exit programs was 9.3% in kindergarten, approximately 31% in first and second grade, 52% in third grade, 59.3% in fourth, 65.3% in fifth, and 83.3% in sixth. The mirroring of student language use with their teachers was most evident from the late-exit program where the fifth and sixth grade teachers were found to be providing instruction in English more than 60% of the time. The program model aims for no more than 60% English instruction at these grade levels, but the teachers were providing 66.1% English instruction in fifth grade and 84% in sixth grade (Vol. I, p. 91).

The quantitative findings of the Ramirez study (Ramirez et al, 1991) focused on students' English language proficiency and academic achievement growth. The researchers first analyzed four schools in the study that had both immersion strategy and early-exit bilingual programs. The comparison of student achievement in a school's immersion strategy program compared to achievement in the same school's early-exit program made it possible to control the potential confounding variables that may have existed. After analyzing all of the achievement data for math, reading, and language proficiency Ramirez et al (1991) found that there was no difference in the level of achievement or rate of growth in

achievement between students in an immersion strategy or early-exit program by the end of the third grade (Vol. 2, p. 655). This was found to be true in the two-program schools as well as in the one-program school analysis that was later conducted. Also consistent between the two program models was the rate of reclassification of LEP students to fluent English proficient. Contrary to program expectations, it was found that immersion strategy and early-exit programs did not typically exit their LEP students within two to three years. After entry into kindergarten, three-fourths of the immersion strategy and four fifths of the early-exit students were not even mainstreamed after four years of their instructional program (Vol. I, pp. 420-421). These students were not placed in the mainstream because they could not be reclassified as English proficient by the district's standards. This means that overall LEP students were spending similar amounts of time in all three programs, even though the goal of both immersion and early-exit was to exit students within two to three years. This particular finding is related to Collier's (1987), Cummins' (1981), and De Avila's (1997) findings that proficiency in a second language typically takes four years, with an overall range of two to seven years. Had Ramirez et al expanded the research period to five or more years, it would have been interesting to analyze the student sample's average length of time in these programs before exiting.

During the third stage of research, Ramirez et al (1991) conducted an analysis of the 14 late-exit programs to determine whether students were consistently meeting achievement levels at each school, within the three districts. It was found during this analysis that two of the districts' programs consistently provided students with 40% or more of their instruction in Spanish while the third district's program cites abruptly transitioned into English instruction around third grade (Ramirez et al, 1991, Vol. 2, p. 648). The programs that

provided at least 40% of the instruction in Spanish, up through sixth grade, had significantly higher mathematics skills, English language proficiency, and English reading ability than the students in the other late-exit program schools (Vol. 2, p. 648). These findings suggest that one of the districts included in this study was implementing a late-exit bilingual program that more closely resembled an early-exit or immersion strategy program model. This is of course one of the difficulties in comparing multiple school programs, the name of the program is not always indicative of the actual pedagogy being used within it. This was also the major critique of the AIR impact study (Danoff, 1978). Surprisingly, after Ramirez et al noted the similarity between the early-exit site and the structured immersion model, they neglected to pull the early-exit program data from their analysis. Thomas (1992) criticized the study for choosing to use program names in the analysis instead of their operational definitions as it “reduced distinctions among the actual program treatments” (p. 224).

The third stage of the quantitative research analysis was a comparison of student achievement measured against national percentile norms (Ramirez et al, 1991). This section allowed for actual comparison of the three program models in relation to student achievement in kindergarten through third grades, and third through sixth grades. From this analysis it was found that students from kindergarten to third grade students in all three programs increased their English language skills as fast, or faster than, the norming population (Vol. 2, p. 651). Comparably, the first through third grade students, in all three programs, also increased their reading skills as fast, or faster than, the norming group (Vol. 2, p. 651). The only contrast to these findings were in mathematics skills where students from kindergarten to first grade were comparably achieving, but then experienced a growth that was slower than the norming population from first to third grade. This is very similar to De

Avila's (1997) findings that student made the most progress during the initial year of instruction, and then began to taper off in comparison to national norms. When considering the CTBS test as an assessment measure it has also been stated that test items tend to sample more cognitively complex skills that demand higher proficiency in English with each passing grade (Thomas, p. 238). It could then be hypothesized, that students who make large initial gains are able to do so using limited academic language, and that this ability is increasingly limited as the test gets progressively more complex. The late-exit programs provided data on students in third through sixth grade, which was also measured against the norming population. It was found that the district site that provided substantial instruction in Spanish (greater than 40%) demonstrated a growth in mathematics, English language, and English reading that was faster than the norming population. Comparatively, the district site that provided a consistent proportion of instruction in Spanish (around 40%) demonstrated growth that was equal to the norming population in mathematics, English language, and English reading. Finally, the students in the district site that abruptly transitioned to primarily English instruction around third grade demonstrated a decrease in growth over time when compared to the norming population. This was again true in mathematics, English language, and English reading (Vol. 2, p. 652). The researchers used NCE ratings to conclude that students in the late-exit programs were the only students that would likely catch up with the typical native speaking students, despite the increased initial gains made by structured immersion students. It appeared that the structured immersion students had the greatest initial scores on the English assessments, most likely due to their increased exposure to English instruction. However, the structured immersion students' scores are eventually surpassed by the early and late-exit program students, and eventually the late-exit students



surpassed the early-exit students and were able to reach the 50<sup>th</sup> NCE. The students that were in structured immersion or early-exit programs were more likely to remain under the 50<sup>th</sup> NCE, which makes them less likely to close the achievement gap. Ramirez et al did not administer assessment measures beyond third grade to the students in the immersion or early-exit programs to fully support this conclusion. Had this longitudinal study been expanded to include assessment data from students in later grades, it could have been used in comparison with late-exit results or other research studies that showed LEP students meeting nationally referenced norms around third or fourth grade (Burnham-Massey & Pina, 1990; Lindholm & Zieleir, 1991). Despite these limitations, the Ramirez study provided a large contribution to the field of bilingual education through its comparative design, well thought out methodology, and descriptive analysis of program models.

Alanis (2000) conducted a smaller research study within one 50/50 dual immersion program. Alanis aimed to examine the effectiveness of two-way bilingual programs for linguistic and academic performance of both language minority and language majority students, however she found that the program studied was greatly effected by uncontrolled variables that did not align with a 50/50 dual immersion model. This is similar to Ramirez et al (1991), which stresses the importance of observation and qualitative analysis of bilingual classrooms within student achievement studies. It can not be assumed that programs that call themselves bilingual or dual immersion, actually adhere to common program models.

Alanis (2000) selected two schools for her study, based on their operation of a 50/50 model program for at least five years, the use of Spanish and English, and their similarly stated program goals. The sample consisted of 56 fifth grade student participants in the dual immersion program for at least three consecutive years. Of these students, 79% entered the

program with Spanish as their native language and 21% entered with English as their native language. Research was conducted through site observation, taped and transcribed interviews with school personnel, data from the school administered Spanish and English entrance proficiency tests, and data from the third, fourth, and fifth grade English version of the Texas Assessment of Academic Skills (TAAS) assessment in reading and mathematics. To assess linguistic proficiency growth the researcher examined language proficiency assessments from 1994-1997. This analysis only included students who had been in the program for the full five years, which limited the sample size to 32 students. Students initially took the language proficiency exam in first grade, in their second language. Among native Spanish speakers, 85% were English proficient at the end of fourth grade, while only 53% of the native English speakers were Spanish proficient at the end of fourth grade. Further analysis of these scores indicated that native English speaking students were achieving Spanish proficiency after five years in the program. ELL's however were rated near proficient in their second language by fourth grade. The research elaborated on this finding with data collected from teacher and student interviews. It appeared that the two-way program was not developing bilingual proficiency for all of the participants, and instead has a preference for English proficiency. Further, it was noted in classroom observations and interviews that the 50/50 model was not consistently implemented, specifically in the fifth grade classrooms where English was used more and Spanish resources in content areas were lacking.

To determine if students enrolled in the two-way bilingual program were meeting minimum state academic standards, Alanis (2000) analyzed scores from the English version of the TAAS reading and mathematics portions were examined for third, fourth, and fifth grade. At the time of research, minimum state expectations were equivalent to 70% accuracy

on each subject area. Overall, test score means indicated that the two-way program participants scored slightly higher than a random non-participant sample (n=80) during each of the three tested grade levels. This analysis also revealed that native English speakers scored slightly higher than the students who were native Spanish speakers in all three years. This finding was not statistically significant, however the pattern of achievement was consistent in both reading and math, for all three grade levels. This suggests that native English speakers were performing slightly better than native Spanish speakers and non-program participants in reading and math on the English TAAS. Despite this consistency, Spanish speakers did reach similar levels of achievement when compared to their dominant English peers. The researcher also noted that preference was given by the school teachers and administration for taking the TAAS in English, as “English tests are the ultimate measure of attainment for eventual competition with native English speakers” (p. 243). Native English speakers were not given the option of taking the Spanish version of the TAAS within this district despite the programs stated goals of equal proficiency in Spanish and English for all students. Finally, the students who had participated in the two-way bilingual program for at least three years had the highest means when tested in reading and math while student who had participated in the program for two years or less has the lowest mean scores. These scores are based on the percentage of accuracy of each subject assessment and are noted along the Texas Learning Index, or TLI. Alanis (2000) stated, “students who entered the two-way program in the fall of 1997 had TLI mean scores of 64.5 (reading) and 60.3 (math) as compared to students who entered the two-way program in the fall of 1994 with mean scores of 85.2 (reading) and 83.7 (math). Differences between the two groups were

statistically significant at the minimum level of statistical significance of  $p = .05$ ” (Alanis, p.241)

Overall, Alanis (2000) found that program participants, as a whole, scored higher than a large sample of non-program participants on TAAS reading and math sections. The most compelling findings of this study is the relationship of time in the program and achievement on the state academic assessment. Students who were in the program for at least three years achieved much higher than students who were in the program for two years or less, and non-program participants. These type of findings suggest that a dual immersion program may not be a detriment to student achievement, and district alignment with Title III requirements for annual yearly progress on state academic content assessments. It must also be taken into consideration that the programs in Alanis’ study showed a clear English bias, which runs counter to the 50/50 dual immersion model. This bias could be present for multiple reasons ranging from teacher attitudes, community language use, overall state bias, etc. Though the findings showed that the majority of native Spanish speaking students in this study obtained English proficiency by fourth grade, and performed comparably to their native English peers on the TAAS in reading and math for all three years of testing, this could have been confounded by other non controlled variables such as English bias.

Thomas and Collier (1997, 2002) addressed common confounding variables in their expansive longitudinal study of language minority students. Thomas and Collier were the first researchers to analyze many long-term databases collected by school districts in all regions of the U.S., and have since collected the largest set of quantitative data gathered for research in the field of language minority education. Thomas and Collier (1997) initially began their research in 1982 when they sought to investigate various bilingual and English-

only program models that were commonly used in public schools across the United States. “The available knowledge from three decades of research has only been obscured by those who insist on describing programs as either ‘bilingual’ or ‘English-only’, completely ignoring the fact that some forms of bilingual education are much more efficacious than others, and that the same is true for English-only programs” (1997, p.12). To distinguish between program models, and their implementation in the schools, the researchers used qualitative research methods. They described their qualitative study as a multi-year collaborative relationship with the five school districts within their study. Their initial consultations with the school staff and administration dealt with the inquiry framework of their research. The school staff and administration was provided with the existing research questions, and encouraged to add meaningful input to expand on the questions, or elaborate on other areas that affect the success of language minority students within their school’s programs. These school personnel also participated in the collaborative interpretation of the results of both qualitative and quantitative data. Thomas and Collier were careful to select schools to participate in their study, just like Ramirez et al (1991), however they also made ongoing efforts alongside school personnel to observe and critique the overall adherence program methodology. This involvement is believed by the researchers to add to the validity of their findings, specifically for fostering reform within the school systems involved in the study, and for policy makers outside of these school systems.

Thomas and Collier (1997 & 2002) focused on eight different program models used with language minority students, which is certainly more detailed and expansive than Ramirez et al (1991). These program models included 90/10 two-way bilingual immersion and 50/50 two-way bilingual immersion, which provides instruction in two languages to

students from two different language groups in hopes of producing bilingual students; 90/10 one-way developmental bilingual education and 50/50 one-way developmental bilingual education, which provides bilingual education for the language minority group only in hopes of producing bilingual language minority students; 90/10 transitional bilingual education and 50/50 transitional bilingual education, which provides bilingual education for language minority students, over a predetermined period of time and then transitions to mainstream English classrooms; ESL taught through academic content; and English in the mainstream classroom, as per parental request for non participation in specialized ELL programs.

Thomas and Collier's (1997) first report to the Department of Education addressed the education of language minority students in five large school systems in geographically dispersed areas across the United States. The researchers examined existing, well implemented instructional programs serving language minority students over a 14 year period. This time frame allowed Thomas and Collier to investigate the long-term success of language minority students. The researchers defined success as "English learners reaching eventual full educational parity with native-English speakers in all school content subjects (not just in English proficiency) after a period of at least 5-6 years" (1997, p.7). Typically student success was measured by reaching the 50<sup>th</sup> percentile or 50<sup>th</sup> NCE on nationally standardized tests. This percentile indicated that the language minority students had reached long-term parity with national native-English speakers. An NCE measures student achievement across a range of percentile values. The 50<sup>th</sup> NCE means that 50% of the students in the U.S. at that grade level scored below that level, and 50% scored above that level. If a group of students stay at the same NCE level of achievement from one school year to the next, it means that they have made one full year's progress. Scoring two to three

additional NCE's above or below the previous year's performance is not significant due to the standard error of the mean; however, a difference of four NCEs or more is considered significant, as it indicates more than a year's worth of progress accomplished in one year's time.

Thomas and Collier's (1997) study included over 700,000 language minority student records collected by the five participating school systems between 1982 and 1996. Of these students, 42,317 had attended the participating schools for four years or more and were thus included as student sample group. Within this sample, over 150 home languages were represented, with Spanish being spoken by 63% of the students. These students were separated into eight cohorts as a way to examine the data in cross sections for shorter and longer terms. At the end of each cohort's schooling, the researcher sought to determine how much time was needed for the students to reach and sustain grade level achievement that was comparable to native-English speakers, in addition to discovering the characteristics of a well-implemented program that would result in higher long-term achievement for language minority students in general.

Thomas and Collier (1997) investigated long-term student achievement through standardized test scores, graduation rates, and instructional program data from all five school systems serving the sample population. In addition, the researchers interviewed school staff to reach a consensus on program implementation and instructional goals. The qualitative data obtained from the interviews produced the following themes: effective teachers of language minority students developed thinking skills, problem solving, and knowledge application, teachers need to respect and value students' home language and culture, cooperative learning was a common instructional method used in well-implemented

programs, and teachers need to use multiple measures across time for ongoing classroom assessment.

Thomas and Collier's (1997) quantitative findings indicated that the particular first language spoken was not as powerful in predicting long-term academic achievement as the cognitive and academic development that the student has obtained in their first language. In other words, Thomas and Collier found that students with Spanish, Mandarin, Amharic, or Korean as a first language, made the same rate of progress in their second language in comparison to each other. The true predictor found in Thomas and Collier's research was the cognitive and academic development related to formal schooling received in their first language, the greater cognitive and academic ability in the first language, the faster the students progressed in their second language. When considering effective program models for long-term achievement, it was found that programs utilizing first language instruction produced more rapid achievement for language minority students. English learners who receive one of several forms of enrichment bilingual education finish their schooling with average scores that reach, or exceed, the 50<sup>th</sup> national percentile. In contrast, English learners who experienced well-implemented mainstream instructional programs finished their school years at average achievement levels between the 10<sup>th</sup> and 30<sup>th</sup> national percentile, in comparison with native-English speaking students who typically finished school at the 50<sup>th</sup> national percentile. More disturbing, are their findings that students who receive well-implemented ESL-pullout instruction followed by years of instruction in the English mainstream typically finish school with average scores between the 10<sup>th</sup> and 18<sup>th</sup> percentiles, or do not even finish high school.



In 2002 Thomas and Collier published their second report for the Department of Education. This most recent study covered their research period from 1991 to 2001 in the same five school districts, but with new student cohorts being analyzed. The sample used in during this time period consisted of 210,054 students who spoke over 70 primary languages. As in their earlier study, Thomas and Collier were still examining eight different program models used with language minority students: 90/10 two-way bilingual immersion, 50/50 two-way bilingual immersion, 90/10 one-way developmental bilingual education, 50/50 one-way developmental bilingual education, 90/10 transitional bilingual education, 50/50 transitional bilingual education, ESL taught through academic content, and English in the mainstream classroom.

Thomas and Collier's (2002) most recent findings were very similar to their original ones. Again, time spent in bilingual classes was a significant indicator of eventual student achievement in reading ( $F=5.9$ ,  $df=1,86$ ,  $p<.02$ ), while socioeconomic status was not found to be a significant ( $F=3.673$ ,  $df=1.86$ ,  $p<.6$ ) in the rural or urban school systems. There was a significance for socioeconomic status in the high poverty, inner-city school system, however it was also noted that time spent in bilingual classes decreased the role of socioeconomic status as a predictor of long term achievement. The researcher's noted that this is a positive finding as time spent in bilingual education is a "changeable" variable, whereas socioeconomic status is much more difficult, if at all possible, for the school district to change (2002, p.64, p. 208). The number of years of primary language schooling also had more influence than socioeconomic status when the number of years of schooling was four or more. This was true whether the primary language schooling took place in a home country, or in the U.S. (2002, p. 311).

Thomas and Collier (2002) found that English language learners immersed in the English mainstream showed large decreases in reading and math achievement by grade five, leaving them approximately 15 NCEs below students who had received bilingual/ESL services. A specific example of this was found in the urban school district in Houston where the language minority group in the mainstream scored at the 49<sup>th</sup> NCE on the Stanford 9 reading test in second grade, then at the 45<sup>th</sup> NCE in third grade, and continued downward until they reached the 22<sup>nd</sup> NCE in tenth grade, and the 25<sup>th</sup> NCE in eleventh grade (2002, p.120). This was found to be a significant difference in NCE reading scores when compared to graduates of bilingual classes who were at the 47<sup>th</sup> NCE in eleventh grade, and graduates of ESL content classes who were at the 37<sup>th</sup> NCE in eleventh grade. Similar trends were found in mathematics scores in this district as well. In addition, in all five school districts, the largest number of dropouts came from the group of language minority students from mainstream English classes for the entirety of their schooling in the U.S. When ESL content classes were provided for two to three years followed by immersion in the mainstream, the language minority student graduates ranged from the 31<sup>st</sup> to 40<sup>th</sup> NCE by the end of their high school years, which is still below their native-English speaking peers. Overall, there was a significant difference found in comparing the NCE changes of language minority students in bilingual programs with students in English mainstream classes. In the rural school systems, the students schooled in two languages gained an average of 5.5 NCEs per year, compared to their monolingually schooled peers who gained an average of 2 NCEs per year (2002, p 56). This significant finding is similar to Thomas and Collier's earlier findings (1997), and was found as a trend in the rural, urban, and high poverty inner-city school systems within this research study.

Enrichment 90/10 and 50/50 one-way, and two-way developmental bilingual education programs are the only programs found by Thomas and Collier (2002) that assisted students in fully reaching the 50<sup>th</sup> percentile in both their first and second language, in all subjects, and most importantly to maintain that level of achievement or higher through the end of their schooling. In addition, the fewest dropouts came from these program models. The two-way bilingual programs were also shown to be effective for native-English speakers. In the urban school system in Houston a small sample of students tested in both Spanish (n=42) and English (n=68), demonstrated overall grade level means at the 66<sup>th</sup> NCE in Spanish reading, 63<sup>rd</sup> NCE in Spanish math, 62<sup>nd</sup> NCE in Spanish language arts, 61<sup>st</sup> NCE in English reading, 61<sup>st</sup> NCE in English math, and 63<sup>rd</sup> NCE in English language arts; all while receiving 90% of their instructional day in Spanish up through grade four (2002, p.131). Both urban and inner-city school systems provided the researchers with quantitative data of first language proficiency in Spanish.

Quantitative assessment of language proficiency was not collected in all school systems within this study, nor was it collected from program models other than two-way or one-way bilingual models. In the rural school system in Maine, the primary first language was French. Standardized tests were not given in French to assess language proficiency in their one-way bilingual program, instead teachers were performing individualized assessments of their students. The researcher noted this in their most recent report (Thomas & Collier, 2002) and acknowledged that proficiency in French was not as quantitatively supported in their research findings as was the students' proficiency in their second language of English for the rural school system. It was also noted that the aim of the study was to see how long, and under what program model, students would reach the academic percentile of

their native-English speaking peers so their proficiency in English was more relevant to their bridging the achievement gap, and reaching the 50<sup>th</sup> NCE within their bilingual schooling, and thus more relevant to the quantitative aims of this study.

Overall, Thomas and Collier (1997 & 2002) found that 90/10 and 50/50 one-way or two-way bilingual program models were the only programs that assisted students in fully reaching the 50<sup>th</sup> percentile in both their first and second language in all subjects, and maintaining that level of achievement or higher through the end of their schooling. Students who enter the U.S. without proficiency in English should be placed in bilingual or ESL content programs for at least four years if they are expected to reach grade-level performance in their second language. It is also noted, that ESL content programs are not equally effective as bilingual program models for obtaining student grade-level achievement, or sustaining it over time. ESL content programs are noted in this study to be capable of closing approximately half of the achievement gap that exists between language minority and native-English speaking students. Though this would be notable achievement for language minority students, it is still not enough to bring them to grade-level expectations across content areas. Finally, children who are fully schooled in the English mainstream without bilingual or ESL services suffer a long-term academic detriment, resulting in much lower achievement scores, in all subject areas, in comparison with all other student groups.

The impetus of an effective program for LEP students is the teaching methodology used to serve these students. This was evident in the teacher's adherence to bilingual program models in Ramirez et al (1991) and Alanis (2000). Teachers undoubtedly have a huge impact on the students in their classroom, thus teaching methodology is at the crux of ESL and bilingual education effectiveness.

### Recommendations for Future Research

Throughout this chapter, it has been apparent that much of the research in the field of bilingual education is specific to transitional bilingual education or two-way language programs. Very few research studies have examined ESL English-only models, which is disconcerting considering ESL pull-out is one of the most commonly used program models (Bylsma et al, 2003). Though there have been remarkable gains in the research around bilingual education, there is still a growing need for research conducted in ESL pull-out programs.

Thomas and Collier (1991, 2002) provided a solid research platform that is still being cited by the Washington state's OSPI in support of their Transitional Bilingual Education Program ("Description of bilingual instructional models", n.d). However, the ESL programs included in Thomas and Collier's studies were ESL content area classes, which differ from ESL pull-out instruction. Whereas ESL pull-out is focused on instruction of the English language itself, content area ESL uses the content area as the vehicle for instruction. Content area ESL typically results in the student acquiring academic language within the content areas, as well as English language abilities (Ovando and Collier, 1985). Thomas and Collier, having included ESL content area classes in their research, concluded that ESL content programs were capable of closing approximately half of the achievement gap that existed between language minority and native-English speaking students. Though this is a notable achievement, it is still not enough to bring LEP students to grade-level expectations across content areas. Furthermore, these conclusions could be misleading considering many of the ESL programs being used more closely align with an ESL pull-out model that emphasizes basic interpersonal communication skills in English.

Ultimately, there have been noted improvements in the field of bilingual education. The AIR study (Danoff, 1978) was used for a decade to promote the sink or swim method of mainstreaming LEP students, yet many of the program models found to be ineffective in the Danoff study were not actually bilingual in nature. Then came the Ramirez study (1991), which took more caution in selecting bilingual programs to assure that they adhered to the three types of bilingual programs desired for the study. Even with these efforts one of the late-exit programs included in the study was found to be transitioning students to English only classrooms far sooner than the program model required. Despite this, the sample site was not thrown out of the study, and the results were still held very highly in the field of bilingual education. Finally, Thomas and Collier (1997 & 2002) made efforts to closely monitor their sample sites to assure that program models were being consistently implemented in the schools, however their research findings have been used to support dissimilar program models in many schools. If we want to see a change in the education of LEP students on a large scale, our nation would greatly benefit from current research that deals specifically with the programs that are being utilized in our schools. This includes ESL pull-out, and other bilingual programs that are deviations from the pure models included in more recent research findings.

### Summary

This chapter has reviewed numerous studies in pursuit of an understanding of the factors that influence academic achievement for LEP students. The research studies included in this chapter addressed bilingualism related to intelligence, cross language transfer, age and rate of language acquisition, ESL and bilingual education effectiveness in content areas, and effective program models. The next chapter will use this research to draw conclusions

between the research findings within the field of bilingual education and the current practices of educating LEP students in Washington State.

## CHAPTER FOUR: CONCLUSIONS

This paper has reviewed the historical context of schooling for language minority students in the United States, in addition to reviewing research in the field of bilingual education and LEP student achievement. Washington State has become increasingly diverse, particularly in regards to the students being served in the state's public education system. As previously described, current state data indicated that 7.5% of students in Washington's public school system were part of the transitional bilingual instruction program as of May 2005 (OSPI, 2005). These recent figures indicate that Washington public schools were serving approximately 76,572 LEP students, a 110% increase from the 2003-2004 school year. Washington's transitional bilingual instruction program is set up to serve students who speak languages other than English, and/or have English language deficiencies that impair their learning in regular classrooms. Regardless of language deficiencies, LEP students are also required to meet the same high academic standards of all public school students under Title III of NCLB. Given, the growing number of LEP students entering the public school system, and the present push for high stakes testing and accountability under NCLB it is imperative that teachers across grade levels and content areas promote academic success for LEP students.

As discussed in chapter three, research has suggested that bilingual program models, that provide native language instruction, positively impact language minority student achievement (Burnham-Massey & Pina; De Avila, 1997; de la Garza, 1985;, 1990; Lindholm and Zieleir, 1991; Lopez & Tashakkorit, 2004). Additionally, longitudinal research has suggested that dual immersion and late-exit bilingual education models are the



only programs that assisted students in fully reaching the 50<sup>th</sup> percentile in both their first and second language, in all subjects (Ramirez et al, 1991; Thomas & Collier, 1997 & 2002). Most importantly, Thomas and Collier (1997 & 2002) found that dual immersion and late-exit programs assisted students in maintaining grade level achievement or higher through the end of their schooling. Maintaining grade level achievement norms should be the goal of all educators, for all students. When examining achievement patterns of LEP students it has been found that students can acquire oral language proficiency or BICS within one to two years, however with each passing grade level content becomes increasingly more difficult (De Avila, 1997; Collier, 1987; Cummins, 1981). Ramirez et al (1991) pointed out that in kindergarten through second grade many immersion strategy students were able to do well on English assessments as a result of their increased exposure to English. Once the assessment content became more difficult, these students' achievement scores declined because the students could no longer depend on their oral language skills alone. This is the point at which late-exit and dual immersion program students begin to surpass LEP students in English-only classrooms. The advantage for late-exit and dual immersion students is most certainly in the time spent developing CALP in both the first and second language. When research indicates that language proficiency typically takes four to five years (De Avila, 1997; Collier, 1987; Cummins, 1981), it seems logical that the programs providing around six years of first language support would yield the most consistently high achievement scores for LEP students. The more years first language instruction is provided, the more likely students will meet national grade level standards, and maintain them over time (Thomas & Collier, 1997 & 2002).

Research clearly advocates bilingual education program models that use native language instruction; however providing native language instruction is not feasible for all school districts, for many reasons. First, many school districts lack bilingual teachers in many of the common languages that are spoken by LEP students. This is especially true in districts where several Asian languages are spoken. Also, it is not feasible to implement a two-way or early exit program in school districts that lack one clear minority language within the student population. In Western Washington, there are many school districts that have over 50 languages spoken by LEP students. As an example, the Highline school district had 51 different languages being spoken by 2,066 LEP students in 1997 (Bylsma et al, 1997, p. 45). Kent school district had 70 languages being spoken by 3,066 LEP students and the Seattle school district had 61 languages spoken by their 5,566 LEP students (pp. 47 & 54). Clearly, it is not feasible for these districts to provide native language instruction programs for all of the minority languages spoken by the students in their schools. In schools and districts where program feasibility is a barrier to providing effective bilingual education programs, it is recommended that efforts should at least be made to use some of the effective practices that are part of these bilingual program models. First, teachers must value the native language of their students as it remains a strong part of each student's identity and culture. Second, teachers need to provide LEP students with content area instruction and language proficiency so that students can acquire both BICS and CALP in their second language. Finally, teachers need to create interactive learning environments within their classrooms that are inclusive of LEP students, and effective for promoting higher order thinking to students of all backgrounds. The following section will describe these three recommendations more fully and review the research-based support for them.

### Recommendations for the Classroom

As stated above, it is recommended that schools, and teachers working in the mainstream classroom strive to use effective practices that are part of effective bilingual program models. First and foremost, teachers must value native language use and bilingualism. A student's linguistic background is inextricably linked to his or her cultural identity. To devalue any aspect of a student's identity, is a detriment to the student and teacher relationship, which can ultimately impede learning. As such, teachers across grade levels and content areas are responsible for placing value on each of their students as a means to create an inclusive learning environment for all. Research shows that there is a relationship between bilingualism and various aspects of intelligence (Bialystok, 1986; Bialystok & Mujumder, 1998; Cummins & Mulcahy, 1978; Diaz, 1985; Peal & Lambert, 1962). Whereas, early research indicated that bilingualism was a detriment to academic achievement, more recent findings indicate that bilingualism provides a cognitive advantage for students. As it stands, the current policies under NCLB clearly indicate that the goal of programs to serve LEP students should be English acquisition. This type of policy devalues bilingualism and encourages program models to push students towards English proficiency without regard for native language. These attitudes expressed in policy should not be transferred into the classroom as there are proven cognitive advantages for bilingual students. Instead, students' language abilities should be valued in the classroom.

One of the ways that teachers can demonstrate the value of their students' linguistic and cultural backgrounds is to strive to make instruction and curriculum choices culturally relevant, in a language that is comprehensible to their students. Comprehensible does not just denote the language of instruction; it also includes the level of content being discussed.

Teachers need to assure that the language being used in their classrooms is comprehensible for all students, and if it is not accommodations need to be made. This was demanded in the Lau decision and is the underlying premise of bilingual education as a whole. Students are afforded equal educational opportunity, but when a student cannot understand the instruction of their teachers they are certainly not be given the same opportunity as their native speaking peers.

Teachers can also value native language use by allowing it in their classrooms. Skills obtained in the first language, particularly those in literacy and mathematics have been shown to transfer from the first to second language (Cziko, 1976; Kaufman, 1968; Lindsey et al, 2003; Lopez and Greenfield, 2004; Modiano, 1968). If students possess academic skills in their first language it is only a matter of time before they will be able to use these skills to their second language. Yes, it could be argued that some students will not have skills readily available in their native language due to lack of schooling or age; however, to assert that native language should not be used in the classroom as it hinders English language learning is certainly counter to research findings (Burnham-Massey & Pina, 1990; Lindsey et al, 2003; Lopez and Greenfield, 2004, Proctor et al, 2006). Teachers can facilitate language transfer by providing students with opportunities in the classroom to use native language. Not all teachers have command of their students' native languages, and that is to be expected in districts and schools with multiple languages present. Teachers in these situations can still make an impact in valuing their students' native language use, and trying to make inclusions of their cultural and linguistic background in the mainstream classroom. In a past classroom experience, I worked individually with a Cambodian speaking student on his English writing skills. The student was asked to write a letter in English, using standard

letter format. When he finished his letter he asked me if he could rewrite it in Cambodian for his parents. Naturally, I said yes and he went right to work. This student worked half way into his recess, despite his freedom to go out and play. When he finally finished, he shared the letter with me. Though I could not read Cambodian, this student's pride in writing this letter to his parents and sharing it with me has stuck with me for several years. All it took to make this moment happen was a teacher willing to value native language. No extra planning, no added instruction, no detriment to the students' English writing assignment; just a plain inclusive yes.

Teachers and school personnel can also bring culturally relevant materials into the classroom. Libraries are wonderful places to obtain fiction and non fiction books to use in mainstream or LEP classrooms. Many libraries also have books available in non-English languages, or bilingual versions that provided English words alongside words from another language. Books on tape are also available in this bilingual format. It is also important to note that parents and community members are invaluable resources for including students' cultural and linguistic background into the mainstream classroom. Having family or community members assist in the classroom can afford students the opportunity to work with other peer role models from different cultural and/or linguistic backgrounds than their teachers. This alone can create a diverse learning environment for all students, but is especially useful for language minority students who may have different linguistic or cultural needs than their mainstream classmates.

Overall, students need to feel valued and included within a classroom environment. This is true within a bilingual, ESL, or mainstream classroom. Teachers can promote academic achievement for LEP students by valuing their linguistic and cultural backgrounds

and including these important attributes of their identity in the classroom environment.

Teachers can create inclusive environments for their students by providing culturally relevant instruction and curriculum. It is also important to note that parents and community members are invaluable resources for including students' cultural and linguistic background into the mainstream classroom.

A second effective strategy for promoting academic success for LEP students, is providing instruction that supports oral language development, alongside content area instruction. Collier (1987) and Cummins (1979) believed that there was a clear difference between BICS and CALP. Presently, NCLB requires students in public schools to make annual yearly progress in multiple content areas, which requires a base of academic language or CALP. In addition, LEP students are required to make yearly progress in English proficiency, which mostly assesses BICS. If LEP students are expected to meet these requirements in both language proficiency and content area achievement, the need for classroom instruction to facilitate both BICS and CALP becomes necessary.

In De Avila's (1997) study it was concluded that students need approximately three years to master sufficient oral skills to be comparable to the students' native speaking peers. De Avila's data only examined oral language proficiency, which would be considered BICS for Cummins (1979 & 1981) and Collier (1978). These results do not demonstrate that total academic proficiency is present after three years of English instruction. De Avila also affirmed this by stating, "while the student may have mastered sufficient oral skills to fully participate in an English speaking environment, there is no guarantee that he or she has mastered literacy or other academically related skills" (1997, p. 21). Cummins (1981) concluded that students who arrived in a second language environment before age six may

develop BICS more rapidly than their older peers; however these students will still need sufficient time to develop S. As evidenced by Collier (1987), Thomas and Collier (1997), and De Avila (1997), true second language proficiency, the ability to use both BICS and CALP, can take between two and seven years with average projections being four to five years. When examining the programs that are implemented for LEP students it is not the age of the students that will most accurately predict their second language proficiency, but instead the time spent in the second language environment learning both oral and academic language skills. If NCLB is concerned with bridging the achievement gap, these findings should certainly be taken into consideration. Language proficiency is not synonymous with oral language proficiency. Instead, students need to be able to work within both BICS and CALP, in order to secure academic achievement. Unfortunately, in the push to mainstream LEP students within three year, many of them are being exited into mainstream classroom before they possess CALP in their second language.

Once students are in mainstream English-only environments they need to continue to develop academic content knowledge like all mainstream students. The difference is that LEP students typically enter the mainstream from ESL pull-out or transitional bilingual education programs below grade level norms in content areas like reading and mathematics. Also important to consider are the achievement gains necessary for LEP students to catch up to their native speaking peers. As Thomas and Collier (1997 & 2002) discussed, it takes significantly more progress each year for LEP students to catch up with their native speaking peers because they are essentially aiming at a moving target at each grade level. Also, students may make huge gains in progress during their first years of English instruction like the student samples in Lindholm (1991) and Ramirez et al (1991). Students who make large

initial gains are able to do so using limited academic language, and that this ability is increasingly limited as the test gets progressively more complex. When teachers and administrators expect student to continue making equivalent gains with each year, as the content areas get increasingly complex, they only set students up to fall short of heightened expectations. Instead, teachers need to assure that students in the mainstream are receiving instruction that extends way beyond remedial language skills. LEP students need to receive instruction in all content areas in varying degrees of difficulty to activate and enhance their CALP.

Teachers can facilitate growth in CALP by providing curriculum and subject matter that is rich in content. As in all classrooms, one common curriculum is not always suited for every student. In these instances many teachers adapt the curriculum by weaving in supplemental materials. When a mainstream classroom includes students at varying levels it can be expected that lessons will need to be differentiated to accommodate this variety. A classroom with LEP students also requires differentiation. An effective mainstream teacher may need to bring in non-fiction books at varied levels to provide students with multiple accounts in a content area. An effective teacher may also choose to weave in a short story from an ESL trade book with the grade level reading curriculum. Differences in student abilities exist in all classrooms, so this is something that teachers are faced with every day. The ultimate goal in teaching should be to provide opportunities for student learning. LEP students can benefit from differentiated instruction as long as the teacher is making sure to provide equally rich content knowledge to all students within the classroom.

In summation, the schooling of LEP students has to extend beyond oral language proficiency and the development of BICS. Classrooms as a whole must prepare students for



academic achievement across content areas so that LEP students also possess that academic language, or CALP, necessary to meet academic achievement measures. For teachers this means taking extra steps to assure that the curriculum and subject matter being used in the mainstream classroom is content rich and appropriate for students at varying levels.

The third strategy for teachers in the mainstream classroom is to promote an interactive classroom environment where students can engage in dialogue and participate in hands on experiences to learn about multiple content areas. LEP students benefit from increased opportunity to use their second language. These opportunities are found in highly interactive environments (Amaral and Garrison, 2002; De Avila, 1981; Hampton Rodriguez, 2001). An interactive classroom utilizes effective teaching practices like small and mid size small group discussions, active experimentation of concepts, and cooperative learning. Students learn by doing, and as such it can be confirmed that participating in small group discussions and whole class inquiry allows students to use their second language skills along with their existing ability to critically think and postulate. It isn't enough to provide LEP students with oral language instruction and wait for them to perform comparably to their native speaking peers. It is imperative that LEP students are given equal opportunities in the classroom to engage in critical thinking and practice within multiple content areas. This is true in mainstream English only classrooms, ESL-pull out, or in bilingual programs.

In the area of science, Amaral and Garrison (2002) found that an interactive, inquiry based science program could be effective for LEP students, even when the language of instruction was predominantly English. This was also discovered by Hampton and Rodriguez (2001). These findings suggest that LEP students may experience increased concept attainment, and classroom discussion participation when engaging with science

manipulative like those present in FOSS kits. This type of highly interactive environment can be a rich place for LEP students to begin using their critical thinking skills and their oral language to interact with academic concepts. In the Amaral and Garrison (2002) and Hampton and Rodriguez (2001) studies, science kits were used to facilitate inquiry based science lesson. LEP students benefited from the hands on experimentation and discussion that took place around the manipulatives in these science lessons. Unfortunately, in two of the reviewed studies (Amaral & Garrison, 2002; De Avila, 1997), the research period marked the first time that a consistent science curriculum had been used with the bilingual students. This suggests that students can benefit from inquiry based program models in content areas like science, yet teachers may not be utilizing this content area for LEP students as a way to increase language proficiency or content knowledge.

Inquiry is not only a facet of science instruction; teachers should promote inquiry within all content areas. This can be done through lessons that are rich in discussion and questioning. Questions can range from simple recall of terms to those which engage students in higher order thinking. Ramirez et al (1991) found that teachers in every classroom of their study used a higher percentage of recall questions than higher order thinking questions when engaging with their students (Vol. I, p. 120). Consequently, the most frequent student responses to teacher initiations are expected responses (22.5%-38%) and non-verbal responses (37%-47.3%). From a cognitive development standpoint, these students were not being provided with adequate opportunity to use higher order thinking, as evidenced by the amount of recall questions in all of the classrooms. From a language development standpoint, these students were not being given as great of opportunity for language use, as

they would be, if they were responding to higher order thinking questions and engaging in more dialogue in the classroom about these questions.

A final strategy for promoting an interactive classroom environment is cooperative learning. Cooperative learning is a structured teaching model where students have individual roles in small groups to perform a common task together. Typically the teacher assigns tasks and provides structure so that every participant has an active role in the collaboration process. Once in the groups, students are more likely to dialogue with each other and work together because judgment within a small group is considerably less than that which occurs during whole class exercises. Pappamihiel (2001) found that student's anxiety was higher in mainstream whole class instruction than it was in mainstream small group exercises, which further supports the effectiveness of small group collaboration for LEP students. Overall, cooperative learning has the potential to increase dialogue in the mainstream classroom, particularly when well structured and implemented as designed. Most importantly, cooperative learning isn't just effective for LEP students, this model sparks critical thinking and engaging dialogue for all students. That is the amazing thing about effective strategies for LEP students, they are equally effective for mainstream students meaning that providing increased dialogue and questioning in the mainstream classroom will not impede the learning of either.

### Conclusion

In closing, research has suggested that the most effective ways to promote academic achievement for LEP students is through late-exit and dual immersion program models that provide native language instruction up through fifth or sixth grade (Ramirez et al, 1991; Thomas & Collier, 1997 & 2002). Though it is not feasible to implement bilingual program

models in all districts, there are effective strategies that can be derived from these program models and used in mainstream and ESL classrooms for LEP students. It is imperative that teachers across grade levels and content areas value the native language of their students as it is inextricably linked to their identity. Teachers also have a responsibility to provide LEP students with opportunities to acquire both BICS and CALP in their second language. Finally, teachers need to create interactive learning environments within their classrooms that are inclusive of LEP students, and effective for promoting higher order thinking to students of all backgrounds. If teachers chose to implement these effective strategies in their classrooms they would create an inclusive environment for LEP students, that has the potential to impact academic achievement.

As educators, we have a responsibility to grant equal educational opportunities for our students. No, not everyone is going to advocate bilingual education, or native language instruction. For all of the proponents out there, there exists an equal number of opponents advocating English only. This opposition has fueled the debate over bilingual education for almost two centuries. Regardless, the responsibility to provide equality in education still exists. The growing number of LEP students need teachers who are willing to differentiate their instruction to accommodate multiple learners. This is true in mainstream classrooms, and ESL or bilingual programs. Teachers who are willing to support LEP students' achievement through effective teaching practices will ultimately support student achievement on a whole. Creating an environment where students are valued and included is the foundation for learning. Teaching students how to critically examine concepts and ideas will lead to higher order thinking about academic concepts. In addition, promoting an interactive classroom provides the framework where inquiry and discussion can take place. This is true

for LEP students, as it is for all students. This is what LEP students deserve, an equal opportunity for academic success in the public school classrooms that serve them.

## REFERENCES

- American Institutes of Research and West Ed. (2006, March 7). *Effects of the implementation of proposition 227 on the education of English learners, k-12: Executive Summary*. Retrieved July 15, 2006 from <http://www.cde.ca.gov/sp/el/er/prop227summary.asp>
- Alanis, I. (2000). A Texas two-way bilingual program: Its effects on linguistic and academic achievement. *Bilingual Research Journal*, 24(3), 225-248.
- Amaral, O. M. & Garrison, L. (2002). Helping English learners increase achievement through inquiry-based science instruction. *Bilingual Research Journal*, 26(2), 213-239.
- Bennett, W. J. (1985). The Bilingual Education Act: A failed path. In Crawford, J. (Ed), *Language Loyalties* (pp. 358-363). Chicago: University of Chicago Press.
- Bergeson, T. (2004, September 20). Learning and teaching (Bulletin No. 066-04). Olympia, WA: Office of Superintendent of Public Instruction. Retrieved May 20, 2006 from <http://www.k12.wa.us/MigrantBilingual/EmergencyImmigrant.aspx>
- Bialystok, E. (1986). Factors in the growth of linguistic awareness. *Child Development*, 57(2), 498-510.
- Bialystok, E. & Majumder, S. (1998). The relationship between bilingualism and the development of cognitive processes in problem solving. *Applied psycholinguistics*, 9(1), 69-85.
- Burnham-Massey, L., & Pina, M. (1990). Effect of bilingual instruction on English academic achievement of LEP students. *Reading Improvement*, 27(2), 129-132.

- Bylsma, P.; Ireland, L.; & Malagon, H. (2003). *Educating English language learners in Washington state*. Office of Superintendent of Public Instruction, Olympia, WA.
- Collier, V. P. (1987, December). Age and rate of acquisition of second language for academic purposes. *TESOL Quarterly*, 21(4), 617-641.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, 49 (2), pp. 222-251.
- Cummins, J. (1981). Age of arrival and immigrant second language learning in Canada; A reassessment. *Applied Linguistics*, 2(2), 132-149.
- Cummins, J. (1994). Knowledge, power, and identity in teaching ESL. In Genesee, F. (Ed.), *Educating second language children* (pp. 33-58). Cambridge, United Kingdom: Cambridge University Press.
- Cummins, J. & Mulcahy, R. (1978). Orientation to language in Ukrainian-English bilingual children. *Child Development*, 49, 1239-1242.
- Cziko, G. (1976). The effects of language sequencing on the development of bilingual reading skills. *The Canadian Modern Language Review*, 32(5), 534-359.
- Danoff, M. N. (1978). Evaluation of the impact of ESEA Title VII Spanish/English Bilingual Education Program: Overview of Findings. (Report No. OEC-0-74-9331). Palo Alto, CA: American Institutes for Research. (ERIC Document Reproduction Service No. ED154634).
- De Avila, E. (1981, February). Improving cognition: A multi-cultural approach. Final

- report, MICA project: Multi-cultural improvement of cognitive abilities. Washington D.C.: National Institute of Education. (Eric Document Reproduction Service No. ED209078).
- De Avila, E. (1997, November). How long does it really take to learn English? In *Setting expected gains for non and limited English proficient students, NCBE resource collection series* (pp. 17-22). National Clearinghouse for Bilingual Education, Washington DC.
- De La Garza, J. V. (1985). Academic achievement as influenced by bilingual instruction for Spanish-dominant Mexican American children. *Hispanic Journal of Behavioral Sciences*, 7(3), 247-259.
- Diaz, R. M. (1985). Bilingual cognitive development: Addressing three gaps in current research. *Child Development*, 56, 1376-1388.
- Fitzgerald, J. (1993). Views on bilingualism in the United States: A selective historical review. *Bilingual Research Journal*, 17(1 & 2), 35-56.
- Garci-Nevarez, A. G., Stafford, M. E., & Arias, B. (2005). Teacher attitudes toward English language learners and the use of Spanish in classroom instruction. *Bilingual Research Journal*, 29(2), pp. 295-317.
- Hakuta, K. (1987). Degree of bilingualism and cognitive ability in mainland Puerto Rican children. *Child Development*, 58, 1372-1388.
- Halcon, J. J., & de la Luz Reyes, M. (1992) Bilingual education, public policy, and the trickle-down reform agenda. In Benavides, A. H. & Padilla, R. V (Ed.), *Critical perspectives on bilingual education* (pp. 303-323). Tempe, AZ: Bilingual Press.
- Hampton, E. & Rodriguez, R. (2001). Inquiry science in bilingual classrooms. *Bilingual*



- Research Journal*, 25(4), 461-478.
- Heath, S. B. (1992). Why no official tongue? In Crawford, J. (Ed), *Language Loyalties* (pp. 20-31). Chicago: University of Chicago Press.
- History of bilingual education. (1998). *Rethinking Schools*, 12(3). Retrieved on April 26, 2006, from [http://www.rethinkingschools.org/archive/12\\_03/langhst.shtml](http://www.rethinkingschools.org/archive/12_03/langhst.shtml)
- Kaufman, M. (1968, April). Will instruction in reading Spanish affect ability in reading English? *Journal of Reading*, 11, 521-527.
- Krauss, M. (1996). Status of Native American endangerment. In Cantoni, G. (Ed) *Stabilizing Indigenous Languages*. Northern Arizona University: Center for Excellence in Education. Retrieved on July 8, 2006 from, <http://www.ncela.gwu.edu/pubs/stabilize/i-needs/status.htm>
- Lara-Alecio, R., Cmajdalka, S. L., Parker, R. I., Cuellar, R. Y.(1996, April). A three year study of a new pedagogical theory/model in a bilingual education program using mathematics as a vehicle of instruction. Paper presented at the annual meeting of the American Educational Research Association, New York.
- Lindholm, J. L. (1991). Theoretical assumptions and empirical evidence for academic achievement in two languages. *Hispanic Journal of Behavioral Sciences*, 13(1), 3-17.
- Lindholm, K. J. & Zierlein, A. (1991). Bilingual proficiency as a bridge to academic achievement: Results from bilingual/immersion programs. *Journal of Education*, 173(2), 99-113.
- Lindsey, K. A., Franklin, R. M., & Bailey, C. E. (2003). Prediction of first-grade reading in Spanish-speaking English language learners. *Journal of Educational Psychology*, 95(3), 482-494.

- Lopez, L. M., & Greenfield D. B. (2004). The cross-language transfer of phonological skills of Hispanic head start children. *Bilingual Research Journal*, 28(1), 1-18.
- Lopez, M. G. & Tashakkori, A. (2004). Effects of a two-way bilingual program on the literacy development of students in kindergarten and first grade. *Bilingual Research Journal*, 28(1), 19-34.
- Lyons, J. J. (1985). Secretary Bennett verses equal educational opportunity. In Crawford, J. (Ed), *Language Loyalties* (pp. 363-366). Chicago: University of Chicago Press.
- Matson, S. (2002, December). Alternative routes to teacher certification in Washington state (Doc. No. 02-12-290). Olympia, WA: Washington State Institute for Public Policy. (Electronic version) Retrieved May 10, 2006 from <http://www.wsipp.wa.gov/rptfiles/AltCertInterim.pdf>
- Migrant and Bilingual Education Offices of Washington State Office of Superintendent of Public Instruction. (2005, September). *English development instructional materials review*. Retrieved May 15, 2006, from <http://www.k12.wa.us/MigrantBilingual/TitleIII.aspx>
- Miguel, G. (2004). *Contested Policy*. Denton, TX: University of North Texas Press.
- Modiano, N. (1968). National of mother tongue language in beginning reading; A comparative study. *Research in the Teaching of English*, 2, 32-43.
- Mueller, T. G., Singer, G. H, & Grace, E. J. (2004). The Individuals with Disabilities Education Act and California's proposition 227: Implications for English language learners with special needs. *Bilingual Research Journal*, 28(2), p. 231-293.

- National Reading Panel (2000, April 13). National reading panel report. Retrieved December 8, 2005 from <http://www.theteacherspot.com/nrpr.html>
- NCTE (n.d). On reading, learning to read and effective reading instruction: an overview of what we know and how we know it. Retrieved December 8, 2005 from <http://www.ncte.org/about/over/positions/category/read/118620.htm>
- Office of English Language Acquisition. (2004, December). Washington rate of LEP growth 1993/1994-2003/2004. Retrieved April 23, 2006 from <http://www.ncela.gwu.edu/policy/states/reports/statedata/2003LEP/Washington-G.pdf>
- Office of English Language Acquisition (OLEA). (2006, March 24). *NCLEA FAQ No. 7: What court ruling have impacted the education of language minority students in the U.S.?* Retrieved May 16, 2006 from <http://www.ncela.gwu.edu/expert/faq/07court.htm>
- Office of Superintendent of Public Instruction (OSPI). (n.d.). AMOA notification letter. Retrieved May 20, 2006 from <http://www.k12.wa.us/MigrantBilingual/TitleIII.aspx>
- Office of Superintendent of Public Instruction (OSPI). (n.d.). Description of bilingual instructional models. Retrieved May 20, 2006 from <http://www.k12.wa.us/MigrantBilingual/instructionalmodels.aspx>
- Office of Superintendent of Public Instruction (OSPI). (n.d.). Overview of the Washington state assessment of student learning. Retrieved April 30, 2006 from <http://www.k12.wa.us/assessment/WASL/overview.aspx>
- Office of Superintendent of Public Instruction (OSPI). (2005). Washington state report card. Retrieved May 10, 2006 from <http://reportcard.ospi.k12.wa.us/>
- Ovando, C. J., & Collier, V. P. (1985). Bilingual and ESL classrooms: Teaching in

- multicultural contexts. McGraw-Hill.
- Ovando, C. J. (2003). Bilingual education in the United States: Historical development and current issues. *Bilingual Research Journal*, 27(1), 1-24.
- Pappamihiel, N. E. (2001). Moving from the ESL classroom into the mainstream: An investigation of English language anxiety in Mexican girls. *Bilingual Research Journal*, 25(1 & 2).
- Peal, E. & Lambert, W. (1962). The relation of bilingualism to intelligence. *Psychological Monographs*, (76)27, 1-23.
- Porter, R. (1990). *Forked tongue: The politics of bilingual education*. New York: Basic Books.
- Proctor, C. P., August, D., Carlo, M. S., & Snow, C. (2006). The intriguing role of Spanish language vocabulary knowledge in predicting English reading comprehension. *Journal of Educational Psychology*, 98(1), 159-169.
- Ramsey, C. A., & Wright, E. N. (1974). Age and rate of second language learning. *Journal of Social Psychology*, 94, 115-121.
- Ramirez, D. J., Yuen, S. D., Ramsey, D. R., and Pasta, D. J. (1991, February). Final Report: Longitudinal study of structured English immersion strategy, early-exit and late -exit transitional bilingual education programs for language minority children, vol. I & II. (Department of Education Contract No. 300-87-0156). San Mateo, CA: Aguirre International.
- Rivera, C. & Stansfield, C. W. (2000). An analysis of state policies for the inclusion and accommodation of English language learners in state assessment programs during 1998-1999. Arlington, VA: Center for Equity and Excellence in Education.

- Reyhner, J. (1999). Maintaining and developing indigenous languages. In *Indigenous Education around the world: Workshop Papers from the World Indigenous People's Conference*. Albuquerque, New Mexico. (ERIC Document Reproduction Service No. ED467413).
- Shin, F. H., & Krashen, S. (1996). Teacher attitudes toward the principles of bilingual education and toward students' participation in bilingual programs; Same or different? *Bilingual Research Journal*, 20(1), p. 45-53.
- Spring, K. (2005). *The American school 1642-2004*, 6<sup>th</sup> ed. New York: McGraw-Hill.
- Stein, C. B. (1986). *Sink or swim: The politics of bilingual education*. New York: Praeger Publishers.
- Teacher shortage areas. (n.d). Retrieved May 10, 2006, from <http://www.teachwashington.org/shortages.php>
- Thomas, W. P. (1992) An analysis of the research methodology of the Ramirez study. *Bilingual Research Journal*, 16(1 & 2), 213-245.
- Thomas, W. P. & Collier, V. (1997). School effectiveness for language minority students. *NCBE Resource Collection Series*. Washington DC: George Mason University.
- Thomas, W. P. & Collier, V. (2002). A national study of school effectiveness for language minority students' long-term academic achievement. Santa Cruz, CA: Center for Research on Education, Diversity and Excellence.
- U.S. Department of Education. (2002, January 7). The No Child Left Behind act of 2001. Retrieved April 30, 2006, from <http://www.ed.gov/nclb/overview/intro/execsumm.pdf>

- U.S. Department of Education. (2004, Sept. 15). *Elementary & Secondary Education: Part A- English language acquisition, language enhancement, and academic achievement act*. Retrieved July 11, 2006, from <http://www.ed.gov/policy/elsec/leg/esea02/pg40.html>
- U.S. Department of Education. (2004, February 19). Fact sheet: NCLB provisions ensure flexibility and accountability for limited English proficient students. Retrieved April 30, 2006 from <http://www.ed.gov/nclb/accountability/schools/factsheet-english.html>
- Washington Higher Education Coordinating Board (2002, February). Future teachers' conditional scholarship program evaluation. Retrieved May 10, 2006, from <http://www.hecb.wa.gov/Docs/reports/FUTEvaluation2-2002.pdf>
- Webster, N.. (1992). Declaration of Linguistic Independence. In Crawford, J. (Ed), *Language Loyalties* (pp. 33-36). Chicago: University of Chicago Press.