THE EFFECTS OF BILINGUAL INSTRUCTION ON THE ENGLISH EMERGENT LITERACY SKILLS OF SPANISH-SPEAKING PRESCHOOL CHILDREN

by

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Abstract

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Numerous studies have shown that early childhood education (ECE) contributes to educational attainment particularly for poor children. Nationally, ECE has gained considerable backing as a viable intervention to propel achievement. As ECE comes to the fore, census figures indicate that Latinos are the fastest growing minority in the United States. Latinos have persistently experienced greater rates of poverty and other risk factors that adversely affect educational attainment.

Multiple risk factors as well as a "cultural mismatch" with a school system poised to educate white, middle-class, English-speaking students, raise alarm for the educational trajectories of Latino children just entering schools. Racism and linguicism exist as the social backdrop that informs public opinion regarding the education of Latino preschool children. In this context, bilingual instruction for these children may represent a libratory as well as effective pedagogical approach.

This quantitative causal comparative study looks at the combined effectiveness of early childhood education and home language instruction on the English emergent literacy skills of Spanish-speaking preschool students randomly assigned to monolingual instruction or bilingual instruction. Over the course of two early childhood years – Pre-Kindergarten and Kindergarten -- the students' scores on multiple measures of emergent literacy skills were compared and analyzed.

Results indicate that bilingual instruction offers key advantages to Spanish-speaking preschool children that mitigate some of the negative impact of poverty on achievement. Patterns emerge in the results that indicate that bilingual instruction can also potentially neutralize the association between a mother's low educational attainment and decreased achievement for the child.

The multiple assessments of emergent literacy skills utilized in this study reveal inadequacies in timed fluency measures, common throughout the United States, for a population that is developing English language skills. This suggests the need for appropriate assessments that do not disadvantage second language learners.

As a comprehensive analysis of what occurs in the first two years of school, this study presents compelling evidence. Bilingual instruction emerges as a powerful protective factor for young Latinos which neutralizes substantial risks while it produces comparable rates of achievement with children receiving instruction only in English.

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The end of all education should surely be service to others.

~ Cesar Chavez

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CHAPTER 1

INTRODUCTION

Few investments in educational reform hold more promise than universal access to preschool education. Developing a plan to address issues such as the achievement gap, over-representation of poor and minority groups in special education, academic failure, dropout rates, and global competition, is a formidable challenge, as it requires intervention within intractable, national problems. Universal preschool education is becoming recognized (Neuman & Bennett, 2001; Neuman, 2003; Magnuson, et al., 2007) as an untapped source of *preventing* the problems confronting us as a nation and propelling forward a future generation from the egalitarian ideal of a level playing field.

Across the nation, states are increasing their support of Pre-Kindergarten programs in response to the mounting evidence of the effectiveness of early childhood education (Barnet et al., 2008). Advocacy groups such as *Pre-K Now* and *Winning Beginning* have compiled considerable data on preschool trends across the country. As compelling as these studies on preschool education can be, most of the research has been conducted exclusively on poor, English speakers.

Currently, one in five students in the United States is an English language *learner* (Fry & Gonzales, 2008). This figure continues to grow, particularly among the youngest children. A large and growing population of preschool children who enter school with little or no English present a unique set of circumstances for which we may not have accounted in

the current literature. Many young Latinos are emergent bilinguals[1]. Because they are among the least served preschool children (Magnuson, et al., 2005), they are at greater risk of a widening achievement gap. The persistent links between achievement and English proficiency suggest an urgency to consider approaches specifically targeting the needs of young Latino children so as to reap the benefits of an early education.

Basic literacy skills are an undeniable starting point of academic achievement. The literature on early literacy points to the connection between language skills and the development of literacy skills (Dickinson & Neuman, 2006). In fact, of all the factors contributing to the acquisition of early literacy skills, strong vocabulary development persists as a significant predictor of early success (Biemiller, 2006). Language studies have documented differences in the numbers of words (Hart & Risley, 1995) that children know as they enter school. This first "gap" does not tend to close; vocabulary at the end of first grade is still a strong predictor of performance in English Language Arts in fourth grade (Biemiller, 2006). Therefore, children who enter preschool speaking a language other than English may actually be imperiled if their home language skills are suddenly rendered irrelevant in school and in assessment.

A study that considers the effectiveness of preschool education for emergent bilinguals using their home language, as well as English, can begin to synthesize two areas of research: early childhood education and bilingual education. This quantitative study

[1] García, Kleifgen and Falchi (2008) coined the term "emergent bilinguals" to refer to individuals in the beginning stages of acquiring a second language. For this study, "emergent bilingual" is preferable to "English Language Learner" in that it acknowledges an individual's existing skills and language practices rather than emphasize the language he/she is learning and consequently *does not know.* The choice of terms and descriptions for any group aptly conveys an underlying message; in that sense, choosing to use the term "emergent bilingual" is an acknowledgement of the strengths, skills, and potential of the young children featured in this study.

addresses a critical question in this synthesis: what are the effects of bilingual instruction on the English emergent literacy skills of Spanish-speaking preschool children?

SIGNIFICANCE AND PURPOSE

The 2008 Presidential campaign will remain an historical watershed in terms of race relations and politics in this country, but it also brought another far less celebrated triumph: both candidates promised to invest in early childhood education. The mounting evidence on the effectiveness of early childhood education (ECE) contributes to its appeal to policymakers and has recently stimulated a spate of educational studies to determine the scope of its benefits for young children. The national urgency to put in place initiatives to eradicate the ever-widening achievement gap between groups within the United States as well as between nations has turned everyone's attention to the *prevention* of the problem – intervening earlier. Insofar as this requires a substantial investment of public funds, there is also growing attention to what benefits ECE produces for the nation. As with any financial investment in education, policymakers may see potential for a positive return, while educators might be motivated by the theory that ECE is critical to affecting educational attainment for diverse groups in the country.

Although there is now broad agreement of the benefits of early childhood education, in particular for poor minority children, there is little consistency across the country on how educational programs should be structured to meet children's needs. In particular, for Latino children who come from Spanish speaking homes and enter schools speaking little or no English, there is no organized approach to structure their foundational experiences in school (García, E., 2001). There is great variety in the instructional programs offered to emergent bilinguals, each emanating from a theoretical construct influenced by an ideological or

political context. As the nation moves toward universal Pre-Kindergarten, how shall we address the unique features of the fastest growing student population?

In the fall of 2010, the state of Illinois mandated bilingual instruction at the preschool level in response to their growing numbers of emergent bilinguals. The state of New York has a higher population of children born to immigrants than Illinois. In 2007-2008, New York was home to 8% of the nation's young children of immigrants, placing it in the top six states nationwide. More than 30% of the children under the age of eight in New York had one or two immigrant parents (Fortuny, Hernandez & Chaudry, 2010). What might bilingual education offer New York's children? How might bilingual instruction help New York's young emergent bilinguals meet the new Pre-Kindergarten standards? The purpose of this study then, is to explore in what ways bilingual instruction impacts Latino children's early literacy development in English.

Critical Theory in Context

Educational research has consistently noted the link between socio-economic status and achievement. There are many reasons why children with sufficient financial resources would do well in school. Presumably, their means have secured better health, safer neighborhoods, and ample supplies. However, the advantages run deeper than this. In addition to satisfying concrete needs, the advantages of financial abundance or affluence first create and then sustain the privileges associated with being middle-class. Theorist Pierre Bourdieu (1996) deconstructs our notion of class to reveal how groups coalesce into socio-economic categories: through early socialization of its children, the family imprints the beliefs and behaviors that convey an understanding of the world and the child's place in it. In Bourdieu's conception,

> The family plays a decisive role in the maintenance of the social order, through social as well as biological reproduction, i.e. reproduction of the structure of the social space and social relations. It is one of the key sites of the accumulation of capital in its different forms and its transmission between the generations. It safeguards its unity for and through this transmission. It is the main "subject" of reproduction strategies. (Bourdieu, 1996, p. 23)

Bourdieu is positing that a systematic indoctrination ultimately yields the constructs we have come to accept as class categories. Since this indoctrination represents a substantial psychological investment in identity formation, its validity tends to be vehemently defended.

Bourdieu's (1983) notions of cultural and social capital most clearly demonstrate how the middle-class is privileged in schools. For children entering schools, "capital" is evident as the reservoir of experiences with books, music, language, art, museums, private lessons, and travel, etc., that constitute the background knowledge typically required for

academic learning. Middle-class children have usually been well prepared in this sense. Additionally, not only are middle-class students advantaged by the substance of their cultural and social capital, but also by the goodness of fit between their homes and the schools.

In *Unequal Childhoods*, Annette Lareau (2003) describes the differences in child rearing across socioeconomic classes that she observed in an extended qualitative study. Lareau distills the parenting patterns of middle-class families in her description of *concerted cultivation*, that is, the systematic exposure to activities and events that hone interpersonal skills and develop nascent talents in young children. Middle-class families expect the schools to respond with a similar privileging of *their* children; education, after all, is the ultimate "cultivation." The educational system is primed to respond to middle-class values and routinely rewards middle-class children for their cultural and social capital. Concerted cultivation is contrasted to the parenting patterns of working class parents who enable the *accomplishment of natural growth* with a less intrusive approach to raising children. However, as Lareau argues, this approach is antithetical to the culture of schools and it renders working class children at a disadvantage even as they begin school.

American schools are middle-class institutions. In their study on parental involvement and achievement, Lee and Bowen (2006) highlight the "match" between the middle-class and schools. They write,

> In relation to the parent involvement mesosystem, cultural capital is the advantage gained by middle-class, educated European American parents from knowing, preferring, and experiencing a lifestyle congruent with the culture that is dominant in most American schools. Advantage accrues from enacting the types of involvement most valued by the school or most strongly associated with achievement. Advantage also accrues from having family and work situations that permit involvement at the school at the times and in the ways most valued by the school. (p. 198)

For middle-class children, the combination of foundational experiences to which they are exposed outside of school, and the nature of their parents' participation within schools, very nearly guarantees their achievement.

When the federal government unveiled the *No Child Left Behind Act of 2001,* it further clouded the issue of middle-class advantage in the educational system. The reforms it sought to engender were in keeping with an American mythology about the power of "opportunity." It treated the issue of disparate achievement with an apparent sentimentality about children. The very title sounds so correct.

Borrowing from the Children's Defense Fund's call to *Leave No Child Behind,* this new legislation seemed to want to align itself with principles of equity, and even generosity, to those who might actually be falling behind. But in fact, this new legislation offered no new approach or funds to meeting children's needs; it simply focused its authority on ensuring that school districts and teachers would be exposed for "failing" to produce equitable outcomes in their student populations. No Child Left Behind (NCLB) introduced standardized testing and incremental growth expectations as the means to reform the educational system (Menken, 2008). In the absence of a systemic analysis of what constitutes advantage or disadvantage in American schools, NCLB appears to be a parody of justice, a mockery of its own name.

The wording and requirements of NCLB do not signify any dismantling of middle-class privilege. Yet, it glorifies the idea that all children would be raised up in a neutralized class revolution that would benefit the entire country. It is precisely in the implementation of

NCLB's requirements that communities witness how this legislation actually ignites class and race struggles.

The interwoven complexities of policies, traditions, curricula and practices, although favoring the middle-class, still claim a finite set of resources or "goods" to be distributed democratically. NCLB particularly, claims to keep that promise. Conflict emerges in introducing legislation such as NCLB into an educational system set up to favor the middle-class yet demanding that it produces equitable outcomes for all classes. There are two primary sources of conflict: 1) how does the education system re-work its own values so as not to give an unfair advantage to the middle-class? 2) Does the middle-class permit the dismantling of its privilege? This study was conducted within a community, pseudonymously called "Rivertown," where this conflict raged across class groups. NCLB, in fact, fuels this conflict within the educational system and within specific communities such as Rivertown.

The population in the Rivertown schools, like many suburban communities, is increasingly diverse in terms of race, ethnicity and socio-economic class (Tazi, 2010). The age of accountability as proposed by NCLB, can exacerbate social tensions in a community particularly as it compares the achievement rates between its community members. Given this reality, Bourdieu's notion of social reproduction is inadequate to explain patterns of achievement across socio-economic class particularly in a context where external structures, such as NCLB, dictate the limited measures with which to compare students. If these measures already favor the middle-class, how do they serve as a gauge of school effectiveness? It is unlikely that the poor and working classes do not recognize the

advantages that being middle-class represents in the school system. Attributing achievement solely to social reproduction is too fraught with determinism that leaves unexamined the impact of social policies, economic factors and educational practices.

Then there is race…

An analysis of an American school community, which focuses solely on issues of socio-economic class, would fail to reveal all the contentions operating in the social realm. Class and race are inseparable features of American society. As Apple (2003) states, "…it is not possible to fully understand the genesis and effects of neo-liberal and neo-conservative 'reforms' in education and society… without placing race at the centre of one's critical analysis (p. 109)." If culture and values of schools are said to be aligned with the middle-class, it means specifically the culture and values of the *white* middle-class. Theorist Zeus Leonardo (2009) links the study of class and race to analyze effectively the social relations within a school system:

> Bourdieuan analysis of schooling benefits from an integration of the race concept in order to provide an analysis of parental involvement, for example, that asks the extent to which parents of color feel intimidated by white teachers or feel tentative during parent-teacher conferences and Open House night, even when both groups represent the same class. This would enrich Lareau's findings by modifying Bourdieu's influential concept of "cultural capital" in terms of race. (p. 52)

Paying Homage to Diversity

Has NCLB caused the nation to reflect on racism in the schools? On the other hand, has it treated racism as it treats classism – assuming it plays no role in the outcomes schools report? By requiring data disaggregated by race and ethnicity, NCLB appears to champion democracy. It may not talk about *racism,* but it appears to want to talk about *race.* In

communities such as Rivertown, disaggregated data reporting makes obvious the growing numbers of minority groups within its own population; demographic change always seems to stir up anxiety about a consequent redistribution of power founded on the fear of suddenly being "outnumbered." It may be argued that this is the emotional impetus for the racial conflicts in small school communities. In order to make this change more manageable, and keep a focus on how a community might actually be enriched by demographic change, school and community leaders shift the focus from discussing discrimination to "embracing" diversity.

The term "diversity" has become synonymous with "population" as in, "we are a diverse community." The term has also become a euphemism for color blindness. As long as we talk about *diversity*, we sidestep the ugly realities of racism. As long as we talk about *diversity*, we promote the idea that diversity in a community is tantamount to likening everyone's experience as though all groups figure equally in the power structure. Paying homage to diversity where there is no genuine equitable distribution of power and resources is a particularly insidious form of color-blindness. Who can challenge the racist thinking of someone claiming to appreciate racial *difference*?

In Leonardo's conception, color-blindness is in fact a strategy of whiteness. It so successfully occludes the real evidence of systematic inequality that it serves to preserve power, and in the case of education, it serves to preserve the advantages linked to achievement. Curiously, NCLB, which has been praised by politicians as an instrument to monitor accountability and ensure our competitive edge in a global arena, audaciously claims that schools will ensure that no one group will be privileged. On the one hand, we are forced

to monitor the caliber of our educational system given the supposed ineptitude of educators, and on the other hand, we claim that what can be done for one child can be done for all. That very possibility ignites fear at the core of a system that is entirely predicated on the middle-class having *more*. Leonardo (2009) writes of NCLB:

> I argue that the No Child Left Behind Act is an example of color blindness par excellence. NCLB's hidden referent of whiteness makes a causal pass at racial explanation that sidesteps race as a causal explanation for educational disparities. In this sense, NCLB is an "act of whiteness" and perpetuates the innocence of whiteness as a system of privilege. It is a form of whiteness as policy. Its white common sense deems racial disparities as unfortunate outcomes of group competition, uneven social development, or worse, as stubborn cultural explanations of the inferiority of people of color. (p. 127.)

In Leonardo's analysis, NCLB has done nothing more than reinforce stereotypes about racial groups by setting criteria and standards normed on white, middle-class people, and then calling everyone else a failure. In schools with a mixed community, it is incumbent on the school district to raise achievement levels for the lower performing, mostly minority children. This requires delegating funds and personnel to serve children in need. Now the *haves* truly must share with the *have nots* as they vote for school budgets or referendums. Elections for school budget become the battleground between the classes; the middle-class threatens to pull its support if the school budget does not favor acceleration and enrichment, the poor advocate for additional supports but may not command a high number of voters if there is a high proportion of immigrants. These contentious debates over funds and school budgets might be what Freire (1970) calls "an instrument of conquest" for the middle-class population.

Producing equitable educational outcomes for all groups is an enormous undertaking, but when schools cannot correct the influence of systemic racism and generational poverty in one standardized test, they are labeled inadequate. The white middle-class, invested in the prestige of its credentials (schools, for instance) does not tolerate well being part of anything "inadequate." In response, the white middle-class fights more arduously to keep its advantages using the weapons it has always held – power and control. NCLB has stirred up a war it never meant to wage; it has cynically targeted the ineptitude of educators and accidentally struck the wrath of the privileged.

Class, Race and Domination

The nature of reporting achievement under NCLB has exposed an existing divide in education that we benignly label the "achievement gap." Despite the rhetoric that purports to advance freedom and individual opportunity by demanding equitable educational outcomes for all, schools are still poised to function best for the white, middle-class, English-speaking child. In heterogeneous communities, like Rivertown, NCLB has ignited controversy for groups that hide their racism behind the praise of diversity. A new discourse emerges from the dominant group that has appropriated diversity from a place of privilege where children of color represent an exotic influence to "round out" the social experiences of white children exposing them to "how other people live."

Freire (1970) talks about manipulation as a means to maintain power; paying homage to diversity is one form of manipulation that temporarily distracts everyone – people of color who think they might finally gain power to advance their children, and whites who are effectively cushioned from acknowledging their oppressive dominance in the school

community. The right class and the right race equal power and academic achievement. Nothing is new; the only inconvenience is that NCLB has made it apparent to the nation.

Not Race but Language

As a medium to navigate the world, language is subject to the same forces inherent in all human relations: creative expression, social cohesion or domination and control. Studying the policies and practices put in place to address language in a public sphere necessitates looking for those same dynamics or struggles evident across human relations. Language is in itself such a powerful tool that nations, groups, even families *plan* for its use perhaps wishing that he/she who controls how language is used, also controls what people can *say*.

The civil rights movement is credited with introducing the language and imagination of freedom for blacks in this country. These many years later, we can recognize how the issue of racism has morphed or become subsumed in the rhetoric of diversity. Change has not run so deep in our society that we readily recognize our racist attitudes and policies toward brown and black people. In the case of Latinos, racist statements are leveled not on their race exactly, but based on speaking a language other than English. Suddenly the claims of inferiority focus on *language,* not *race.* This is what Skutnabb-Kangas and Phillipson (1995) call *linguicism.* Analogous to racism, linguicism represents the oppressive ideology and practices that place value, erudition and power with a select language, and a consequent denigration of other languages and its speakers. This linguistic power structure can take hold within school systems insidiously disguised within the curriculum for reading instruction or Language Arts, for example. Linguicism may also influence many decisions regarding

assessment and evaluation of emergent bilinguals. For preschool children, linguicism threatens to alienate a core aspect of a child's identity, which, logically, is critical to his/her academic advancement.

Linguicism also enables an argument about cultural values and achievement in the claim that Latino students, and in particular those who are not yet proficient in English, struggle because they refuse to learn English. Now complicit in their own struggle, Latinos are pressured to abandon the home language in order to demonstrate a commitment to education. This betrays how whiteness, as Leonardo has envisioned it, encompasses the predominance of English. The argument that the language a child speaks can be treated as merely a skill and not an inextricable link to who he/she is, is presented with an intuitive reasoning legitimated by whiteness.

From a national perspective, young Latino preschoolers force a confrontation with the system of privilege in schools as well as the unexamined rhetoric of NCLB: largely poor, speaking little English and growing in numbers. Will we equitably educate our newest Americans?

CHAPTER 2

LITERATURE REVIEW

There are distinct areas for consideration in the literature addressing early childhood education (ECE) for emergent bilinguals. First, we will consider the recent research addressing the impact of early childhood education to communities as well as individuals. This research offers substantial justification for investing in ECE and garners the attention of politicians and educators alike. The current political climate makes ECE attractive in terms of propelling achievement nationwide, but also in securing a place in the global market (Committee for Economic Development, 2002). Policies and funding streams are developed in response to this newfound motivation. Second, we will consider the conditions facing the growing Latino population of preschool students; dramatic increases in numbers coupled with persistent links to poverty, render Latino children particularly vulnerable to academic failure. Third, the literature on the use of home language in the education of very young children will help to clarify the prevailing knowledge that informs this study. Finally, we will review the literature on emergent or pre-literacy skills to identify the ideal educational experiences that might be offered to young Latino children to mitigate risk factors. This review will also identify remaining gaps for further research.

Impact of Early Childhood Education

Politicians and policymakers drive the discussion on ECE in terms of economic or social gain to society. Studies have quantified benefits in these terms and serve as the starting point of this discussion.

Fueling the attention on ECE are seminal longitudinal studies that have demonstrated clear gains for poor children along with substantial benefits to their communities. The High/Scope Perry Preschool studied the effects of a preschool program on poor children in Ypsilanti, Michigan in the 1960s. Uncommon in educational research, this study randomly assigned children to a treatment group. The control group received no preschool services but remained for comparison studies conducted every few years. Follow-up of participants in the experimental group at the age of 40 revealed sustained benefits such as increased earnings, decreased reliance on public assistance, decreased rates of criminal activity, decreased rates of substance abuse, and others. Cost-benefit analysis revealed as much as $16 returned for every $1 invested in the program (Nores, et al., 2005).

The High/Scope Perry Preschool study may have yielded the most dramatic results, but findings are generally corroborated by other longitudinal studies. Similar longitudinal research on the Abecedarian project in North Carolina found significant differences between randomly assigned participants and a control group. These differences included, increased IQ, decreased rates of grade retention, decreased rates of special education classification, increased high school graduation, increased college attendance, and even reduced incidence of smoking among early childhood participants by the time they reached adulthood (Barnett & Masse, 2007).

The Chicago Child-Parent Center longitudinal study looked at the inter-relationships between preschool attendance and parental involvement, grade retention, cognitive gains, school readiness and adjustment (Ou, 2005). Ou describes a preschool intervention as having a “chain reaction” effect on a child’s functioning that ultimately yielded multiple benefits. It

is important to note, however, that the Perry Preschool and the Abecedarian Project were conducted with English-speaking African-American families. The Chicago Child-Parent Center program was a large-scale effort involving a number of predominantly African-American communities likely to include some speakers of other languages, but this did not enter into Ou's analysis of long-term effects.

There are increasing attempts to calculate the benefits of ECE despite major challenges such as: 1) Measuring the costs that ECE *prevents;* 2) Projecting future costs as a child ages; 3) Assigning value to social benefits; 4) Making appropriate comparisons – control and intervention groups. Nevertheless, policy groups across the country have devised means to quantify cost-benefits analyses. Belfield (2004) conducted a comprehensive analysis in his report to the Schuyler Center for Analysis, Advocacy, and Child Care, Inc., entitled "Early Childhood Education: How Important are the Cost-Savings to the School Systems?" Analyzing the well-documented benefits of ECE – reduced referrals to Special Education, reduced incidence of grade retention and reduced reports of child abuse -- Belfield writes:

> We focus on cost-savings, which arise from increased efficiency in the school system, such as reductions in special education and grade retention, and improvements in learning productivity. Such medium-term cost savings are important to government agencies (Departments of Education), which need to consider the impact of ECE programs on their overall expenditures, particularly within a narrow time frame. (Belfield, 2004, p. 8)

The studies in Belfield's analysis represent a combination of types of early childhood programs. The High/Scope Perry Preschool program represents a more traditional Pre-Kindergarten program, while the Abecedarian and Chicago Child-Parent Centers represent a

combination of early education along with childcare for a portion of the day. For many children, early childhood education is often connected to some additional form of childcare. Childcare can take many forms – parental care, informal care with non-related adults, day care centers – these may all yield different effects on a child's academic development. In an analysis of reported effects for both early education and childcare, Magnuson and Waldfogel (2005) outline cognitive and academic benefits to poor children from a variety of center-based or school related programs. The national attention, however, remains focused on ECE as an introductory school experience (Maeroff, 2006).

Even so, the history of ECE in America is fraught with conflict over its purpose. A dichotomy is evident in the evolution of this early form of education: is it enrichment for the children of affluent families or is it a primary intervention for the problems created by poverty? Poverty in early childhood (versus later childhood or adolescence) has particular deleterious effects. The National Research Council Institute of Medicine includes in its report, *From Neurons to Neighborhoods:*

> Indeed, there is good evidence to suggest that the long-term prediction of academic achievement, school dropout, and even adult literacy from the socioeconomic status of one's family during the early childhood years is attributable to the effects of social class on early school achievement. (p. 159)

Even as some groups advocate for increased early childhood education based on the growing confidence of its effectiveness, the debate remains at the economic level: do the benefits outweigh the costs? Bracey and Stellar (2003) summarize the research on cost versus benefits for preschool and conclude that the seminal studies (High/Scope Perry Preschool, Abecedarian, Chicago Child-Parent Center Program) provide sufficient evidence

that ECE is well worth the cost. Early childhood education has been shown to affect positively the academic trajectories of poor children.

The federal government intervened in this debate in the 1960s with the formation of an initiative to address the impact of poverty called *Head Start*. Edward Zigler, one of the pioneers of Head Start, describes its origins: "Head Start has always been a segregated program, dividing economically disadvantaged children from their wealthier peers" (Zigler and Styfco, 2000, p. 69). Our notions about widely accessible preschool programs are colored by the first impression of federally funded Head Start that sought to intervene in the lives of poor children. The ensuing controversies about Head Start's effectiveness may have served to confirm, in some peoples' minds, the intractability of helping "those kids." Public preschool such as Head Start, then, became stigmatized and undesirable for the larger population. Ron Haskins speaks of "competing visions" in the goals of Head Start:

> Project Head Start was created during the heady, idealistic days of the mid-1960s. Through two seminal victories, the 1954 Brown v. Board of Education decision and the Civil Rights Act of 1964, the civil–rights movement had won equality in the eyes of the law, but the economic and social legacies of centuries of slavery and racial discrimination remained… the War on Poverty focused on education as a tool for upward mobility, and Head Start was to become one of the cornerstones of the federal effort. (Haskins, year, p. 1)

As an antecedent to *No Child Left Behind*, Head Start also sought to ameliorate the detrimental impact of poverty on children's academic achievement for *all* children. Launched as a school readiness measure, however, Head Start did not begin with issues of bilingualism on its agenda. Zigler and Styfco (2004) describe demographic changes:

> The children and families who attend Head Start today are different in significant ways from the first cohort in 1965: Their cultural and language backgrounds are more diverse; the children's parents are younger and more likely to be single and

> employed; and the poverty they experience has grown uglier, with welfare reform adding new stresses. (p. xix)

In the 2007-2008 academic year, Head Start served over 1 million preschool children nationwide. (Retrieved from http://www.nhsa.org/files/static_page_files/399A3EB7-1D09-3519-ADB004D2DAFA33DD/BasicHeadStartFacts.pdf) of various ethnicities. Yet today, Head Start still includes no mention of language minorities or its framework to address bilingual language development in its mission statement (Administration of Children and Families). Changes in the country's demographics have prompted adaptations in the original model, which now can include bilingual programs in some communities (Snow & Páez, 2004). Nevertheless, Head Start does not stand out, in and of itself, as an exemplar for serving the needs of emergent bilinguals. It neither positions itself as a resource for bilingual children, nor addresses the needs of emergent bilinguals in the same way it eloquently argues for the needs of the poor. An argument remains to be made about a community's appropriate response to the education of increasing numbers of poor, emergent bilinguals.

In its 30-year history of helping poor families, many criticisms have been leveled against Head Start that put in question the value of this early intervention. Sigel (2004) aptly summarizes the debate on Head Start's effectiveness:

> The effects of Head Start seem to be short-lived; after first and second grade, academic performance levels off and Head Start children are indistinguishable from children who have not had preschool experience. These results should not be surprising for a least three major reasons. The first, there is no vertical integration between most Head Start programs and public kindergartens that would support the gains the children may have made… Second, the quality of the Head Start experiences may be compromised by the relatively low level of financial support and educational background of Head Start teachers. Third, the families of these children usually live in sub-standard environments with the usual accompaniment of

> poverty… The children's gain from their preschool experience can only be solidified by quality support from kindergarten teachers and beyond. (pp. 47-48)

It is ironic and important to note, that Sigel is essentially describing how Head Start has itself been affected by poverty. Insufficiently funded, its resources are inadequate for the task. This must be the same financial reality confronting many poor families struggling to raise children. It means, however, that Head Start does not emerge as the intervention of choice now at the dawn of expanding early childhood education nationwide.

The United States may begin to reframe its vision of ECE as more states adopt universal Pre-Kindergarten programs. Thirty-eight states now provide publicly funded Pre-Kindergarten programs (Barnett et al., 2008). However, states are not replicating the Head Start model with the new Pre-Kindergarten. Now linked to school districts, the model of early childhood education that is growing in the United States is increasingly viewed as a necessity not only for poor children, but also for the country as a whole.

Internationally, the *Organization for Economic Cooperation and Development* (OECD Directorate for Education) has tracked initiatives for preschool education in 12 developed countries demonstrating the growing understanding of the cumulative benefits of investing in young children. Even at a global level, there is actually a growing trend toward universal educational services for children (Neuman and Bennett, 2001). Against a backdrop of global comparisons, the United States employs NCLB to redefine national goals for education. NCLB emphasizes the acquisition of English language skills as one of its measures of the success of the national education system (Menken, 2008). In addition, while

NCLB did not directly address early childhood education, its influence is an indelible mark on the development of national policies for education for very young children.

One of the purported goals of NCLB is to enable the education system to make the United States "globally competitive." Framed in this way, this urgent task cannot begin too early. The recent attention paid to early childhood education represents an opportunity to intervene early in preparing students, but it can also offer a means to introduce the reasoning of NCLB into the very early grade levels. Stipek (2006) writes that NCLB has in fact found its way all the way down to the preschool level. She writes, "The effects of the legislation are beginning to be felt in preschools because policy makers believe that an early start on developing academic skills will help children reach the standards they are expected to achieve in elementary school" (Stipek, 2006, p. 455). Early childhood education, then, can represent a corrective "head start" for the country under NCLB.

Although early childhood education may be the most successful contributor to NCLB's goal of grade level for all by 2014, school districts need to protect early childhood programs from regulations requiring testing which NCLB now requires starting at the elementary level. In 1998, the National Association for the Education of Young Children and the International Reading Association issued a joint position statement arguing against summative standardized testing for very young children. The NAEYC/IRA (1988) joint position statement, "Learning to Read and Write: Developmentally Appropriate Practices for Young Children" says:

> The younger the child, the more difficult it is to obtain valid and reliable indices of his or her development and learning using one-time test administrations.

> Standardized testing has a legitimate function, but on its own it tends to lead to standardized teaching – one approach fits all – the opposite of the kind of individualized diagnosis and teaching that is needed to help young children continue to progress in reading and writing. (p. 11)

Demographics and Latino Children

The changing demographics in the United States have stimulated discourse about equity for all in education. As a group, Latinos experience greater poverty than their white peers do and this impacts their academic achievement (Gándara and Contreras, 2009). In this section, we will consider population trends and their concomitant socio-economic patterns.

The national growth in diversity is very much evident at the preschool level. In 2009, the Department of Education published the results of a national study entitled, *The Children born in 2001 at Kindergarten Entry: First Findings from the Kindergarten Data Collections of the Early Childhood Longitudinal Study, Birth Cohort*. In this study of 4 million children entering Kindergarten in 2006 and 2007, Flanagan and McPhee (2009) describe the changing demographics. White, non-Hispanic children maintained a slim majority at 53.8% of the entire population. They were followed by 25.1% Hispanic, 13.9 Black, 2.6% Asian, 0.5% American Indian and 4.1% other races. As immigration accounts for much of this diversity, the study also considered the primary home language—18.5% of the children spoke a language other than English in the home. Of the combined population, 23.9% was below the poverty threshold. In all, 83.2% of the study's children experienced some form of non-parental early care and education (such as day care or nursery school) before entering Kindergarten (Flanagan & McPhee, 2009, p. 7).

Hispanics are emerging as the largest minority group in the United States (García & Jensen, 2009). Young Latino children, although mostly born in the United States, are largely Spanish speaking (Gormley, 2008; García & Gonzales, 2006). At Kindergarten entry, 30% of Latino youngsters are not yet sufficiently proficient to undergo initial screenings in English (Gormley, 2008). Rather than a linguistic or cognitive advantage, speaking a language other than English at school entry is actually a risk factor (Coppola, 2005).

A closer look at this population reveals the unique features and needs of Latino children. Hernandez, Denton and Macartney (2007) describe common features among young Hispanic children across the country from the Census 2000 data, which include:

1) Rapidly increasing numbers
2) Concentration in several states;
3) Cultural, linguistic and national diversity;
4) Living with parents and extended family
5) Strong work ethic in the home;
6) Many parents have limited education
7) Fathers are underemployed
8) Patterns of employment for mothers are related to immigration
9) High poverty levels;
10) Parents have limited English proficiency
11) Children may have limited English but move toward bilingualism
12) Decreased rates of preschool enrollment.

This constellation of features portend academic and social challenges, as several are recognized risk factors now compiled in one population subgroup. As a group, Latinos are more likely to experience academic risk than their white counterparts (García & Gonzales, 2006). This further translates into lower rates of college education; one in ten Latinos has a college degree, compared to one in four for whites (Gándara & Contreras, 2009).

Poverty is strongly correlated with decreased academic achievement (National Research Council and Institute of Medicine, 2000). Poverty levels for Latino children are disproportionately high (García & Jensen, 2009); this potentially sets in motion a cycle reproducing lower educational attainment and continued poverty for future generations of Latinos. Further highlighting this critical situation, Hernandez, Denton and Macartney write:

> Thus, the educational success of young Hispanic children will have deep and lasting consequences for the productivity of the U.S. economy, and the predominantly non-Hispanic White baby boom generation will increasingly depend during its retirement on the adult economic productivity of these children. The young Hispanic children of today also will become voters during the next two decades, with enormous influence on Social Security and other public policies. Thus, the prospects for young Hispanic children are important not only for these children and their families, but all Americans. (Hernandez, Denton and Macartney, 2007, p. 219)

The growing numbers of young immigrant children entering our schools present another facet in the challenge to educate America's young children: many do not speak English. Cárdenas-Hagan et al. report on the tragic proportions of academic achievement and limited English proficiency – "sixty six percent of the ELL population in the United States scored below the basic reading level in the fourth grade" (Cárdenas-Hagan, et al., 2007, p. 249).

Research has widely established the disastrous interconnection between poverty, minority or immigrant groups, limited English proficiency and educational attainment. O. García et al. write:

> In 2005, 43% of Hispanic children aged 3-5 years old attended some form of center-based childcare or preschool compared to 59% of white children and 66% of black children… These figures suggest there is a dearth of public preschool programs available for these students and, thus, there is an important gap in the early childhood education of most ELLs [English Language Learners]. If these children are not enrolled in any educational programs in the pre-kindergarten years, and there is no

> funding available for the types of bilingual preschool programs that are most effective at helping the youngest ELLS to achieve an equitable education, then it is no wonder that we often see these same students falling behind as they grow older. (O. García et al., 2008, p. 15)

The conditions confronting young Latino children represent a national crisis. Research that begins to isolate interventions or pedagogies conceived to address their needs is fundamental to educational reform. However, any effort to improve conditions for young Latino children would need to consider strengths as well as needs; deficit models can become self-fulfilling prophesies that tend to do more harm than good by confusing issues. Zentella (2006) outlines the strengths Latino families present particularly as bilingual, culturally diverse individuals. This is a departure from a deficit model that is most often associated with Latino families. It is this alternative framework of Latino families' strength and their linguistic and cultural assets that guides this study.

Bilingualism, Education and Young Children

Having considered the present conditions for Latino preschool children, this section explores the issues surrounding bilingual instruction for young children, in particular:

- ◊ Advantages to bilingualism;
- ◊ The intersection of developing the home language at the time when the second language is introduced;
- ◊ Theories or hypotheses undergirding our concepts about bilingualism and academic achievement.

Advantages of Bilingualism

The National Association for the Education of Young Children jointly with the International Reading Association issued a joint position statement (1998) which states:

> For children whose primary language is other than English, studies have shown that a strong basis in a first language promotes school achievement in a second language (Cummins, 1979). Children who are learning English as a second language are more likely to become readers and writers of English when they are already familiar with the vocabulary and concepts in their primary language. In this respect, oral and written language experiences should be regarded as an additive process, ensuring that children are able to maintain their home language while also learning to speak and read English (Wong Fillmore, 1991). (National Association for the Education of Young Children/International Reading Association, 1998)

Reinforcing rather than destroying a child's skills in another language is the first step in reaping the advantages of bilingualism.

O. García (2009: 95-97) synthesizes the research on bilingualism that recognizes cognitive advantages such as:

◊ Metalinguistic awareness, or the ability to *think* about language as well as employ it. This includes recognition of underlying structures – words, phonemes, definitions;

◊ Divergent thinking – bilingual children demonstrate greater creativity or innovation in response to imaginary tasks;

◊ Communicative sensitivity – by virtue of utilizing more than one code or language for communication, the bilingual child develops greater acuity in discerning the message or idea being expressed;

◊ Ability to learn multiple languages – speaking two languages actually facilitates learning additional languages.

To enter school speaking a language other than English can also be viewed as preferable given that there are recognized advantages to bilingualism. Framed in this way, the prospect of bilingualism for young Latino Spanish-speaking children entering school is building on strength rather than deficit. It assumes an attitude of enrichment rather than remediation that bolsters expectations. When we consider emergent literacy skills, at a later section, we may discover particular advantages to the bilingual *preschool* child whose development of metalinguistic awareness may contribute to phonological awareness, a prerequisite to conventional reading.

The Intersection of L1 and L2 in Early Childhood

The literature on bilingual education provides a framework for exploring the intersection between the young child's developmental task of acquiring language and the introduction of a second language at school entry. The potential to reap additional benefits for bilingual children should be a great motivation to explore bilingual instruction. Conversely, children who enter schools where their home language is threatened or disregarded may face a form of double jeopardy: the language they know has no purpose in school but they do not yet know the language of instruction. These "subtractive" educational systems (Valenzuela, 1999) are perilous for the preschool child.

An additive approach to bilingualism – where both languages are valued, integrated and utilized – actually contribute to an advantage for bilingual children. The Spanish-speaking (L1) preschool child is exposed to English (L2) in the school environment at a time when the development of Spanish is still emerging. Cummins' (2001b) theory of linguistic

interdependence is of particular importance in a discussion about preschool children. He writes:

> The developmental interdependence hypothesis proposes that the level of L2 competence, which a bilingual child attains, is partially a function of the type of competence the child has developed in L1 at the time when intensive exposure to L2 begins. (p. 75)

Even more, the theory linguistic interdependence posits that both languages a bilingual child speaks, for example, Lx and Ly and not necessarily in sequence as in L1 and L2, and they dynamically influence each other where there is continued exposure (García, 2009). The stores of knowledge and vocabulary for bilingual children do not exist as isolated silos of individual languages, but as a merged base from which a child can draw concepts, ideas, skills developed in either language. Beyond this, Cummins further discusses research demonstrating that a strong L1 positively affects academic skills in L2. This linguistic interdependence is the mutually beneficial transfer of skills unique to speakers of more than one language.

Besides evidence that the use of the child's home language supports their English language and literacy achievement, there is another reason why bilingualism may appeal to proponents of NCLB -- global competition. How can we envision navigating a global environment without the command of several languages? Such documented advantages nevertheless remain contested in a political climate that gives primacy to the English language.

Conservative voices in our government and society have promoted "Americanism" over cultural pluralism; it is an easy jump to "English only" policies from there (San Miguel,

2004). When English becomes dominant over all other languages as a matter of policy, the advantages of bilingualism are never in the national discourse. Educators need to "prove" repeatedly that speaking more than one language has merit.

Sue Wright (2004) explores how language policy becomes an exercise of power when it establishes a *subtractive* system that argues for the acquisition of one language at the expense of another. This is at the core of "English only" policies that are cloaked in "doing good" for children by giving them access to the language of power. Romaine (2006) and Mülhäuser (2000) argue further about the more global mechanisms that destroy language diversity under the guise of spreading literacy worldwide. In schools, we see evidence of educational policies that place such emphasis on the acquisition of English, so that bilingualism is just shy of a disability. However, there is much evidence for the use of a child's home language. Bernard et al. (2006) write:

> By cultivating an optimal learning environment — instructing a child in his or her first language, using a child's prior knowledge and personal experiences, and increasing educator-student interaction through the use of journals and discussions — educators and school personnel can provide greater opportunities for English language learner students to achieve academic success and can prevent the unnecessary streaming or misdiagnosing of children into special education environments." (Bernard, et al., p. 2384)

Across the United States, there are some examples of bilingual education that counteract the negative discourse of an English-only political climate. One such example is the two-way bilingual education programs, often called "Dual Language" programs.[2] These

[2] Despite having similar goals, the difference between "two-way bilingual" and "dual language" programs is essentially a politically charged nomenclature. What a program is called may actually signify its alignment with certain ideas. "Dual Language" has become the more popular reference for instructional programs that utilize two languages but it strategically distances itself from any reference to being "bilingual." This, in fact,

programs aim to make young students bilingual and biliterate and may serve as a model for the kind of preparation truly needed to participate in a global environment. They are "two-way" in that half the student population speaks English at home while the other half speaks the targeted language. The students, then, bring the strength of their skills in the home language into the instructional setting. In addition, instruction is alternated between languages on a daily or weekly basis. In these programs, the two languages are taught systematically and equitably, ostensibly without preeminence to either. Conferring equal value and prestige to both languages interrupts the dynamic that views limited English proficiency as a "problem" to be solved in the school (Escamilla, 2006). Two-way bilingual programs inherently promote an orientation of language as a resource rather than a detriment (Freeman, Freeman & Mercuri, 2005). Moreover, two-way bilingual programs can enhance the benefits of linguistic interdependence by developing proficiency in both languages.

Studies of the bilingualism and young children yield some insights on the development of literacy skills. The *Early Childhood Study of Language and Literacy Development of Spanish-speaking Children (ECS)* (Tabors, Páez, and López, 2003) utilized a longitudinal design of composite studies that enabled a closer review of literacy development at various points from Pre-Kindergarten to second grade. During the Pre-Kindergarten period, Páez, Tabors and López (2007) found that bilingual preschool children exhibited oral language skills in both English and Spanish below norms for English-speaking and Spanish-speaking monolingual children. However, these same children performed better in early

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may represent a distancing from the debates that have emerged on bilingual education as well as the populations who do not speak English and are often disenfranchised in the educational system. "Dual Language" is a more palatable way to refer to language as a resource or an enrichment to an existing instructional program.

literacy tasks than in oral language tasks in both languages at the conclusion of the Pre-Kindergarten year, demonstrating some benefits garnered from preschool instruction. Nevertheless, the clear connection between vocabulary and reading success (Snow & Páez, 2004) still places emphasis on the development of oral language skills, particularly vocabulary, during the preschool years.

Recognizing the link between oral language development and emergent literacy development, Hammer, Lawrence and Miccio (2007) found cross-linguistic transfer emanating from growth in oral language skills. They report,

> This investigation also found that *changes* in children's English language abilities during Head Start predicted their ability to identify letters and words in Spanish and English, and *growth* in their Spanish language abilities predicted their early Spanish and English reading abilities. This is a key finding that indicates that growth in *either* Spanish or English language development during the preschool years results in positive reading outcomes in Kindergarten. (p. 243)

In their study, results indicate that the simple growth in language skills, not the precise level achieved, was sufficient to impact emergent literacy development.

Studying bilingual preschool education and language development, Rodríguez, Díaz, Duran and Espinosa (1995) compared a group of Spanish-speaking children attending a bilingual preschool to Spanish-speaking children remaining at home. They report interesting findings at the end of one preschool year regarding language development, for example:

- Both groups of children increased in English language production (speaking);
- The program group scored significantly higher than the home group in English language production; they learned English faster;

- The program group demonstrated more complex language skills – they used more verbs and complex verb phrases (p. 486);
- Both groups maintained (and grew) Spanish proficiency, indicating that the bilingual context did not hinder the development of native language in the program group even while they acquired more complex English skills at a faster rate.

In another analysis of cross-linguistic transfer and emergent literacy, Gabriele, Troseth, Martohardjono and Otheguy (2009) report for bilingual Kindergartners receiving bilingual instruction in English and Spanish that, "syntactic comprehension in the L1 is actually a better predictor of L2 reading readiness than syntactic comprehension in the L2" (p. 542).

Young children learn words from their interactions and from exposure to language in the environment (Hart & Risely, 1995). The preschool years represent a period of rapid vocabulary growth from both home and school experiences. Among the home experiences that support language, is conversation, storybook reading, and television viewing of educational children's programs. Uchikoshi (2006) studied the effects of two television programs (*Arthur* and *Between the Lions*) on the receptive vocabulary of emergent bilinguals and found that home viewing of these two programs was a predictor of vocabulary growth during the Kindergarten year.

Young emergent bilinguals, like their monolingual counterparts, acquire concepts about literacy from exposure as well. Book reading and many layers of environmental print (signs, labels, printed materials, and toy letters -- ubiquitous in their surroundings) promote development in early literacy. For emergent bilinguals, however, this exposure to print may

be in a language other than the one used in school. Reyes and Azuara (2008) studied emergent bilinguals' responses to samples of familiar items (cereal box, bag of chips) and demonstrated that these children do develop print awareness in both languages. While their distinctions between the languages they "read" were not due to orthographic clues, they demonstrate a developing metalinguistic awareness about the distinct patterns of writing and speaking in their two languages.

In his analysis of Tulsa, Oklahoma's Pre-Kindergarten program, Gormley reports gains specifically for Hispanic, Spanish-speaking children as measured on the Woodcock-Johnson Test and the Woodcock-Muñoz Bateria. In particular, scores in the Letter-Word Identification Test, Spelling scores and the applied Problems Test demonstrate genuine academic gains along with the acquisition of English language skills. Gormley states, "For Hispanic students whose primary home language is Spanish, test score improvements [after a year of Pre-kindergarten] are evident in all three areas" (Gormley, 2008, p.924).

Researchers and educators note the policies or practices that may actually detract from emergent bilinguals and lead to a shift away from the home language or a decline in proficiency. The implications of such a loss reverberate in children's lives from their developing identity to their facility in communicating with family members. Research exploring language shift or loss for young children has yielded mixed results (Winsler, Díaz, Espinosa & Rodríguez, 1999). Bilingual early childhood programs may be a protective factor in preserving the home language, but is the exposure to home language in a school program sufficient to preserve or enhance these language skills? Winsler, Díaz, Espinosa

and Rodríguez (1999) studied the question of language loss by comparing preschool children who attended bilingual preschool to a group that attended no program. They conclude:

> No evidence was found to suggest children's Spanish language proficiency is compromised by exposure to English in the preschool classroom. Receptive language, productive language, and language complexity, in Spanish, of the children who attended bilingual preschool increased significantly over a 2-year period parallel with that that was observed for the control children who did not attend formal out-of-home care. Meanwhile, English language development was, on some measures, found to occur more rapidly among the preschool group than the control group. (p. 359)

The researchers included in this review unanimously advocate for more research. The field of early education in conjunction with bilingualism is broad and complex. Data suggest benefits resulting specifically from bilingual instruction during the preschool years but the exact nature and longevity of these benefits remains in question.

Despite any benefits accrued from bilingual programs, the structure orienting the educational system established by NCLB is solely concerned with achievement in *English* (Menken, 2008). Progress in developing English proficiency is closely monitored. Standardized tests of English Language Arts are administered nationally and reported to the public. In other words, bilingual programs may be well and good, but how do they promote progress in *English*? Assuming, then, that the Spanish-speaking child entering school is provided the opportunity to learn bilingually, how well are English emergent literacy skills being developed at the preschool level? In addition, how do these children compare to Spanish-speaking children who are receiving only monolingual instruction at the preschool level?

Development of Emergent Language and Literacy Skills for Preschoolers

The troubling questions that arise over achievement for very young children are embedded in the question of pedagogy for preschool – what is appropriate instruction, what are the underlying philosophical ideas about how children learn, and what are the best ways to deliver instruction? What does early education contribute to educational attainment? While it might be argued that curriculum and instruction has been defined for elementary grades across the state, as evidenced by the New York State learning standards, there is much less uniformity for Pre-Kindergarten where the notion of *school readiness* has varied definitions (LaParo & Pianta, 2000; Scott-Little, Kagan, & Frelow, 2006).

Reading instruction for very young children has undergone substantive change over the decades. These changes evolved in response to a new understanding of *emergent* skills. Around the 1920s, the prevailing wisdom dictated a "maturational" perspective; that is, reading resulted from certain developmental processes that proceeded at their own pace. Instruction that did not keep pace with maturity was futile. Recent work has altered a focus to emphasize that there are many skills, which emerge long before conventional reading, and these can be stimulated, taught and reinforced. These *emergent literacy skills* are evident from birth (Teale & Sulzby, 1992). Fields, Groth and Spangler (2004) state, "The term *emergent literacy* describes the view of literacy development as a continuum. Children are working on all aspects of oral and written language at the same time" (p. 18). Current initiatives in ECE adopt this perspective; research in ECE has progressed considerably in identifying key areas that contribute to emergent literacy skills.

Phonological Awareness

Phonological awareness is a function of oral language development whereby a child recognizes components, smaller units or individual sounds within spoken language (August, Calderón, Carlo, 2002; Fields, Groth, Spangler, 2004; Neuman & Roskos, 1993). In alphabetic languages such as English, phonological awareness enables the child to isolate segments of a word or letters within a word in order to decode its meaning. Embedded within phonological awareness are two skills: 1) Phonemic awareness – the recognition of the smallest units of sounds within words that can be manipulated or reassembled to change meaning (i.e. changing the phoneme "mm" in "mat" can make the word "cat"). Phonemic awareness is a more nuanced or complex level of phonological awareness; 2) Phonics – recognition of the relationship between letters and their corresponding sounds (i.e. the letter M makes the mm sound). All the skills embedded in phonological awareness are predictive of future reading and comprehension skills (Lonigan, 2006, Molfese, Molfese & Modgline, 2001).

Children who do not speak the English language may be challenged to recognize individual words and certainly individual sounds within words. Phonological awareness for emergent bilinguals is a topic of much study. August, Calderón and Carlo (2002) report that for *bilingual* children, "…Spanish phonological awareness predicted English word reading (p. 9)" which lead them to suggest that "… native language (Spanish) phonological awareness training could facilitate children's ability to read English (p. 9)." Likewise, Stewart (2004) identifies bilingual instruction as the "most educationally effective in acquiring phonological awareness" (p. 36).

Koutsoftas, Harmon and Gray (2009) include English language learners in the group of children "known to have difficulty developing phonemic awareness" (p. 117) and requiring specialized intervention. In their study, preschoolers did respond to interventions in English (monolingual). In the case of bilingual instruction, however, August, Calderón and Carlo (2002) report, "For phonemic awareness skills, we found a significant relationship between Spanish performance at the end of second grade and English performance at the end of third grade (p. 18)."

Generally, the literature points to home language instruction aiding in the development of phonological awareness in English. Slavin and Cheung (2004) conclude their metanalysis stating, "…the research supports the use of native language in early reading instruction, especially for paired bilingual strategies that teach reading both in the native language and in English…" (p. 56). However, in a dramatic reversal, Slavin et al. (2011) state, "…what matters most in the education of ELLs is the quality of instruction, not the language of instruction (p. 56)."

Vocabulary

Vocabulary is a critical building block to learning. Reading skills, specifically, are dependent on sufficient vocabulary to aid in comprehension and meaning making. Preschool children are building vocabulary as they learn and utilize language. Exponential growth in vocabulary acquisition and use are necessary as emergent literacy skills develop (Dickinson & Tabors, 2001). Snow, Tabors and Dickinson (2001) identify the predictive relationship between vocabulary and reading in the preschool years.

Vocabulary represents a particular vulnerability for emergent bilinguals. By definition, they have not yet acquired vocabulary in English, but in many instances, their home language vocabulary is threatened by English-only instruction resulting in depressed scores in both languages (Tabors, Páez, López, 2003). For Latino emergent bilinguals there is the complicating risk factor of poverty. Combined risk factors represent cumulative risk (Stanton-Chapman, Chapman, Kaiser, Hancock, 2004) from which emergent bilinguals struggle to rise.

Paucity of vocabulary has clear associations with poverty. The experience of poverty is such that it interferes with the common verbal interactions that might build vocabulary (Hart, 2000). This is not a claim that families living in poverty neglect to converse with their children but rather a recognition that the skills most valued and assessed in schools may be the result of leisure and affluence. For the poor child, entering school lacking in vocabulary is a considerable disadvantage.

As a foundation, vocabulary affects other emergent literacy skills. Sénéchal, Ouellete and Rodney link vocabulary to phonological awareness and state, "… results showed that children who know more words make greater gains in phonological awareness over 1 year compared with children who know fewer words" (p. 176).

Eugene García (2001) identifies another complicating factor relating to vocabulary as an "omnipresent component" (p. 134) of intelligence testing. Here Spanish-speaking children suffer another blow in terms of assessing their skills and capacities. Although comparisons are flawed (García E. 2001), IQ testing becomes a weapon when Latinos are

compared to other groups. The question that remains is of pressing significance: does bilingual instruction mitigate any of these factors for Spanish-speaking children?

Bialystok (2007) reports that vocabulary mastery in Spanish supports reading comprehension in English (p. 54). However, Kohnert, et al., (2005) discuss the limitations for preschoolers in transferring vocabulary skills from one language to another: "Cross-language transfer relies largely on metacognitive or metalinguistic skills. As such, the benefits of generalization from the first to the second language for young children may be restricted to the interface between spoken and written language" (p. 256). Barnett et al., (2006) also reports limited transfer of skills between languages in young bilingual children. However, their one-year study of a two-way bilingual preschool program did demonstrate substantial gains in L1 without sacrifice to learning L2. Tabors, et al. (2003) found a negative correlation between English vocabulary and Spanish vocabulary in bilingual preschool children, perhaps identifying the pernicious effects of subtractive environments. Cummins' notion of "common underlying proficiency" (Cummins, 2001c) of language skills in bilingual children is only in its nascent stages in preschool children. It once again presents an argument for fortifying the home language in order to advance literacy in the second (Kohnert, 2005; Bialystok, 2007; Cárdenas-Hagan & Carlson, 2007, Espinosa 2008).

Of considerable concern in the education of young emergent bilinguals are the social pressures that interfere with vocabulary development. Tabors and Snow (1994) identify "The Nonverbal Period" where "children faced with a social situation in which their home language is not useful for communication will abandon attempts to communicate in that language and enter a period when they do not talk at all (p. 107)." Although the child may

become silent to facilitate learning the second language, silence is detrimental in an academic setting. Silent children cannot be assessed and therefore cannot be supported in their learning.

Background Knowledge

Like vocabulary, background knowledge aids in comprehension and meaning making. A child needs a frame of reference from the real world in order to comprehend abstract ideas presented in stories or writing. Put simply, background knowledge stems from *experience* with common occurrences. Experiences lead to internalized schemas, the "building blocks of knowledge" (Neuman, 2006, p. 32). Preschool children may be lacking in lived experience but do encounter ideas and possibilities from stories and enrichment activities.

Much of the preschool child's background knowledge that is highly valued in schools is built through storytelling and experiences with books. Poor children have fewer resources of print material and consequently, less experience with books and stories told in schools (Brooks-Gunn & Markman, 2005). Background knowledge represents a child's cultural capital; it is arguable, then, that the issue is not insufficient background knowledge, but a mismatch between the culture of the home and the culture of the school. Once again, this is evident across socioeconomic groups (Lareau, 2003).

However, Neuman (2006) raises an additional concern for children whose background knowledge is not recognized or valued in school. Operating from a deficit model, schools react to the disconnect between the child's existing background knowledge

and that knowledge which schools honor, not by broadening instruction, but by relegating the children to "corrective" interventions. Neuman writes:

> … if children's developing conceptual knowledge becomes subordinated to a focus on the relatively small number of necessary procedural skills early on, then the gap between socioeconomic status groups may widen with each successive grade level, building to insurmountable gaps after just a few years of schooling. (pp. 30-31)

Relegated to a "skill and drill" experience, emergent bilinguals often remain disenfranchised not only academically but also, increasingly, in the social context of the school as well. Cummins (2001a) advocates for enabling emergent bilinguals "to invest their identities fully in the process of becoming powerfully literate" (p.91). Bilingual programs can set up an alternate structure that validates and interweaves into instruction the knowledge, culture, and values that emergent bilinguals bring with them to school.

Concepts of Print

In order to acquire literacy skills, young children need to understand the mechanics of written language. This includes first understanding that print conveys meaning and messages. Written language in English follows conventions such as beginning at the top of the page and moving from left to right and sweeping around again to begin at the left. In addition, children need to understand that print is not a string of letters but that groups of letters form individual words, which are separated by spaces. These represent both visual and auditory skills (Nichols, Rupley & Rickelman, Algozzine, 2004) that are critical to learning to read.

Concepts of print develop through interactions with the environment (recognizing stop signs, "reading" cereal boxes, etc.) and through direct experiences with books and print media. I have discussed how a family's resources (socioeconomic status) impacts access to

print material so there are "gaps" evident across groups *even as children enter preschool.* Curricula in early childhood education place great emphasis on storybook reading precisely for its capacity to build vocabulary, comprehension and concepts of print (Roberts, 2008). Storybook reading is an efficacious approach both in school and at home. Roberts (2008) reports that story telling in a child's home language is important in promoting English reading. He says:

> This study provided evidence that primary-language storybook reading in the home was as effective as home storybook reading in English for promoting English vocabulary acquisition in preschool English language learners from two different language groups. In fact, at the end of the first six-week session, children who had received storybooks in their primary language performed significantly better on English recognition of target storybook words than other English-language learners who read books at home in English. (p. 119)

Interestingly, this finding contradicts prior reports on the transfer of vocabulary; storybook reading has other significant benefits. Coppola (2005) reports sustained gains in concepts of print when children are exposed to shared reading and writing activities in the primary language.

Bialystok discusses the acquisition of literacy in bilinguals not only in search of the transfer of skills, but to understand what in the nature of bilingualism affects specific literacy skills. She writes, "These skills, then, can be examined for potential effects that bilingualism has on their development, enabling an evaluation about possible differences between monolingual and bilingual children in their efforts at learning to read" (2008, p. 47). In the case of concepts of print, bilingual children may experience an advantage. Exposed to two languages, or two codes of print, bilingual children develop a strong sense that there are differences between codes and features that may only apply to one or the other. This is, in

fact, a key aspect of concepts of print. Bialystok (2006) reports, “In studies with 4-year-old pre-readers, bilingual children consistently outperform monolingual children in a test assessing the extent to which they understand the symbolic concepts that underlie print” (p. 109).

Elements of these skills were assessed at the school in which this study was conducted over the course of two preschool years – Pre-Kindergarten and Kindergarten. An analysis of the performance of both groups – Latino emergent bilinguals receiving bilingual instruction and Latino emergent bilinguals in monolingual instruction – in the assessments of these skills, constitutes the structure of this study.

CHAPTER 3

RESEARCH DESIGN

This quantitative study looks at the combined effectiveness of early childhood education and home language instruction on the English emergent literacy skills of Spanish-speaking preschool students in a two-way bilingual program. The state of New York, where this study was conducted, offers school districts funding to provide a Universal Pre-Kindergarten (UPK) for four year-olds. In 2007, 32% of New York's school districts offered UPK. Although implemented in more communities, UPK reached only 27% of New York's children (NIEER, p.106). The subsequent grade level, Kindergarten, serves the overwhelming majority of five year-olds in New York although they are not mandated to attend school until the First Grade level. For this reason, this study identifies the two grades before First Grade as "preschool."

Over the course of two preschool years – Pre-Kindergarten and Kindergarten – performance on various assessments of English language acquisition and emergent literacy skills at specific points in time were analyzed. Each point was designated a number in a time series and discussed independently in order to observe growth over time in two preschool years. The final point in the series (Time 6) is the conclusion of the Kindergarten year.

The study was designed to address the question: W*hat are the effects of bilingual instruction on the English emergent literacy skills of Spanish-speaking preschool children?*

Two summary tables (Table 1 and Table 2) illustrate the structure and design of this study. Table 1 outlines the logic guiding the exploration of the primary research question. Table 2 outlines the methods that will aid in that exploration. The study is designed as a

Time Series. Analyses of the students' performance on assessments of emergent literacy skills were conducted in the same order as the assessments were administered.

Table # 1

Research Design Summary

Research Questions		Rationale/Goal	Literature	Participants	Data
What are the effects of bilingual instruction on the *English* emergent literacy skills of Spanish-speaking preschool children?	a) Are there statistically significant differences in test scores between students receiving bilingual instructions and those receiving monolingual instruction? b) What patterns are evident in the trajectory of achievement over the course of Pre-Kindergarten and kindergarten?	To discover the impact of home language instruction on emergent literacy skills in *English*. To explore unique patterns in achievement that may arise from bilingual instruction.	Significance of early childhood education. Bilingualism and early childhood education, Comparison studies on bilingual education Emergent literacy Studies on long-term impact of ECE	83 Emergent bilingual preschool students who attended Pre-Kindergarten and Kindergarten in the same school; 25 in a bilingual program and 58 in a monolingual program with ESL support.	Performance levels on the LAB-R to determine English language proficiency. Scores on a series of emergent literacy measures (described below).
Implications of findings from Research Question #1					
What are the implications of statistically significant differences in the performance of emergent bilinguals receiving home language instruction?		Suggest the instructional modalities that provide the most benefit to preschool children who are learning English. Demonstrate the benefits of bilingualism in instruction for emergent bilinguals. Capture the evidence that may translate into policy changes regarding bilingual instruction. Identify relative strengths of emergent bilinguals receiving home language instruction.	Connecting to studies that already demonstrate benefits of ECE Connecting to studies on emergent literacy Connecting to studies that already demonstrate benefits of bilingual instruction		
What are the implications of the patterns that emerge in the performance of emergent bilinguals receiving bilingual instruction compared to their peers receiving monolingual instruction?		Discover the patterns of achievement over 2 years. Establish the differences and similarities in patterns of achievement over 2 years between Latino students in bilingual programs or monolingual programs.			

Table # 2

Analysis in a Time Series					
Time 1	**Time 2**	**Time 3**	**Time 4**	**Time 5**	**Time 6**
Start of Pre-Kindergarten Fall 2008	**Mid-Year Pre-Kindergarten Winter 2009**	**Year-End Pre-Kindergarten June 2009**	**Start of Kindergarten Fall 2009**	**Mid-Year Kindergarten Winter 2010**	**Year-End Kindergarten June 2010**
LAB-R Performance Levels **Demographics**	**ELA Tally Scores**	**ELA Tally Scores**	**LAB-R** Performance Levels **DIBELS** – LNF **DRA2** Scores	**DIBELS** – LNF&PSF **CBM** - LSF **DRA2** Scores **PALS** Scores	**DIBELS** – LNF, PSF **CBM** – LSF, WIF **DRA2** Scores **PALS** Scores **NYSESLAT**
Analysis					
Descriptive Statistics Chi-square analysis of the population in both groups	ANOVA between scores of students in bilingual or monolingual program (From now on Bil & Monol) Chi-square analysis for a Half Point Score of 50 points.	ANOVA (Bil &Monol) Chi-square analysis for a threshold score of 80.	ANOVA for each subtest and for fluency measures combined (Bil & Monol) Chi-square analysis on meeting benchmarks.	ANOVA for each subtest and for fluency measures combined (Bil&Monol) ANOVA on DRA2 scores (Bil&Monol) ANOVA for each subtest of the PALS and all measures combined (Bil&Monol) Chi-square analysis on meeting benchmarks.	ANOVA for each subtest and for fluency measures combined (Bil&Monol) ANOVA on DRA2 scores (Bil&Monol) ANOVA for each subtest of the PALS and all measures combined (Bil&Monol) Chi-square analysis on meeting benchmarks. Chi-square on NYSESLAT Performance Levels (Bil&Monol).

Data

The data gathered for this study include all the scores from the various assessments administered over the course of two years, as well as socio-demographic information available from the students' registration records. Table 3 lists the variables in this study beginning with the socio-demographic categories that serve to describe the population of students. Table 3 also lists the instruments used for each assessment of emergent literacy skills and whether scores on this instrument were norm-referenced or criterion-referenced. The instruments will be discussed at length at a later section.

Several assessments have specific benchmarks that children are expected to meet at certain times over the course of the two years. These benchmarks are targeted scores that indicate that the child is progressing at the expected rate. Benchmark scores enable a comparison of achievement towards this ideal rate of progress. Categorical variables were composed from the benchmark scores to designate whether a child was "meeting the benchmark." Chi-square analyses of the benchmark scores were conducted at specific points in the time series.

This study analyzes the progress of 83 children over the course of two school years – while they were in Pre-Kindergarten during 2008-2009 and while they were in Kindergarten in 2009-2010. The children were in separate instructional programs: 25 received bilingual instruction in a two-way bilingual program; 58 received monolingual instruction. This study ends with the scores at the *conclusion* of the Kindergarten year, June 2010.

Table 3

Variables in the Study

Variable	Purpose	Input	Type
Gender	Demographic Information	Categorical	
Child's Birth Place	Demographic Information	Categorical	
Mother's Birth Place	Demographic Information	Categorical	
Mother's level of Education	Demographic Information	Categorical	
Session	Demographic Information -- AM or PM in Pre-K. Used to establish that both groups (bilingual and monolingual) received comparable educational experiences.	Categorical	
LAB-R Performance Level at Pre-Kindergarten	Based on performance on this measure – the population of emergent bilinguals is selected.	Categorical	Norm-Referenced
Poverty Indicator	Demographic Information. Used to demonstrate that both groups (bilingual and monolingual) are in similar SES groups.		
Instructional Program	Establishes the two groups for comparison – those in the bilingual instructional program and those in the monolingual program.	Categorical	
ELA Tally Score	*English Language Arts Tally*. A teacher-developed rubric of emergent literacy skills with a point system totally 100. Administered twice in the Pre-Kindergarten year.	Continuous	
LAB-R Performance Level at Kindergarten	This second administration of the LAB-R demonstrates growth in English language skills over the course of the Pre-Kindergarten year.	Categorical	Norm-Referenced
DIBELS: LNF Score	*Letter Naming Fluency*. Used to measure the automaticity in identifying letter names. Timed within one minute.	Continuous	Norm-Referenced
DIBELS: PSF Score	*Phonemic Segmentation Fluency*. Used to measure the automaticity in identifying separate sounds within words. Timed within one minute.	Continuous	Norm-Referenced
CBM: LSF Score	*Letter Sounds Fluency*. Used to measure the automaticity in identifying letter sounds. Timed within one minute.	Continuous	Norm-Referenced
CBM: WIF Score	*Word Identification Fluency*. Used to measure the automaticity in identifying separate sight words. Timed within one minute.	Continuous	Criterion-Referenced
DRA2 Score	*Developmental Reading Assessment 2*. A measure of emergent literacy skills used in combination – comprehensive, integrated.	Continuous	Criterion-Referenced
PALS: Lower Case Letter Names Score	*Phonological Awareness Literacy Screening.* Used to gauge the depth of knowledge regarding letter recognition of lower case letter names. Untimed.	Continuous	Criterion-Referenced
PALS: Lower Case Letter Sounds Score	*Phonological Awareness Literacy Screening.* Used to gauge the depth of knowledge regarding letter recognition of lower case letter sounds. Untimed.	Continuous	Criterion-Referenced
NYSESLAT Overall Proficiency	*New York State English as a Second Language Achievement Test.* In the NCLB design, schools are accountable to ensure that their emergent bilingual population progresses in the acquisition of English. Failing to do so, a school can be deemed in need of improvement for failing to meet "adequate yearly progress."	Categorical	Norm-Referenced

Data Analysis

This study is a causal-comparative design that considers the effects of a bilingual instructional program after its completion (ex post facto) on the emergent literacy skills of preschool children who are deemed to be not proficient in English upon entering Pre-Kindergarten and compares it to those emergent bilingual preschool children who have not attended a bilingual instructional program. Thus, the *independent variable* of this study is the type of instruction—whether bilingual (Spanish/English) or monolingual (English). Scores of emergent literacy skills on the separate assessment instruments constitute the *dependent variables* that are compared against the instructional program (see Table 3).

Scores in the emergent literacy assessments were collected at six distinct points in time over the course of two years (Time Series). Table 3 summarizes the characteristics of the assessments given, the point at which they are given, and the kind of data they emanate.

The population sample in this study was determined by the Performance Levels on the New York State's mandated instrument to determine English language proficiency, the *Language Assessment Battery-Revised (LAB-R).* LAB-R Performance Levels were used to determine who is an English Language Learner, referred to in the study as "emergent bilinguals." In addition, in order to observe the effects of bilingual instruction on the English emergent literacy skills of emergent bilinguals, scores on early assessments over the course of two years were gathered for comparison across two instructional groups – bilingual (n = 25) and monolingual (n = 58). The numerical scores children received on these assessments enabled a statistical analysis of the variance between the two groups.

Socio-demographic data were gathered from the documents completed at registration into Pre-Kindergarten. Students whose applications listed "Spanish" as the home language

and who scored less than “Proficient” on the LAB-R constituted the population sample of “emergent bilingual, Spanish-speaking preschool children.”

This study is structured as a Time Series that mirrors the discreet times when the children themselves were assessed. Time 1, for example, corresponds with entrance into Pre-Kindergarten. The last point in the Time Series corresponds to the last assessments given at the end of Kindergarten, two years later.

Given the sample size, all analyses were subjected to additional tests to determine statistical significance and the magnitude of effect. Every ANOVA included a *Test of Homogeneity of Variances* (Levene’s Statistic) and any finding of statistical significance was reported as the *Welch F ratio.* Effect sizes were calculated using Pearson’s correlation coefficient *r.* Reporting of significance on a Chi-square analysis always used the *Likelihood Ratio* for smaller samples.

Selection of the Sample for this Study

The features of a sample are critical in establishing procedures for a causal comparative study (Picciano, 2004). The sample for this study was composed from the database of exiting Kindergartners (description appears on page 69) by isolating a selection based on the following criteria:

1. All students attended the entire Pre-Kindergarten year and the entire Kindergarten year;
2. Records for all the students indicated that Spanish was the primary language spoken at home;

3. All students tested as less than “Proficient’ in English according to the Language Assessment Battery-Revised (LAB-R) upon registration for Pre-Kindergarten in 2008;
4. Registration records for these less than “Proficient” students included an application for the Dual Language Program indicating the parents’ interest in bilingual instruction;
5. All students in the Dual Language Program were randomly selected through a lottery system utilizing the RAND number assignment function in EXCEL. Each applicant was assigned a number and then numbers were sorted until the count filled all the available openings.
6. All students maintained the same type of instruction (bilingual or monolingual) for the entire two years.
7. No student received special education services.

There were 83 students who fulfilled all the criteria for the sample, 25 received bilingual instruction, and 58 received monolingual instruction. The scores for the study sample were isolated from the Kindergarten cohort on the EXCEL spreadsheet, deidentified and transferred to *Predictive Analytics Software (PASW)* Version 18 for statistical analysis.

Instruments

All the separate assessments children experience over the course of the Pre-Kindergarten and Kindergarten years at the site of this study, the Adelante School, are designed to garner different kinds of information about children’s progress in emergent literacy skills. Although these assessments measure similar or related skills, each assessment’s benchmarks or norms may identify a distinct achievement level against which a

child is compared. The inherent logic of this approach is the belief that multiple measures provide a more accurate picture of an individual child's mastery of skills.

There are two distinct types of assessment appearing in this study:

Criterion-Referenced Assessment – Assessment based on preset criteria, such as a curriculum, that establishes the skills to be measured and the targeted levels of achievement.

Norm-Referenced Assessment – Assessments based on pre-established cut-off scores based on the performance of a large sample, which statistically represents the population being assessed.

Criterion-referenced and norm-referenced assessments interpret scores differently. Criterion-referenced assessments compare achievement to what is being taught; norm-referenced assessment compares scores to how a similar population performs. Both types of assessments may be useful in gauging emergent literacy skills in preschool children. In other words, it is important to understand how well children perform in relation to the skills they are being taught but also in terms of how well children of the same age/conditions generally perform.

The assessments in this study are presented and discussed in the ensuing section. I also point out whether the measure is criterion-referenced (CR) or norm-referenced (NR).

Language Assessment Battery – Revised (LAB-R)

In grades Kindergarten to 12th, the responses on the *Home Language Questionnaire* (HLQ) determine whether a child is further screened to determine his/her English proficiency (Appendix A). NYSED has established procedures for identifying those students who should be screened; this process is illustrated on Appendix B.

The New York State Education Department (NYSED) mandates the use of the *Language Assessment Battery – Revised* (LAB-R) to assess the English proficiency of those students who report speaking a language other than English in the home when they enter the school system. Scores on the LAB-R determine if a student is eligible for bilingual or *English as a Second Language (ESL)* services.

The LAB-R is a protocol of questions and activities based on New York State learning standards in four sections: listening, speaking, reading and writing. These activities are adjusted to student grade levels. The child's scores on the four sections are used to categorize his or her English proficiency in three ways: Raw score, Scale score and Performance level. The analysis in this study uses *Performance level* only. The performance levels are categorized as Beginning, Intermediate, Advanced or Proficient, and thus, this is a categorical variable (a list of variables in the study and their nature appears as Table 3).

The LAB-R is a norm-referenced assessment. According to the New York City Board of Education, Office of Research, Evaluation, and Assessment's June 1991 report, the LAB-R was normed on an English-speaking population, which serves as the comparison for non-English proficient students. A team of experts reviewed the content and the construct of the LAB-R to gauge its reliability and validity as a test of "communicative competence" (Abbott, 1991) in English. Reliability was measured in each subtest and then in the combined score; reliability coefficients "are in the high .80s for individual subtests and in the .90s for total test" (Abbott, 1991).

New York State English as a Second Language Achievement Test (NYSESLAT)

Similar to the LAB-R, the NYSESLAT is used to determine English proficiency for students who speak another language at home. The NYSESLAT is administered annually

and is the only test that can be used to determine when a student can stop receiving English as a Second Language (ESL) services. Whereas the LAB-R is used once to establish English proficiency at school entrance, the NYSESLAT is administered annually to measure progress. What's more, the LAB-R measures language competence, while the NYSESLAT is a test of *language achievement* at a given grade level.

The NYSESLAT is also aligned with NYS standards and divided into four sections: *Listening, Speaking, Reading,* and *Writing.* Scores on the NYSESLAT also yield Performance levels (Beginning, Intermediate, Advanced, and Proficient). Performance levels on the NYSESLAT constitute a categorical variable in this study. It is a norm-referenced test.

English Language Arts Tally (ELA Tally)

Over the course of the Pre-Kindergarten year, progress in emergent literacy skills is monitored by teacher observation. In the 2005-2006 academic year, a group of Pre-Kindergarten teachers in the school of the study developed an emergent literacy framework of skills and attributes (Appendix C) aligned with the New York State learning standards for the grade level. They subsequently developed a rubric with a point system totaling 100, which was entitled the "*ELA Tally*" (Appendix D). The teacher observes a child taking part in small group or independent activities, which she has designed to teach or promote particular skills. The teacher observes over time to ensure that a child demonstrates mastery of a skill in at least three different occasions in order to credit him/her with the full points on the rubric.

The ELA Tally is organized according to New York Standards for Reading, Writing, Listening and Speaking. Within each of these four domains, there are individual emergent literacy skills taught to the children. When children are not yet reading or writing

conventionally, the domains of Reading and Writing include precursor skills that necessarily overlap with Listening and Speaking. In analyzing achievement in these precursor skills, it is helpful to understand them as either receptive or expressive skills. Receptive skills are those that a child can demonstrate non-verbally while expressive skills are those dependent on verbal production.

The ELA Tally is composed of different categories of emergent literacy skills. Within the categories, individual skills contribute points toward the total assigned for the category. In this study the year-end scores were analyzed for reliability. The ELA Tally consisted of 15 categories, Cronbach's alpha for the 15 categories was .91 (15 items, a = .91). The ELA Tally has been found to be highly reliable.

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

DIBELS is a fluency measure that assesses the speed or automaticity of children's responses to early literacy tasks such as identifying letters and sounds. The DIBELS are composed of several subtests that measure skills such as letter-naming, identifying letter-sound relationships, and phonemic segmentation. Administration of these assessments is standardized and timed within one minute. The individual subtests are used for general screening, to diagnose areas of weakness, and to monitor progress over time. DIBELS are intended to provide a "snapshot" of competency at a given time much like a thermometer reads the prevailing temperature. Originally, the fluency subtests were criterion-referenced assessments of early literacy skills. However, the authors' work with large populations has served to establish norms for the DIBELS, which serve as cut-off scores for each subtest.

The research that has been conducted on the DIBELS fluency measures has found correlations between the DIBELS subtests and a number of other standardized instruments

(Kaminski & Good, 1996) predictive of future reading performance. The DIBELS subtest *Letter Naming Fluency (LNF)* is administered several times in Kindergarten. The subtest consists of upper and lower case letters presented to children randomly. Their responses are timed within one minute. For LNF, Good, et al. (2001) report a predictive validity of .65 with the *Woodcock-Johnson Psycho-Educational Battery Revised* and .71 with first-grade reading measures (p. 10). As shown in the Summary Table, only the LNF is administered at the start of kindergarten.

Phonemic Segmentation Fluency (PSF) is a subtest measuring a child's quick response when presented with a question regarding the individual sounds within words ("/s/a/t/"). Good et al. report (2001) that the "[c]oncurrent validity of PSF is .54 with the Woodcock-Johnson Psycho-Educational Battery (p. 8)."

Curriculum-Based Measurement (CBM)

Similar to the DIBELS fluency measures, the CBM subtests follow the same logic of automaticity and the same standardized administration; consequently, the CBM subtests are also fluency measures that are timed.

Curriculum-based measurements take curricular objectives as the target of assessment; in other words, the specific skills taught in the Pre-Kindergarten and Kindergarten curricula form the content of the assessment. For example, over the course of the Kindergarten year, children are taught letter sounds and many sight words, (that is, words that are easily recognized on sight as opposed to sounding them out); the *Letter Sounds Fluency (LSF)* and the *Word Identification Fluency (WIF)* measures are examples of Curriculum-Based Measurements at the Kindergarten level.

The *Letter Sounds Fluency (LSF)* is a one-minute measure of letter names and their corresponding sounds. As shown in the Summary Table, the LSF is administered at the start of the second half of kindergarten. LSF has "evidence of reliability coefficients in the .80 to .90 range for alternate-forms reliability and test-retest in Kindergarten…" (Ritchey, 2008, p. 489).

Word Identification Fluency (WIF) measures the speed at which children recognize a select list of familiar words commonly called "sight words." WIF was compared to measures of the Peabody Individual Achievement Test and the Stanford Diagnostic Reading Test. The WIF correlations with reading comprehension, phonetic analysis, inferential and literal comprehension were .76, .68, .71 and .75, respectively (Fuchs, Fuchs & Compton, 2004). Word Identification Fluency is the final fluency subtest administered at the end of the Kindergarten year. The *Word Identification Fluency (WIF)* measures how many words children recognize from a random selection of the *Dolch Sight Word List*.

The Developmental Reading Assessment 2 (DRA2)

The DRA2 is a comprehensive evaluation of a child's reading abilities based on his/her rate of accuracy, fluency and comprehension with leveled text. It is a standardized, criterion-referenced instrument that assesses for concepts of print, common sight words and story retelling at the Kindergarten level. Measures of reliability indicate "moderate to high internal consistency reliability, parallel equivalency reliability, test-retest reliability and inter-rater reliability (Technical Manual, p. 34).

The DRA2 yields levels or categories beginning with A, and then proceeding with numbers 1 to 44. The vast majority of children score A in the fall of Kindergarten. The expectation is that they would score a three or four by the end of Kindergarten.

In order to facilitate a comparison when so many children receive the same score, three categories were created under "A" for our analysis. The very first category, demonstrating the fewest skills became "Emerging" or "AE" which was given a score of 0.25. The second category became "Developing" or "AD" which was given a score of 0.50. The final category became "Independent" or "AI" with a score of 0.75. In this way, it was possible to measure very early skills with greater subtlety while remaining within the levels proposed by the DRA2. This adaptation makes the score on the DRA2 a continuous variable. As shown in the Summary Table, the DRA2 is administered at the beginning, mid-year, and at the end of kindergarten.

Phonological Awareness Literacy Screening (PALS)

The PALS assesses phonological skills similar to the DIBELS but the assessment is *not timed.* The interest here is not speed but depth of knowledge. Two subtests of the PALS are administered: Lower Case Letter Recognition and Lower Case Letter Sounds. Each subtest has been analyzed for reliability and validity in its measurement of emergent literacy skills. The reported reliability coefficients for the subtests range from .96 to .99, and a regression analysis support the construct validity of the instrument (PALS, Technical Reference). The PALS is a criterion-referenced assessment. Scores on the PALS are all continuous.

Administration of Assessments

The two language tests (LAB-R & NYSESLAT) and 8 separate assessments of emergent literacy skills are administered by a number of teachers. Since several of the assessments are administered more than once in the school year, as many as five different

teachers will assess a child. Table 4 lists the assessments and the individuals administering the assessment.

Table 4

Assessment Administration

Assessment	Administrator
ELA Tally	Classroom teacher
LAB-R Performance Level at Kindergarten	ESL Certified teacher
DIBELS: LNF & PSF	School Psychologist or Reading Specialist
CBM: LSF & WIF	School Psychologist or Reading Specialist
DRA2	Classroom teacher
PALS: Lower Case Letter Names, Lower Case Letter Sounds	Classroom teacher
NYSESLAT	ESL Certified teacher

All assessment information (dates, scores) are maintained on an Excel spreadsheet by the school's Reading Specialist. Teachers supply the results of the assessments at each point in the Time Series, and these data are inputted into the spreadsheet. Over the course of two ECE years – Pre-Kindergarten and Kindergarten – there are 6 times at which scores are gathered and analyzed. The data for this study are the screening results and assessment scores of these six separate times.

The Site

Early Childhood Education in the Rivertown Schools

The Rivertown School District is situated in the suburbs outside New York City. The district serves over 4,200 students, Pre-Kindergarten to twelfth grade (Tazi, 2010).

The Rivertown School District has had a Pre-Kindergarten program for poor children ever since the 1960s. In 1997 New York State introduced "Universal Pre-Kindergarten" (UPK) with a stated goal of serving every four year-old in the state by 2002 (Gormley, 2005). Rivertown expanded its Pre-Kindergarten to include all children in the community. This represents a 50-year commitment to public early childhood education.

In the past decades, the Rivertown Village has experienced a dramatic increase in the number of immigrants settling in the area; the Rivertown Schools experienced an increase in emergent bilinguals entering the schools. Changes in student population are most evident at the earliest grades. The schools serving the youngest children have many more emergent bilinguals and immigrant families than the secondary levels.

The Adelante School, the site of this study, houses three preschool programs in Rivertown which are described below. All teachers (Pre-Kindergarten and Kindergarten) are state certified and "highly qualified" according to NCLB guidelines. There are 8 Pre-Kindergarten teachers, 18 Kindergarten teachers, 1 psychologist, 1 social worker, 1 reading specialist and 1 Resource teacher. In addition, there are 35 certified Teaching Assistants, 5 Literacy Facilitators, 1 Parent Coordinator, 1 Family Specialist, 1 Case Manager, one Library Clerk, two Secretaries and one Assistant Principal. It is my good fortune to be the Principal of Adelante School.

In the 2009-2010 academic year, the school served hundreds of preschool children in three programs:

1. A grant-funded family literacy program serving over 500 Rivertown families with children ages 0 to 4 with weekly classes and a Nursery School for 60 three-year old children who demonstrate high need;
2. Pre-Kindergarten – funded in part by New York State UPK (Universal Pre-Kindergarten) funds, the school serves approximately 270 four-year-olds in a half day program;
3. Kindergarten – serving over 350 children in a full day program.

Adelante Schools is nationally recognized for excellence. In 2000, Adelante received the National School of Excellence Blue Ribbon Award from the Federal Department of Education.

Curriculum

At the Pre-Kindergarten level, the curriculum is described as "language-rich, experience-driven and play-based." This description highlights the curriculum and instruction as developmentally appropriate and enriching. The curriculum is integrated across content areas (science, math, art, English Language Arts, etc.) using themes. In English Language Arts (ELA), the Pre-Kindergarten curriculum follows a framework of literacy attributes (Appendix C) that identify specific emergent literacy skills that children should master over the course of the Pre-Kindergarten year. During the academic years of this study (2008-2009 and 2009-2010), there were 16 Pre-Kindergarten classes (8 in the

morning session and 8 in the afternoon session). All the classes follow the same curriculum and assess children for the same emergent literacy skills.

At registration for Pre-Kindergarten, emergent bilinguals are identified by the responses on the Home Language Questionnaire (HLQ). The LAB-R is administered to these children at Pre-Kindergarten. It is important to note that the LAB-R is not normed for Pre-Kindergarten and so this administration serves only to help the school identify children who may need language support. The score of the LAB-R at the Kindergarten level is the official score used to identify "English language learners" (as categorized by NYSED) which is submitted to the state.

Instructional Programs

Curriculum at the Pre-Kindergarten level is uniform across classes but there are two distinct instructional programs – monolingual and bilingual. In 2002, a committee was formed in the Rivertown Schools to study the benefits and feasibility of implementing a dual language bilingual program in English and Spanish. After reviewing literature on bilingual education and constructing a "fair" design that would benefit all children and not just the children of immigrants, the district settled on a "Dual Language" program that was launched at the Pre-Kindergarten level in the fall of 2003.[3]

Designed as a "fifty-fifty" model, the stated goals of the program were to promote bilingualism and biliteracy in English and Spanish. In this model, children are instructed in

[3] In Adelante, the bilingual program is officially titled "The Dual Language Program." When I refer to the policies or structure pertaining to the students in this program, I will use this title. However, when analyzing the effects of instruction, I will use the term "bilingual instruction" or refer to the classes as "two-way bilingual." O. García (2009) describes some of the politics governing the choice of label for this type of instructional program and the tendency to silence the term "bilingual."

their home language for 50% of instructional time. At the Pre-Kindergarten level, there is one classroom teacher who is bilingually certified; the teacher alternates the language of instruction every two days. At the Kindergarten level, there are two classroom teachers – each designated to teach exclusively in either English or Spanish. In this "side by side" Kindergarten design, the children move between two classrooms, one labeled the "English Zone" and the other labeled the "Spanish Zone."

Beginning at the Pre-Kindergarten level, the student population for the Dual Language program is selected by voluntary lottery maintaining a balance of gender, ethnicity and a configuration of 50% English dominant students and 50% Spanish dominant students, as indicated by the Home Language Questionnaire and parent reports. Parents opt to be included in the lottery by completing an application; every year there are more than double the number of applicants than the available Dual Language openings. The original cohort that began in 2003 is currently in the fifth grade; every year since its inception, the Board of Education has elected to grow the program into another grade level.

The first opportunity to enter the Dual Language Program is at Pre-Kindergarten where class size is set at 18 by New York State regulations. There are four Dual Language sections; two that meet in the morning, and two that meet in the afternoon. In total, 72 openings exist for Dual Language every year in Pre-Kindergarten. Half of these, or 36 children, are Spanish-speaking emergent bilinguals. The other half are monolingual English speakers.

At the Kindergarten level, class size is usually set at about 20 students. Approximately another eight children can enter Dual Language by lottery in the fall of the

Kindergarten year. Truly impartial, the lottery is conducted as a random sort in EXCEL. The only two exceptions to the lottery are as follows: 1) A school district employee can request placement in the Dual Language Program for his/her child attending Adelante School; 2) The younger siblings of children in the upper grades of the Dual Language Program are *automatically* placed in Dual Language.

Teachers

All teachers at Adelante School are state certified, master's level educators. They are all "highly qualified" under NCLB guidelines. There is a very low turnover rate at Adelante School making the majority of the teachers highly experienced in early childhood education. At the time of this study, only 3 (11%) of the 28 teachers in the entire school were untenured. The teachers teaching English in the two-way bilingual program were tenured, experienced teachers. There were four bilingual teachers responsible to teach Spanish in the two-way bilingual program. All four were tenured in the Rivertown Schools but also had experience in New York City public schools prior to their employment at Rivertown. Like the students they taught, the bilingual teachers were Spanish-speakers each from a different country – Puerto Rico, Dominican Republic, Colombia, Mexico.

The data collection and analyses in this study took place at the conclusion of the 2009-2010 academic year. There was no advance notice of how scores would be analyzed nor was there any change in how the data were collected. At no point were the teachers of Adelante School cognizant of this study.

The 2009-2010 Kindergarten Cohort

The Kindergarten cohort at Adelante School in 2009-2010 included 359 children. Although 97% percent of the children were born in the United States, the population in Rivertown is remarkable for its racial, socio-economic, patterns of immigration, and linguistic diversity. Registration records for the Kindergarten cohort outline the demographic diversity. In response to a question regarding ethnicity, 6% identified as Asian, 9% identified as Black or African-American, 53% identified as Hispanic, 31% identified as White or Caucasian, 1% identified as Bi-racial. Federal poverty indicators (Appendix E) reveal that 70% of households in the Kindergarten cohort were within poverty guidelines. Finally, there were 25 distinct home languages listed in the registration records. Following English, Spanish was the language most often reported.

The majority of the Kindergarten cohort (75%) had attended Pre-Kindergarten the year before in the Rivertown schools. The school offered a family literacy program that began even earlier than Pre-Kindergarten; 34% of the cohort had attended some of the early childhood events offered by this program. In addition, the school offered a two-way bilingual nursery program for three year olds the year before Pre-Kindergarten; 15% of the Kindergarten cohort had this early start in preschool education.

There are inherent advantages to attending preschool in the school district where a child officially begins his or her education. At Rivertown, curriculum and instruction at the preschool level is aligned with the later grades; for both the students and the teachers, it is a distinct advantage to begin reading instruction uniformly from the earliest years. This study

considers the trajectory of learning and skills acquisition over the course of the preschool years.

Comparability of the sample (Time 1)

The group of 83 emergent bilinguals in the total sample has sociolinguistic similarities and differences. All reported speaking Spanish at home but the home language is not a single monolithic feature. The cultural and national diversity of the group factors into their experiences as immigrants to this country and as Spanish speakers. Table 5 illustrates socio-demographic characteristics of the sample, differentiated by the kind of instruction the children received.

Table 5

Characteristics of the Sample

Variable	Category	Bilingual Instruction Percent (Number)	Monolingual Instruction Percent (Number)
n	Emergent Bilinguals	25	58
Gender	Male	16 (64%)	26 (45%)
	Female	9 (36%)	32 (55%)
Child's Birth Place	U.S.	25 (100%)	54 (93%)
	Foreign Born	0	4 (7%)
Mother's Birth Place	U.S.	0	1 (2%)
	Foreign Born	25 (100%)	57 (98%)
Mother's level of Education in Years	Elementary 1 - 8	12 (52%)	18 (33%)
	Secondary 9 – 12	6 (26%)	28 (51%)
	College & Above 13 – 16+	7 (22%)	9 (16%)
	Missing Data	2 (8%)	8 (5%)
Pre-Kindergarten Session	AM	13 (52%)	45 (55%)
	PM	12 (48%)	26 (45%)
LAB-R Performance Level at the start of Pre-Kindergarten	Beginning	15 (60%)	43 (74%)
	Intermediate	6 (24%)	10 (17%)
	Advanced	4 (16%)	5 (9%)
Poverty Indicator	Within Poverty guidelines	24 (96%)	46 (79%)

A Chi-square analysis was conducted on each socio-demographic category to determine comparability of the sample (Appendix F, Tables 1 – 7)). In only one category was there statistically significance difference in the samples. A significant association was found only for the Poverty Indicator and instructional program X^2 (1, n =83) = 4.51, p = .03. There were more children from households whose income were within poverty guidelines in the group being instructed bilingually. This is a significant difference between the groups as poverty is often

associated with decreased achievement and multiple chronic stressors. The sample of the bilingual instructional group, however, is more closely representative of the growing population of Latino children in the United States – poor, speaking little or no English, born in the United States of immigrant mothers.

Despite being identified as Hispanic or Latino in the United States as one category, various Caribbean, Central and South American countries are represented in the study sample. The mother's and father's country of origin is requested in registration forms. This section of the child's registration packet is often left blank; perhaps this is indicative of the fear of announcing in a formal document that one is an immigrant. In this study only the mother's country of origin was collected where it was available. Table 6 illustrates the percentage of families from various countries.

Each country has a distinct history and culture that influences how a family views education and, more specifically, bilingual education. In selecting the sample, only parents who expressed an interest in bilingual instruction were included. Since the assignment to bilingual education is conducted by lottery, not all were able to receive the bilingual instruction they desired.

In the Rivertown School District, families from Ecuador and Peru sometimes report speaking Quechua, in addition to Spanish, in the home. For children in those families, English is the third language to which they are exposed. In this study, there were no students speaking Quechua in the home.

Table 6

Mother's Country of Origin

	N	Percent
Unknown	27	32%
Chile	2	2%
Colombia	2	2%
Ecuador	33	40%
El Salvador	1	1%
Guatemala	5	6%
Honduras	1	1%
Mexico	5	6%
Peru	4	5%
Puerto Rico	1	1%
United States	1	15
Uruguay	1	1%
Total	83	100%

According to the regulations for New York State Universal Pre-Kindergarten (UPK), children must turn four by December 1st of the academic year they attend. This means that although some children were still three years old when the school year began, all the children in the study had turned four by December 1, 2008. The specific dates of birth were removed from the database to ensure that children could not be identified by their birthday.

Upon registration for Pre-Kindergarten, children are screened for medical and dental health, and they are assessed for preschool skills using the *Bracken School Readiness Assessment (BSRA).* The first six subtests of the BSRA, called the Bracken Basic Concept Scale, assess knowledge of colors, numbers, shapes, and vocabulary; this scale is administered to all the children. For Spanish-speaking the *Bracken Basic Concept Scale* is administered in Spanish and yields a raw score. This first screening alerts the staff to

potential problems in language development. Since some young children are reticent to speak to unfamiliar adults; great effort is made to befriend the child in the presence of his or her parent and allow for play time prior to assessment. Children whose performance on the BSRA at registration raises concern are screened by a Speech and Language Pathologist who determines if comprehensive evaluations are warranted. Although the BSRA scores are not included in this study, no child in the sample was referred for screening by the Speech and Language Pathologist and no child was classified for special education services. One child in the sample did receive Early Intervention services (for children ages 0 to 3) prior to Pre-Kindergarten register for physical disabilities. The child was no longer eligible for services by the time he was registered in Pre-Kindergarten.

The study sample represents students who are comparable according to the demographic information gathered by the School District but who experienced different instructional programs (bilingual versus monolingual). In this sense, the sample is an ideal group for comparison of achievement among emergent bilinguals in the Rivertown schools.

Limitations

At the conclusion of the 2009-2010 academic year, by the time a child exited Kindergarten at Adelante School, he or she had undergone many assessments with multiple administrations, delivered writing samples, responded to formalized verbal prompts, recited, memorized, and otherwise produced evidence of growth in emergent literacy skills. This study considered the scores on just a selection of the assessments the children underwent. By design, the study did not consider any math assessments, for example. In exploring the question of what effect bilingual instruction has on English emergent literacy skills for

Spanish-speaking preschool children, the excess of assessments and evaluations that are par for the course under NCLB are uncovered. Even at the preschool level, children must navigate a sea of exams and score within a range that will not draw attention to the school or suggest any deficiency. The fact that the children in this study were assessed *so many times* must be counted as a limitation; the sheer number of assessments speaks of a culture of testing and quantification of learning that emanates from a political framework rather than a developmental one. It is not possible to ascertain within this study what effects result from excessive assessment or from a culture of testing at the preschool level. Good instruction relies on frequent checks for comprehension and skill integration, but this can be accomplished through observation or by collecting samples of the students' work. Yet, this is a study of what *occurs* in the lives of preschool emergent bilinguals as they learn English emergent literacy skills, not what *should occur*. Instead, we need to understand the context in which emergent bilinguals begin their schooling and explore how, even within the culture of testing and quantification, bilingual instruction has its own unique effect. In many places, including the Rivertown School District, a program must demonstrate efficacy within this paradigm if it is to endure. Wise early childhood educators understand that a culture of testing must have an effect on young children, and most likely a negative effect. That effect can in no way be isolated in this study.

This study includes timed and untimed assessments. The question of conducting timed assessments with very young children is in itself controversial but conducting timed assessments in English with children who do not yet speak English establishes conditions for failure. While this study included all the assessments of English emergent literacy skills that

the children were given, the limitation posed by inadequate or inappropriate assessments must be recognized.

In addition to many assessments, children encountered many assessment administrators. Multiple raters of similar measures raise concerns about inter-rater reliability. Although all the Adelante School teachers at the time of the study were certified professionals experienced in administering standardized assessments, variations may occur at each administration.

Of all the assessments, the ELA Tally, in particular, can be criticized as a teacher created instrument. However, at the time of this study, the ELA Tally had existed for 5 years at the Pre-Kindergarten level and had been subjected to multiple analyses of statistical significance, associations and correlations every year. These analyses yielded reliable cut-off scores that could be used to plan instruction.

There was no statistically significant association with the instructional program and any socio-demographic feature with the exception of poverty. All the children underwent similar screening procedures at registration including an administration of the *Bracken Basic Concept Scale* in Spanish. The Spanish version of this assessment yields a raw score; since the scores per child are not available, it is not possible to analyze the strength of a child's Spanish language skills at entry into Pre-Kindergarten. It is possible, however, to verify that no children with developmental speech and language delays or disabilities were included in the sample.

At several points in the study the performance of the emergent bilinguals in the two instructional groups was compared to other groups within the larger Kindergarten cohort.

Sometimes these groups were composed of very few children. Small sample size in a quantitative study limits generalizability and rigorous analysis. It is important to note, however, that the conditions being compared (school, assessments, curriculum, teacher qualifications, instructional programs, etc.) for all children were comparable**.**

CHAPTER 4

RESULTS

After having established the comparability of the sample in the previous chapter with data obtained at Time 1, the analysis of results on assessments now begins at Time 2. Time 2 represents the first time that assessment scores are gathered for the children in the study. It is the middle of the Pre-Kindergarten year; teachers have been observing students and have documented their growth for the first months of school. This very first analysis considers the significance of a strong foundation to conventional reading laid by Pre-Kindergarten instruction. Any difficulties or threats posed by bilingual instruction might already be evident at this first calculation.

Time 2

Mid-year, Pre-Kindergarten

At the end of January of the Pre-Kindergarten year, teachers report their students' progress on the first report card and on the first recording of the ELA Tally. The ELA Tally looks closely and specifically at the development of emergent literacy skills. The months from September to January have given children ample exposure to emergent literacy skills and also have given the teacher sufficient opportunity to observe children employing these skills. Most of the skills identified in the ELA Tally can be observed in action (i.e. "Is a critical and responsive viewer") but some need to be staged with questions or visual cues ("Knows the letters of the alphabet, especially those in own name"). Through a collection of anecdotal notes as well as assessment activities designed to test knowledge, the Pre-

Kindergarten teachers ascribe a score to their students that corresponds to a rubric and point system totaling 100 points (Appendix D).

Students received a score for each of 15 independent emergent literacy categories within the ELA Tally; the highest possible score was 100. Once all the scores were gathered, a total score for the ELA Tally was computed for each child. This total was then compared across the bilingual and the monolingual instructional groups. The average score for the bilingually instructed group was 58.84 (*SD* = 27.02) and 49.31 (*SD* = 19.11) for the monolingually instructed group. A one-way ANOVA was conducted comparing the average scores across the two groups within the Instructional Program (Appendix G, Table 1). There was no statistical significance in the difference between average scores F (1, 81) = 3.35, p= .07, r = .20.

To analyze this further, a categorical variable was created entitled "Half Point Score" to identify how many students had achieved 50 of the 100 points on the ELA Tally by mid-year. One of two values was assigned for each student: 1) Below 50 points on the mid-year ELA Tally; 2) At 50 points or above on the mid-year ELA Tally. In the bilingual instructional group, 17 (68%) students were at 50 points or higher on the ELA Tally compared to 24 (41%) students in the monolingual instructional group. Pearson's Likelihood ratio Chi-square analysis (Appendix G, Table 2) found a significant positive association between bilingual instruction and achieving 50 or more points by mid-year X^2 (1, n =83) = 5.04, p = .03. This suggests that an emergent bilingual student who received bilingual instruction was 3 times more likely to score 50 points or higher on the mid-year ELA Tally than an emergent bilingual student who received monolingual instruction. This

finding suggests that after only five months of instruction in Pre-Kindergarten, the bilingual instructional group is demonstrating greater gains in emergent literacy skills.

Time 2 Summary

A comprehensive analysis of Time 2 demonstrates that, on average, students receiving bilingual instruction scored higher (mean = 58.84) than students receiving monolingual instruction (mean = 49.31) on the mid-year ELA Tally. In addition, a statistically significant higher number of students in the bilingual group scored above 50 on the ELA Tally than on the monolingual group. As a first measure of achievement in the acquisition of emergent literacy skills, Time 2 suggests an advantage to bilingual instruction for Spanish-speaking Latino students. At this earlier stage, higher points on the ELA Tally potentially set up a steeper trajectory of achievement and also fortify the foundation laid by preschool instruction.

Time 3

Year-End, Pre-Kindergarten

At the end of the Pre-Kindergarten year, ELA Tally scores are once again tallied and recorded. Through a combination of observations and direct questioning, teachers are able to ascertain a child's progress in acquiring specific emergent literacy skills. Both bilingual and monolingual instructional groups have progressed with a similar curriculum, similar instructional programs and goals, and similar enrichment activities; the only differing factor in the analysis is the language of instruction – some received bilingual instruction for the entire year, while others received monolingual instruction.

ELA Tally

The year-end goal of the ELA Tally is a score of 100 in a compilation of 15 categories of emergent literacy skills (Appendix D). While few students in Pre-Kindergarten actually achieve a perfect score of 100, it is important to gauge how close they come. More importantly, in years prior to this study, when the score on the ELA Tally was compared to subsequent assessments, strong correlations were discovered for achievement in later assessments if a child score 80 or higher on the year-end ELA Tally. A score of 80 became a "threshold score" that would serve to predict performance on assessments in the next school year (Kindergarten). Consequently a new variable was created entitled "Threshold Score" that categorized performance on the year-end ELA Tally score as above or below a threshold of 80 points.

At Time 3 two types of analyses were conducted:

1) An ANOVA of the average scores and the individual scores on the Year-End Tally across both instructional groups;

2) A Chi-square analysis of students scoring below and above a threshold score of 80 points on the average score of the ELA Tally across instructional groups.

Average Score

A one-way ANOVA was conducted to analyze the scores on the Year-End ELA Tally across bilingual and monolingual instruction groups (Appendix H, Table 1). The bilingually instructed group had an average score of 78.24 (SD = 21.33) while the monolingually instructed averaged 72.28 (SD = 18.03). There was no statistical significance in the difference of average scores F (1, 81) = 1.70, p = .20, r = .15. The bilingually instructed

group retains a slight advantage at year-end indicating that, based on average scores, the monolingually instructed group does not master the emergent literacy skills in Pre-Kindergarten curriculum as well as the bilingually instructed group does. Since there is no statistical significance in the difference of average scores, additional analysis is warranted of year-end scores.

In prior years, an analysis of the year-end ELA Tally found a positive correlation between achieving 80 or higher in the final score and achieving grade level (a score of 3 or higher on the DRA2) at the end of Kindergarten. Since then, achievement for Pre-Kindergarten at year-end is reported according to the percentage of students meeting a threshold score of 80 on the year-end ELA Tally. A Chi-square analysis (Appendix H, Table 2) found a significant association between instructional program and achieving a threshold score of 80 on the year-end ELA Tally X^2 (1, n =83) = 4.80, p = .03. Students in the bilingual group were 2.83 times more likely to achieve an 80 on the year-end ELA Tally. Once again, analysis of the performance on the ELA Tally indicates significant advantage to bilingual instruction for emergent bilinguals at the preschool level. Any program that enables preschool students to be nearly *3 times more likely to achieve* in a measure of emergent literacy skills warrants attention. The innovation at the heart of this advantage is bilingual instruction.

Individual Scores

The ELA Tally is composed of 15 individual emergent literacy categories scored twice a year (mid-year and year-end). The individual scores within the composite ELA Tally offer an interesting analysis in the progress of specific emergent literacy skills. How would

Spanish-speaking Pre-Kindergarten children score in these individual skills? What insights might emerge from the patterns of achievement in these individual skills?

The 15 individual emergent literacy categories in the ELA Tally were analyzed separately and compared across instructional groups (bilingual and monolingual). This level of analysis looks at specific areas within emergent literacy skills that may be impacted by the language of instruction. Table 7 illustrates the performance on these categories by instructional group.

Table 7

TIME 3: Average Scores and Standard Deviations on Individual Categories on the Year-End ELA Tally

Category	Maximum Score	Instructional Group	Mean Score	SD
Concepts of Print	6	Bilingual	5.12	.881
		Monolingual	4.57	1.141
Big Ideas	4	Bilingual	2.64	1.287
		Monolingual	2.36	1.180
Wide range of reading materials	5	Bilingual	4.00	1.384
		Monolingual	4.43	.881
Communicates with Pictures and Dictation	4	Bilingual	3.72	.792
		Monolingual	3.24	.885
Conventions of Print	4	Bilingual	3.68	.802
		Monolingual	3.02	1.017
Makes sense of informational text	6	Bilingual	4.12	1.509
		Monolingual	3.66	1.650
Makes sense of literary text	5	Bilingual	3.52	1.584
		Monolingual	3.47	1.379
Critical and responsive listener	6	Bilingual	4.20	1.708
		Monolingual	4.50	1.688
Uses verbal dictations to enhance representations	3	Bilingual	2.68	.690
		Monolingual	2.67	.659
Retells familiar stories	12	Bilingual	8.24	3.479
		Monolingual	7.41	3.444
Communicates ideas effectively	14	Bilingual	10.80	4.163
		Monolingual	10.76	2.999
Extensive speaking vocabulary	5	Bilingual	4.32	.945
		Monolingual	3.38	1.197
Discriminates sounds	4	Bilingual	2.72	1.370
		Monolingual	1.66	1.085
Critical and responsive viewer	9	Bilingual	7.24	2.047
		Monolingual	6.47	2.226
Communicates with variety of media	13	Bilingual	11.24	3.295
		Monolingual	10.69	2.549

Looking further to ascertain statistical significance in the difference of scores, a one-way ANOVA was conducted utilizing the Welch test of equality of means. The Welsh test

yields a more suitable statistic in an analysis of variance between small samples. Table 8 illustrates the ANOVA Welch statistics for the individual items of the year-end ELA Tally. In addition, Pearson's *r* is the calculation of the effect size for each analysis of variance.

Table 8

Time 3: Analysis of Performance on Individual Categories in the Year-End ELA Tally

		Statistic[a]	df1	df2	Sig.	Effect Size
Concepts of Print	Welch	5.674	1	58.384	.021*	.26
Big Ideas	Welch	.856	1	42.214	.360	.11
Wide range of reading materials	Welch	2.063	1	32.687	.160	-.18
Communicates with Pictures and Dictation	Welch	5.940	1	50.623	.018*	.27
Conventions of Print	Welch	10.080	1	57.232	.002**	.34
Makes sense of informational text	Welch	1.566	1	49.560	.217	.14
Makes sense of literary text	Welch	.022	1	40.425	.882	.02
Critical and responsive listener	Welch	.543	1	45.111	.465	-.09
Uses verbal dictations to enhance representations	Welch	.002	1	43.730	.963	.01
Retells familiar stories	Welch	.991	1	45.159	.325	.12
Communicates ideas effectively	Welch	.002	1	35.194	.964	.39
Extensive speaking vocabulary	Welch	14.643	1	57.148	.000***	.40
Discriminates sounds	Welch	11.890	1	37.577	.001***	.39
Critical and responsive viewer	Welch	2.371	1	49.308	.130	.18
Communicates with variety of media	Welch	.554	1	36.946	.461	.09

a. Asymptotically F distributed.
* Significant at the .05 level
** Significant at the .01 level
*** Significant at the .001 level

The individual categories which demonstrated statistical significance in the difference of mean scores all favored the bilingual group. In this analysis, the bilingual group outperformed the monolingual group in 5 distinct areas:

- Concepts of print
- Communicates with Pictures and Dictation
- Conventions of Print
- Extensive speaking vocabulary
- Discriminates sounds

The significance of this finding is discussed individually for each of these five areas below.

Each of the 5 categories in which students instructed bilingually excelled has an expressive component. Since expressive language is critical to mastering these particular emergent literacy skills, excelling in this area has uncovered an underlying advantage in the development of expressive language skills in English conferred specifically by bilingual instruction. While the discussion isolates the five emergent literacy categories, greater expressive language in English remains the thread that weaves through each category and likely aids in the acquisition of mastery.

Concepts of Print

This category indicates that the child *understands that print conveys ideas, information and messages.* In order to manifest this understanding, the child must "read" familiar signs and symbols (letters, labels) in the environment. The teacher relies on verbal responses in assessing this understanding. This category also includes book handling skills (reading left to right, top to bottom, front to back, etc.) which can be evidenced nonverbally. This finding concurs with research which found that bilingual children outperform monolingual children in grasping the concept that print is a symbolic system that conveys ideas (Bialystok, 2006). To succeed in measures of Concepts of print and Conventions of

Print across languages, children need highly developed metalinguistic skills. The child must be able to hold in his or her mind *features* of individual languages and discern within and between languages *that print conveys ideas, information and messages.* The child receiving bilingual instruction may have greater opportunity to experience that written letters and words relate to spoken language as he or she observes the teacher shifting symbols (letters) as the languages change. This analysis revealed a moderate effect size (*r = .26)* in this category of emergent literacy skills.

Communications with pictures and dictation.

Although this category measures the development of writing, it is highly dependent on verbal responses. Embedded in this category are the following behaviors that demonstrate mastery:

- Makes links between oral and written language;
- Assigns a message to his or her own symbols;
- Orally recounts his or her own experience;
- Talks about his or her own drawing/writing;
- Tells adults what to write;
- States the purpose for his or her own writing.

While communicating with pictures and dictation are precursors to conventional writing, the manifestation of development in this area relies on good oral language development and expressive skills. This analysis revealed a moderate effect size (*r = .27)* in this category of emergent literacy skills. Advantage in this area gives children a more robust preparation for the conventional writing that takes place in later grades. The connection between greater

expressive skills and greater pre-writing skills is evident. Bilingual instruction served to propel students in the development of precursors to conventional writing as early as the Pre-Kindergarten year.

Conventions of Print

This analysis revealed a medium effect size (*r = .34)* in this category of emergent literacy skills. This category is linked to Concepts of Print but goes further in requiring that children more closely identify conventions such as capitalization, identifying separate words, distinguishing letters from numbers. It is likely that the same conditions that created an advantage in Concepts of Print are in operation in this category as well, except that it now has promoted a focus on symbols and abstract concepts. Abstract thinking at the Pre-Kindergarten level require higher order thinking skills, such as analyzing, comparing and contrasting, closely observing, and interpreting. It is remarkable to find a program or approach that can enhance the development of abstract thinking for young children. Once again, bilingual instruction was the vehicle to access, promote and enhance abstract thinking skills.

Comprehension and meaning-making are the culmination of abstract thinking. They are also necessary steps to the development of writing. Bilingual instruction can more efficaciously access the stores of background knowledge that emergent bilinguals present when they first enter school. Bilingual instruction can then continue to sustain exponential growth and deeper understanding once a solid foundation is laid.

Extensive Speaking Vocabulary

Statistical significance in the difference of scores for this category is a remarkable finding. This analysis revealed a robust effect size (*r = .40)* in this category of emergent literacy skills. This category is one of the most complex and nuanced. In order to demonstrate mastery, the child must:

- Identify and pronounce personally relevant words from the home and school environments;
- Recognize the vocabulary and writing conventions (greetings and closings) of social communication;
- Use comparative language and word pairs (big/small, day/night, first/last).

At the time of this assessment, the children would have been four and five years old. These are fairly sophisticated expectations for young children. English speaking children might excel in this area if they draw on enriching experiences or interactions in their everyday lives. Young emergent bilinguals are simultaneously drawing from their experiences, making meaning of what is being asked of them, and translating their responses into a second language. This finding validates O. García's (2009) conceptualization of bilingualism as dynamic. In demonstrating these skills, the children are navigating between two languages, not with diminished accuracy or confusion but with enhanced performance. It is because they have not sacrificed the language in which they first understood many of these concepts that they outperform their counterparts in the monolingual instructional group.

Discriminates sounds

This category encompasses one of the more foundational skills of phonemic awareness. This analysis revealed a robust effect size (*r = .39)* in this category of emergent literacy skills. To demonstrate mastery, children must identify and then produce (say out loud) rhyming words. It should be noted that children must first have sufficient vocabulary in order to generate rhyming words. While this category is solely looking for the skill of rhyming, it requires a concomitant level of English language development. Prior analyses have demonstrated that bilingual instruction enhanced the development of English language skills. In turn, now children are better able to isolate and manipulate sounds within the English language. This is a fundamental skill for reading in alphabetic languages. Bilingual instruction served as better preparation for this critical emergent literacy skill.

Time 3 Summary

Time 3 represents the conclusion of the Pre-Kindergarten year. The average scores of both groups were comparable but a statistically significant greater number of children in the bilingual group achieved a threshold score of 80 points which is positively correlated to achievement in the next grade. This can set a steeper incline in the children's trajectory of achievement.

Time 3 also revealed greater achievement in English language skills for the bilingual group. In particular, vocabulary emerged as a strength for the bilingual group. The literature on emergent literacy reinforces the importance of strong vocabulary development in the acquisition of conventional reading skills. This finding suggests that bilingual instruction

mitigates the risk factors borne by poverty and, more importantly, suggests an alternative to the findings of Hart and Risley who found a dearth of vocabulary among poor children.

Many studies highlight the academic boost children receive from preschool education. These findings point to an exponentially greater boost borne by instructing the preschool child in his or her home language along with English.

A Deeper Analysis of the Pre-Kindergarten year

The patterns that we identify in this section do not result from rigorous statistical analysis, but from isolating three subsets of the population and comparing their performance in specific categorical variables. This is an example of one level of reporting under NCLB. If the scores in Pre-Kindergarten were reported as they are in higher grades, these kinds of reports of achievement at Adelante School would be published on the state education department school report card.

Having uncovered advantages conferred by bilingual instruction during the Pre-Kindergarten year, it is also possible to analyze more deeply the patterns associated with bilingual instruction by isolating features of the study. What does a year of Pre-Kindergarten instruction represent for specific groups? We include here three groups: 1) children living within poverty guidelines; 2) children of mothers reporting a primary level of education; 3) children who had an early start to bilingual instruction attending a two-way bilingual program the year prior to Pre-Kindergarten, when they were three years old.

A year of *bilingual* instruction during Pre-Kindergarten yielded significant gains in English language skills. Since the bilingual instructional group had more poor children than the monolingual instructional group, and paucity of vocabulary has long been linked to

poverty, additional analysis of gains in English language skills offer important insights for this study. The performance of the three subsets of the population (poverty, mother's level of education, and early start) will be analyzed across measures of English language acquisition.

Measures of English Language Acquisition

At the end of Pre-Kindergarten, the bilingually instructed group outperformed the monolingually instructed group in three areas that relate to expressive skills or assessments of English proficiency:

1. Composite score of speaking skills on the Pre-Kindergarten year-end ELA Tally.
2. Growth in LAB-R performance levels after Pre-Kindergarten;
3. Achieving proficiency after Pre-Kindergarten year and thereby "exiting" the category of "English Language Learner."

These three areas will be discussed below and performance for both groups will be presented.

Composite Score of Speaking Skills on the Pre-Kindergarten Year-end ELA Tally

At Time 3 the difference in performance between the groups on *Extensive Speaking Vocabulary* in Pre-Kindergarten was statistically significant. The bilingually instructed group demonstrated higher scores in this category. This category is one of five under the heading of "Speaking" on the ELA Tally. Each category has individual skills embedded; it is the individual skills that were are scored and tallied under each category. In the ELA Tally, the heading of "Speaking" contained the following categories:

1. Uses verbal dictations to enhance representations (3 points)
2. Retells familiar stories (12 points)
3. Communicates ideas effectively (14 points)

4. Has an extensive speaking vocabulary (5 points)
5. Discriminates sounds (4 points)

In order to look more deeply at the development of expressive language skills, all the categories under this heading were totaled and a new continuous variable was created called "Speaking Skills." This variable had a maximum combined score of 38 points. Within that total, a threshold score of 32 out of 38 points was established by using the increments of rubric scores on the ELA Tally (Appendix D). The threshold score represents achievement at 84% of mastery for speaking skills on the ELA Tally. A categorical variable was created from the scores on "Speaking Skills" which assigned two values: 1) Below threshold in speaking skills; 2) At or above threshold in speaking skills. The percentage of students scoring "at or above threshold in speaking skills" was used to represent achievement in several comparisons of subsets of the sample.

Growth in LAB-R performance levels after Pre-Kindergarten

This categorical variable identifies students who advanced two or more Performance Levels on the LAB-R from the start of Pre-Kindergarten to the start of Kindergarten. This is an important measure as it captures a growth *rate* in English language learning that exceeds the expectations of the state otherwise known as *Adequate Yearly Progress* or AYP. The urgency surrounding English language acquisition for a growing population such as Spanish-speaking preschool children is often the impetus behind English immersion instructional approaches (Menken, 2008). Yet, in this study, bilingual instruction actually yielded a higher rate of English language acquisition at the Pre-Kindergarten level as measured by the LAB-R.

Exiting ELL category in Pre-Kindergarten

This categorical variable identifies those students who scored as "Proficient" in English in the second administration of the LAB-R, at the start of Kindergarten. These students have demonstrated the most growth in English acquisition and after one year of instruction at the Pre-Kindergarten level have exited the category of "English Language Learner." High percentages in this area is of particular interest to policy makers who look to prevent expenditures in required services such as English as a Second Language (ESL) services mandated for all children who score less than proficient on the LAB-R. Exiting the ELL category represents cost savings in fewer ESL teachers and a reprieve from annual testing on the NYSESLAT.

At the Pre-Kindergarten level, a higher percentage (68%) of emergent bilinguals exited the ELL category in the bilingually instructed group than in the monolingually instructed group (50%). The analysis below looks more deeply at the percentage of students exiting the ELL category in different subsets within the sample of emergent bilinguals.

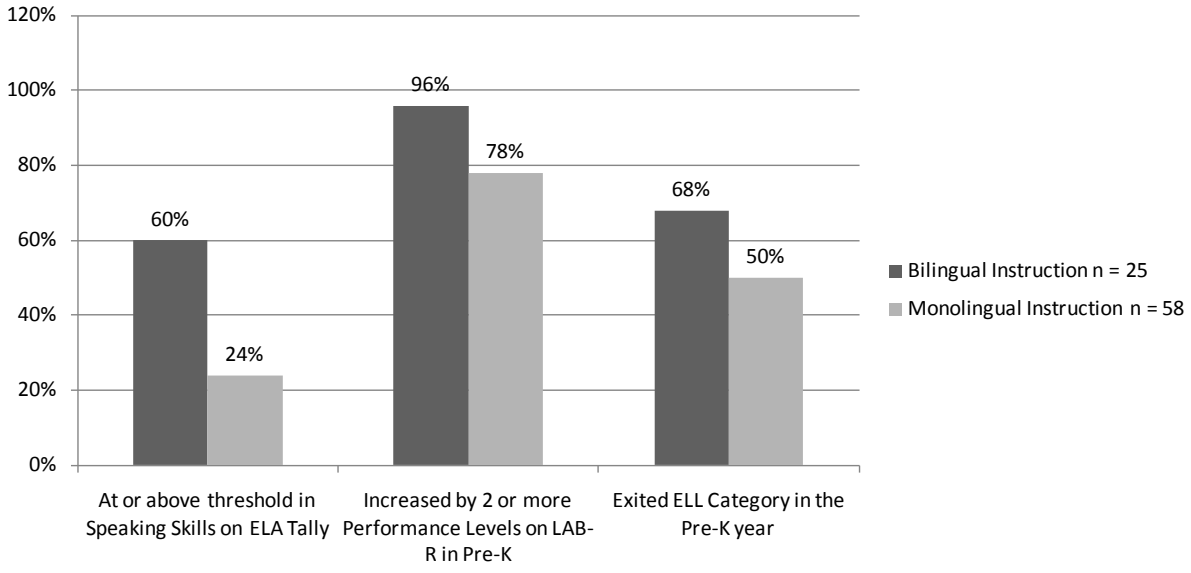
Performance and Analysis in Measures of English Acquisition

There has been ample discussion on the benefits of an increased rate of English acquisition for emergent bilinguals. Since many emergent literacy skills are dependent on English language skills, English proficiency is a fundamental benefit. Considering that speaking a language other than English at school entry presents risks to achievement, the rate of acquiring English proficiency is a significant feature to analyze. In this section, the rate of English language acquisition is presented in the percent of students that meet the criteria on the three variables presented above. We begin with the entire population to set the first

comparison and then isolate subsets within the population in order to facilitate a discussion in greater detail.

Figure 1 illustrates the percentage of Pre-Kindergarten students in the entire sample (*n* =83) meeting criteria on each of the 3 variables by instructional group. This visual representation illustrates a pattern of increased achievement in English language acquisition. In every instance, the percent of students meeting criteria for English language acquisition in the bilingual instructional group exceeded the monolingual instructional group.

Figure # 1
Percent of students meeting criteria in measures of English language acquisition by INSTRUCTIONAL PROGRAM



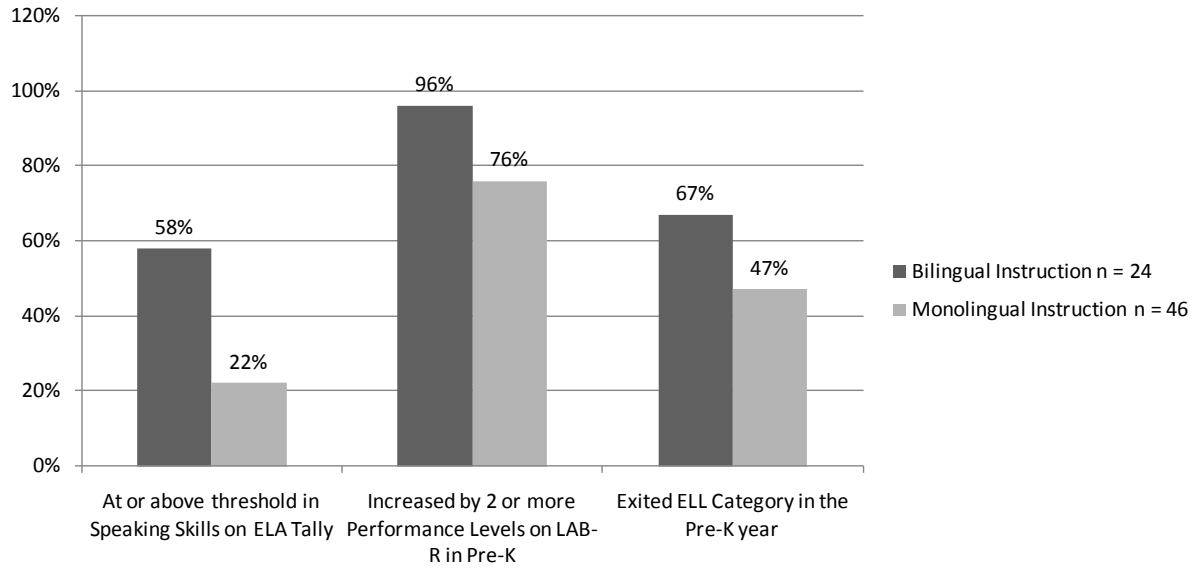
Poverty

Poverty is persistently linked to decreased achievement. The literature identifies poverty as a significant feature of the growing Latino population of preschool children in the

United States. Any program that can benefit poor children in particular, merits attention and support. Longitudinal studies in early childhood education point to the lasting benefits of preschool education for poor children. All the children in the study whose household income was "within poverty guidelines" (n = 70) are represented in this analysis. Distinct patterns emerge for poor children.

This analysis highlights potential benefits of bilingual preschool education for Latino preschool children living in poverty. In every instance, there was a greater percent of poor children meeting the criteria for English language development in Pre-Kindergarten if they received bilingual instruction. Figure 2 illustrates patterns of achievement on these 3 variables for the 70 children living in poverty in this study.

Figure # 2
Percent of poor students meeting criteria in measures of English language acquisition by INSTRUCTIONAL PROGRAM

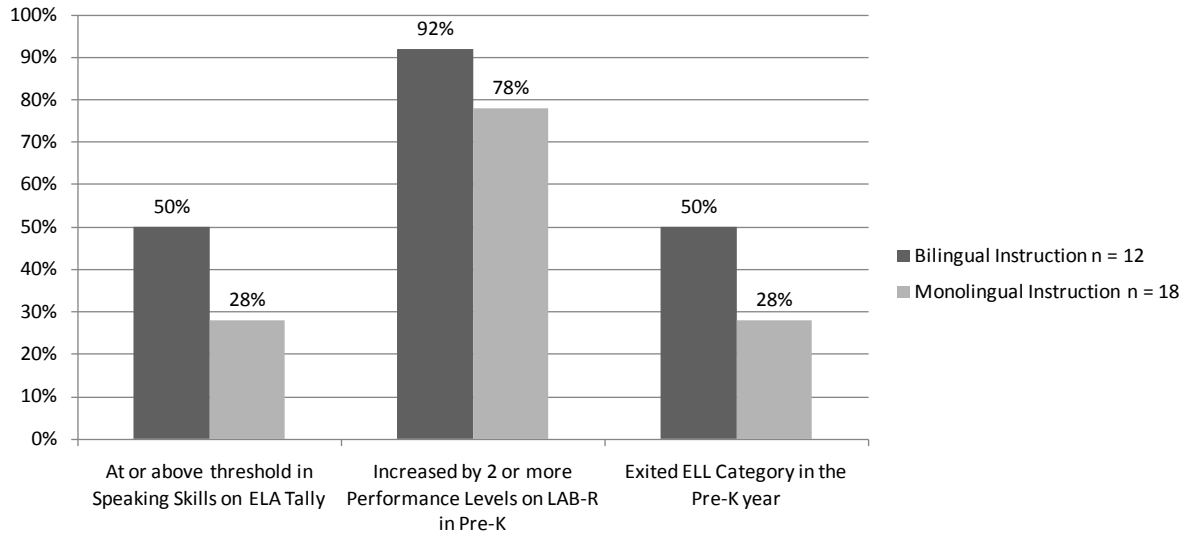


Once again, the pattern revealed demonstrates advantages related to bilingual instruction. While the greater rate of English language acquisition has been presented, Figure 2 illustrates the particular pattern that emerges specifically for poor children.

Mother's Level of Education

Academic achievement for a child is associated with the level of education his or her mother attained. The database for this study contained information about the number of years a mother attended school garnered from the registration records of every student. These years were transformed into a categorical variable that designated 3 categories: Primary education (up to the 8 years of education; Secondary education (up to the 12 years; College and beyond (more than 12 years of education). In this analysis only those children in the study sample (in either instructional group) whose mothers had a primary education were included (n = 30). Figure 3 illustrates patterns of achievement on these 3 variables for children whose mothers had no more than a primary education. In every instance, there were a greater percentage of children whose mother had a primary level of education meeting the criteria for English language development in Pre-Kindergarten if they received bilingual instruction.

Figure # 3
Percent of students meeting criteria in measures of English language acquisition whose mothers had a primary level of education by INSTRUCTIONAL PROGRAM



Equitable outcomes in education for poor and affluent children alike are the focus of educational reform. This analysis suggests that bilingual education mitigates the influence of poverty by propelling a greater rate of English language acquisition for poor emergent bilinguals. A link between bilingual instruction and higher achievement for poor children is a dramatic finding that warrants extensive investigation.

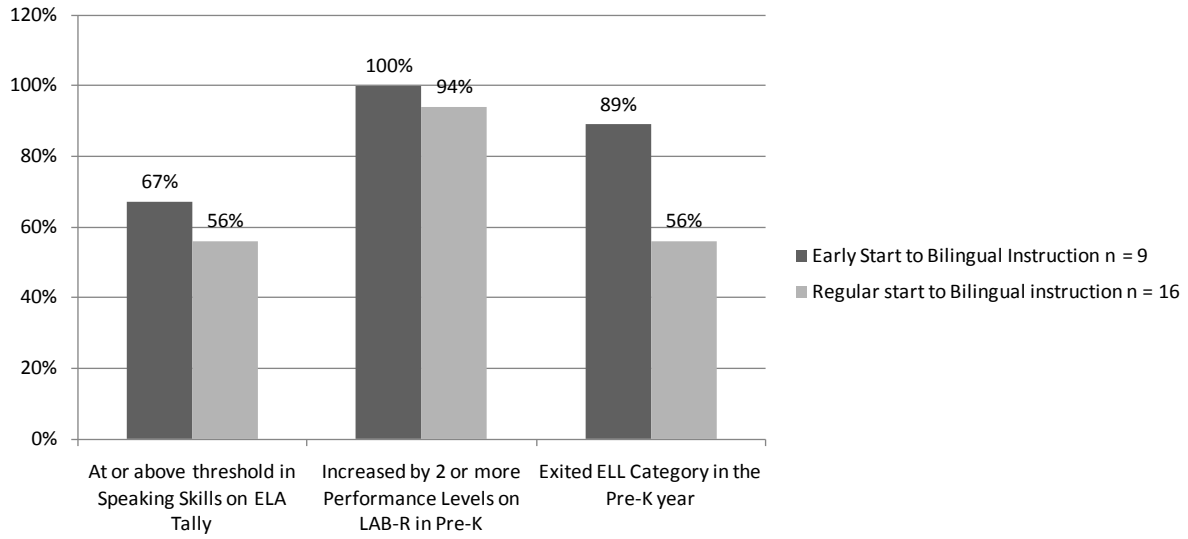
An Early Start to Bilingual Instruction

Within the study sample of emergent bilinguals who received bilingual instruction for 2 years, nine (36%) students actually had an early start to bilingual instruction beginning in a nursery program offered at Adelante School. For these 9 students, the end of the Kindergarten year represented the conclusion of *three* years of bilingual instruction. Children who attended the nursery programs as three year olds began their education receiving bilingual instruction. This nursery program represented a formative experience for

very young emergent bilinguals that would play to their strengths – the home language – in order to bolster their school readiness.

This analysis focuses on the entire group of children who were bilingually instructed (n = 25). Within these, 9 (36%) began receiving bilingual instruction the year before Pre-Kindergarten in a nursery program at Adelante School. This analysis compares achievement within the bilingually instructed group to gauge if there is greater advantage to beginning even earlier with bilingual instruction. Figure 4 illustrates patterns of achievement on these 3 variables for children who had a year of bilingual instruction prior to Pre-Kindergarten. In every instance, there were a greater percentage of children who had an early start to bilingual instruction meeting the criteria for English language development in Pre-Kindergarten. Comparing Figure 4 to Figure 1, it appears that by intensifying the use of bilingual instruction, by starting a year sooner, it is possible to boost achievement in English language acquisition even more. The first five years of life, and not just the first year of school, contribute to the eventual outcomes at the end of Kindergarten; the benefits of beginning as early as three to receive bilingual instruction are largely unexplored. This analysis suggests the imperative of additional research in the years before Pre-Kindergarten.

Figure # 4
Percent of students meeting criteria in measures of English language acquisition by EARLY START



Subjecting the data in this study to the same parameters and requirements of NCLB, patterns of greater achievement emerge for emergent bilinguals who receive bilingual instruction. A higher percentage of poor children, children with mothers with a primary education, and children who began bilingual instruction very early met criteria for English language development in Pre-Kindergarten at a higher rate. Subjecting early childhood education to the same mechanisms of NCLB as occurs in the higher grades, a report of higher percentages of students meeting target scores suffices as evidence of adequate yearly progress. These, therefore, are significant findings in a study of early childhood education under NCLB.

This analysis demonstrates some the impact of the foundation laid during the Pre-Kindergarten year. As many ECE studies report, a strong foundation in language skills upon entering Kindergarten is associated with academic gains. Both instructional groups are entering Kindergarten having had a year of Pre-Kindergarten preparation. The performance

of the bilingual instructional group, composed almost entirely of poor children (all but one), suggests the possibility that given bilingual instruction at the Pre-Kindergarten level enables emergent bilinguals, not to "catch up," but to outperform their more affluent counterparts and thus enter Kindergarten showing fewer deficits related to poverty.

Time 4

Beginning Kindergarten

Enrollment for Kindergarten at Adelante School has consistently remained at approximately 350 students for a number of years. At the start of Kindergarten all students receive the same assessments which now become part of a permanent academic record. Entering students have had diverse preparatory experiences that already affect the acquisition of emergent literacy skills. Some students enter Kindergarten able to read conventionally, while others cannot identify letters of the alphabet. There is, however, no expectation about skills upon school entry in Kindergarten. Assessments simply note a child's starting point; it is not until mid-year in Kindergarten that there are benchmarks and cut-off scores which may qualify a child for academic interventions or may be used to predict later achievement.

There are three different assessments administered at the start of Kindergarten – one subtest of the *DIBELS* entitled *Letter Naming Fluency* (LNF), the *Developmental Reading Assessment, Second Edition* (DRA2) and the *Language Assessment Battery – Revised Version*. Performance on these assessments will be analyzed separately.

This study isolates a sample of students who had at least one year of instruction at Adelante School prior to entering Kindergarten. At Time 4, the study sample underwent the same assessments as the entire Kindergarten cohort for 2009-2010. For the study group,

Time 4 enables an opportunity to review the performance of emergent bilinguals who enter Kindergarten having had one year of preschool instruction. Time 4 also enables a comparison in the rate of English acquisition as measured by the Language Assessment Battery – Revised version (LAB-R) of English proficiency of those emergent bilinguals who had received bilingual instruction and those who did not. Finally, Time 4 places the study sample within the context of the larger group of children entering Kindergarten, enabling a comparison in performance with children whose home language is English.

LNF

The *Letter Naming Fluency* (LNF) measure attempts to gauge how well a child has learned the letters of the alphabet in English by counting correct naming responses within one minute. The child is presented a page with upper case and lower case letters of the alphabet randomly placed. The child continues to name letters (a letter may appear more than once) within the one minute time limit. The logic behind this DIBELS measure is that the more quickly and accurately a child can name the letters of the alphabet, the more "automatic" they become and the less the child needs to decipher each letter in a word in order to understand the word. Letter naming is a fundamental skill in English emergent literacy skills. However, the question of timing very young children on any measure remains controversial and susceptible to false negatives. A greater challenge emerges in assessing emergent bilinguals with LNF as they must now identify letters of the English alphabet when they may not yet speak the language. The impact of second language learning on this timed measure is embedded somewhere in the child's performance, but is difficult to isolate. The validity of LNF for emergent bilinguals, therefore, must remain in question.

Memorizing and reciting the letters of the alphabet for young children is an explicit skill often segregated from any connection to comprehension or meaning. Children sing the alphabet song or recite letters in sequence as part of early childhood literacy experiences but it is still a conceptual and cognitive leap for a young child to understand that these randomly shaped symbols, when grouped together, forge sounds that represents concepts (words). A good early childhood educator will approach the teaching of letters and their significance, appealing first to a child's egocentrism by focusing on those letters in the child's first name. Fascinated by this attention, a child may quickly learn all the letters in his or her name and then tarry in memorizing the rest. Presented with a test of letter names, the young child may search first for significance (his or her own letters) and score outside the parameters of a timed measure. The emergent bilingual child may also pause at the beginning of an assessment to ascertain the language in which he or she must respond and lose precious seconds there as well.

At the beginning of Kindergarten, children receiving bilingual instruction since pre-Kindergarten may have become accustomed to the shift in the language of instruction, the expectation of production (the language they must speak in on given days), and the difference in letter names from English to Spanish. Whether this represents an advantage or a hindrance in the LNF measure in English is difficult to determine. Children receiving monolingual instruction might have no competing languages that would interfere in the learning of English letters, but they may not have advanced sufficiently in acquiring the English language to be able to focus on symbols. In other words, the task of the emergent bilingual child in a setting employing solely monolingual instruction is first to make sense of

his or her environment by acquiring *vocabulary*. Letter names have no meaning in the absence of vocabulary. Is it the case, then, that emergent bilinguals acquire English letter names more slowly (or later) than those children who speak English at home, and what is the difference between those instructed in the bilingual program and those who were in the monolingual program? In this analysis, the entire study population, regardless of instructional program, may in fact be at a distinct disadvantage in producing English letter names within one minute.

The bilingually-instructed group had an average score of 13.20 letters named correctly within one minute while the monolingually-instructed group had an average score of 10.24 correctly named letters in one minute. Recognizing 10 to 13 letters upon entry into Kindergarten seems to be an advantage *when there are no expectations for performance.*

However, the average scores for the combined groups of emergent bilinguals (those instructed bilingually and those instructed monolingually) compared unfavorably to the average score of English speaking children who had also attended Pre-Kindergarten the year before and had received monolingual instruction (n = 52). Those children had an average score of 23.08 letters (almost the entire alphabet). This large discrepancy between the average scores of English speaking children and emergent bilinguals bears analysis beyond this study. Variables such as poverty and cultural differences may factor greatly in this discrepancy, but the LNF measure emerges as inextricably associated with English language proficiency and is, therefore, not helpful in planning instruction for emergent bilinguals. Children who lag in the acquisition of letter names and sounds in Kindergarten raise concern and tend to be assigned remedial strategies or programs. These programs most often utilize

explicit skill instruction (repetition of letter names in isolation) which further exacerbate the problem. This can become an unrelenting cycle for emergent bilinguals that deprives them of the rich, varied instruction that builds vocabulary and comprehension.

Nevertheless, a one-way ANOVA was conducted on the scores on the LNF of emergent bilingual students in the bilingual and monolingual instructional groups (Appendix I, Table 1). The bilingually instructed group had an average score of 13.20 (SD = 12.17) compared to an average score of 10.95 (SD = 10.80) for the monolingually instructed group. There was no statistical significance in the difference of scores between the bilingual and the monolingual groups F (1, 80) = .70, p = .41, r = .10. Compared to each other, emergent bilinguals perform comparably on this measure; compared to English speakers, they perform at lower levels. At this first *timed* assessment, a new question emerges: how well do fluency measures of skills in English assess progress for emergent bilinguals?

DRA2

The *Developmental Reading Assessment, Second Edition* (DRA2) is administered to every child at the start of Kindergarten. The DRA2 uses attractive little books that children are encouraged to "read" aloud after the teacher's demonstration. As the child reads the book (repeating after the teacher), the teacher rates the child's handling of the book (reading left to right, referring to drawings for comprehension, recognizing repeated words and patterns). The DRA2 assesses emergent literacy skills globally; that is, a child must bring together isolated skills (concepts of print, recognizing letters of the alphabet, conventions of print, vocabulary, discriminating sounds, etc.) in order to complete the task presented by the DRA2. As a global assessment, the DRA2 is an excellent measure of a child's movement

toward conventional reading. Unlike the LNF, the DRA2 does not create an inherent disadvantage for emergent bilinguals. Although the DRA2 is administered in English, it is untimed and it incorporates comprehension within its measures of literacy skills.

As we said before, the DRA2 yields levels or categories beginning with A then proceeding with numbers 1 to 44. The vast majority of children score A in the fall of Kindergarten and there is no expectation that they would score any higher. Within the A category, there are three subcategories of emergent literacy skills (Emerging, Developing and Independent). The subcategories offer a truer picture of a child's skills and enable a teacher to plan instruction more effectively. Although each of the subcategories still falls within level "A," there is sufficient difference between them to warrant analysis. In order to analyze performance on the DRA2, a numerical value was assigned to the subcategories within level A. Since level A precedes level 1 in the DRA2 scale, the values assigned were all less than one. The very first category, "Emerging," demonstrating the fewest skills, was given a score of 0.25. The second category, "Developing," was given a score of 0.50. The final category, "Independent," was given a score of 0.75. In this way, it was possible to measure very early skills with greater subtlety while remaining within the levels proposed by the DRA2. This adaptation makes the Time 4 score on the DRA2 a continuous variable.

The bilingual instructional group had an average score of .61 compared to .45 for the monolingual instructional group. The bilingual instructional group demonstrates an advantage on the DRA2 which was further analyzed. A one-way ANOVA was conducted on the scores on the DRA2 of students in the bilingual and monolingual instructional groups (Appendix I, Table 2). The bilingually instructed group had an average score of .61 (SD =

.500) compared to an average of .44 (SD = .231) for the monolingually instructed group. There was no statistical significance in the difference of scores between the bilingual and the monolingual groups F (1, 81) = 2.65, p = .11, r = .21. Both groups, regardless of the language of instruction, are keeping pace in the development of English emergent literacy skills. Most importantly, the performance of students in the bilingual instructional group does not indicate any disadvantage in the acquisition of English skills despite receiving instruction in English half the time of the monolingual group. In fact, the bilingual instructional group exhibits greater skills as evidenced by a higher average score.

LAB-R

At the start of Kindergarten students who speak a language other than English at home are assessed using the LAB-R. The Kindergarten LAB-R score is the *official* score of English proficiency which is reported to the state and retained in academic records. These scores translate into performance levels in English acquisition (Beginning, Intermediate, Advanced and Proficient); scoring less than "Proficient" enters a student into the state designation of "English Language Learner." Emergent bilinguals who score less than Proficient on the LAB-R receive English as a Second Language (ESL) services and are tested yearly with the NYSESLAT until they score at the proficient level.

The sample of children in this study had an *unofficial* administration of the LAB-R a year before, at the start of Pre-Kindergarten. Using the same performance levels, growth in English acquisition can be measured from Pre-Kindergarten to Kindergarten in this study. What effect, if any, would bilingual instruction have on the acquisition of English proficiency?

According to state regulation regarding ESL instruction, students are expected to progress at least one performance level every academic year. Students scoring as "Beginning" English proficiency at the start of the year should achieve "Intermediate" by the end, and so on. In analyzing the effect of bilingual instruction on the acquisition of English proficiency, progressing one or more performance levels can be defined as the "rate" of English acquisition. The question becomes, is there a difference in the rate of English acquisition between the bilingual and monolingual instructional emergent bilingual groups?

A categorical variable was created entitled "ESL Growth" using the performance levels from the Pre-Kindergarten and Kindergarten years. Comparing levels from one year to the next, one of two values was assigned for each student: 1) Remained the Same or advanced one Performance Level; 2) Advanced 2 or more Performance Levels. Table 9 illustrates the growth in Performance Levels for both instructional groups.

Table 9

TIME 4: ESL Growth in Performance Levels from Pre-Kindergarten to Kindergarten

	Bilingual Instruction	Monolingual Instruction
Remained the same or increased by 1 Performance Level	1 (4%)	13 (22%)
Increased by 2 or more Performance Levels	24 (96%)	45 (78%)

Pearson's Likelihood ratio Chi-square analysis (Appendix I, Table 3) found a significant positive association between bilingual instruction and advancing 2 or more performance levels X^2 (1, n =83) = 5.21, p = .02. This suggests that a student was 6.94 times more likely to advance 2 or more Performance Levels if the student received bilingual

instruction. These findings challenge the politically charged debates for *English only* in American schools. These debates claim that the exclusive use of English for instruction and social interaction speeds up the rate of acquiring English language skills and thereby facilitates assimilation. Mired in these debates, the rate of English acquisition is so important within the New York State educational system that emergent bilinguals must undergo testing every year beginning in Kindergarten to measure their progress. Under NCLB, schools must demonstrate "adequate yearly progress" (AYP) in their populations of emergent bilinguals who must advance at least one Performance Level in English acquisition in order to avoid sanctions from the State Education Department. Clearly, any program that generates a greater rate of English acquisition is a significant boon to a school and even to a student who has one less test to take.

Time 4 Summary

At Time 4 the performance of both the bilingual and monolingual instructional groups on the *Letter Naming Fluency* measure showed no statistically significant difference. However, the average performance for emergent bilinguals was nearly half that of a comparable group of English speaking children beginning Kindergarten at the same time. In English literacy instruction, letter naming is a basic skill that must be mastered before conventional reading. It is critical, then, to understand the patterns of performance among emergent bilinguals in this important skill. LNF measures *automaticity* in letter naming, it does not measure the acquisition of all letter names in the English alphabet. For emergent bilinguals, requiring speed in any assessment in the second language (L2) increases difficulty. LNF at Time 4 has not necessarily discovered that emergent bilinguals (in either

group) have difficulty learning the letters of the alphabet; they simply have greater difficulty than English speakers in stating those letters quickly.

There was also no statistically significant difference between students being instructed bilingually and those being instructed monolingually in the scores on the *Developmental Reading Assessment, Second Edition*. Both sets of emergent bilinguals demonstrated adequate preparation for entering Kindergartners. It is important to be continually reminded, however, that when students receiving bilingual instruction *keep pace* with their monolingual counterparts, they do so with half the instructional time in English and while simultaneously developing skills in another language, a most important resource for life. Cummins' theory of linguistic interdependence may be in operation in the development of English emergent literacy for the emergent bilinguals receiving bilingual instruction.

In measuring English language skills, Time 4 uncovered a dramatic finding for the bilingual instruction group. This group demonstrated a greater rate of progress in Performance Levels of English acquisition suggesting that, at the preschool level, instruction in the home language aids in the development of a second language. This finding may be of particular interest to policymakers whose insistence on monolingual instruction for the sake of rapid English acquisition is proved inaccurate.

Time 5

Mid-Year Kindergarten

In February of the Kindergarten year all students undergo a battery of assessments. For at least two weeks, classrooms are rearranged and routines abandoned so that scores can

be gathered for every child on every measure. There are at least 7 separate assessments administered by a variety of individuals, most are familiar adults but not always. Students in the bilingual class have a double dose; all assessments are conducted in both English and Spanish for this group.

Time 5 is the first time in the Time Series analysis that there are expectations of achievement for students. No longer simply tracking progress, now there are benchmarks (target scores) against which to measure individual children and instructional groups. For this reason the analyses beginning at Time 5 include comparisons in the rates of achieving the benchmark scores.

At mid-year, each assessment has a cut-off score that serves as a benchmark of progress in emergent literacy skills. These scores are determined either by the norms published with the assessment instrument, from the median scores collected over a number of years, or established by the English Language Arts Department of the School District. Table 10 lists the mid-year assessments and their particular features.

Table 10

TIME 5: Mid-Year Assessments

Student Group	Benchmark Score	Norm	Administration
Letter Naming Fluency (LNF)	38	Median Score for prior 3 Years	Timed
Letter Sound Fluency (LSF)	20	Median Score for prior 3 Years	Timed
Phoneme Segmentation Fluency (PSF)	18	Median Score for prior 3 Years	Timed
Phonological Awareness Literacy Screening - Lower Case Letters (PALS-LC)	18	Published	Untimed
Phonological Awareness Literacy Screening - Letter Sounds (PALS-LS)	12	Published	Untimed
Developmental Reading Assessment, Second Edition (DRA2)	1	Set by the School District	Untimed

Analysis of mid-year scores considers not only the difference between instructional groups (bilingually-instructed and monolingually-instructed) in performance in these tests, but also comparisons of each groups' performance to the cut-off scores. In other words, how well is either group faring in approaching the benchmark? In addition, Time 5 also includes scores from *timed* and *untimed* measures of similar skills (i.e. letter naming); how does time influence the performance of emergent bilinguals on similar assessments?

Letter Naming Fluency (LNF)

Scores for the fall in LNF for both instructional groups had no statistically significant difference. Now five months later students have had a steady dose of explicit instruction in

letter names and sounds. Students receiving bilingual instruction have also been taught the letters of the Spanish alphabet and while these may be pronounced differently from English letters, in written form the letters are identical. The student receiving bilingual instruction must now distinguish what letter he or she is being presented based on the language spoken by the assessment administrator. Five months into Kindergarten, this child now needs to hold in his or her mind two names for the same symbol and produce these upon request all within one minute.

LNF is a measure of automaticity in reciting English letter names. Because it is measuring speed as fluency, it is not concerned with identification of all the letters of the alphabet, just the rapid naming of the letters presented. In this measure children are presented letters more than once in a single page; for this reason the score on this assessment can exceed the actual number of letters in the English alphabet. Again, speed is the object. The emergent bilinguals who received monolingual instruction might not confuse English letters with Spanish letters, but may still struggle to recite letters quickly in English. The average score of students in the bilingual instructional group was 32.56 while the monolingual instructional group average was 34.47.

A one-way ANOVA was conducted on the mid-year LNF scores for the two instructional groups (Appendix J, Table 1). The bilingually instructed group had an average score of 32.56 (SD = 17.37) compared to an average of 34.47 (SD = 15.58) in the monolingually instructed group. There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = .244, p = .62, r = .06.

While the average scores were comparable, a categorical variable entitled "LNF Benchmark Mid-Year" was created to gauge whether the student had met the benchmark score of 38 for LNF. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark.

In LNF 32% of students receiving bilingual instruction were at or above benchmark, while 38% of students in monolingual instruction were at or above benchmark. Pearson's Likelihood ratio Chi-square analysis (Appendix J, Table 2) found no significant association between LNF and instructional program X^2 (1, n =83) = .27, p = .60. While the difference is not statistically significant at this level of analysis, it is interesting to note that emergent bilinguals receiving bilingual instruction have the lowest percent of students performing at or above benchmark in the Letter Naming Fluency measure. However, it should be noted that the bilingual group would also have had a letter naming assessment in Spanish at this same time. By definition, the bilingual group knows more letters than the monolingual group, albeit in a different language. Perhaps the seconds it takes children to verify what letter corresponds to what language are sacrificed from automaticity; ironically, it is because the child has a greater base of knowledge.

Placing the performance of emergent bilinguals in the context of the school, the question emerges: How would the scores of emergent bilinguals compare to the scores of children whose home language is English? A group of 52 English speaking children were isolated from the database of all Kindergartners in June of 2010. They all spoke English at home, they received monolingual instruction, and they also attended Adelante School for

Pre-Kindergarten and Kindergarten. The performance of this group serves solely as an illustration of how children who are *not* emergent bilinguals might fare on a given measure. Table 11 compares the average scores in LNF for three groups of students.

Table 11

Time 5: Average Score in Letter Naming Fluency (LNF)

Student Group	*n*	Average Score
English Home Language	52	41.67
Emergent Bilingual – Monolingual Instruction	64	34.47
Emergent Bilingual – Bilingual Instruction	27	32.56

Rapid recitation of letter names in English may be a complex task for emergent bilinguals. The *Letter Naming Fluency* measure does not accommodate second language learning in establishing benchmark scores. Because its interest is speed and not depth of knowledge, the LNF, by design, disadvantages emergent bilinguals. It brings into question whether rapidly naming the letters of the alphabet truly does contribute to acquiring reading skills for emergent bilinguals. At minimum, the median score which was used as a benchmark may be an inadequate measure for this population. Interestingly, it is critical to correct the errors inherent in LNF and all the fluency measures, since they are used to determine if students qualify for remediation.

Letter Sound Fluency (LSF)

The *Letter Sound Fluency* (LSF) measure attempts to gauge how well a child has learned the sounds associated with letters in English by counting correct responses within one minute. Again, it is the *automaticity* of the responses that is valued in this measure. A child is presented with random letters on a page and asked to reproduce "the sound the letter makes." Children may confuse letter names with letter sounds and respond incorrectly. Children may pause to distinguish letter names and letter sounds and be penalized on the one minute measure.

Instruction in letter names begins with the letters in a child's name. The emergent bilingual child may be learning the English letters in his or her name but suddenly encounter an entirely different pronunciation or letter sound than his or her family has ever utilized. Which letter sound does he or she memorize? Emergent bilingual children receiving bilingual instruction is learning letter names and sounds in two languages. This set of children must retain in their memory a shape, a letter name, and a corresponding sound, in two different codes. Furthermore, letter names might have a predictable logic in English and Spanish, but letter sounds function differently. For example, in English, the *J* in Juan behaves like the *H* in house but *H* in Spanish makes no sound at all. The emergent bilingual child receiving monolingual instruction might not confuse letter sounds in English and Spanish but has certainly encountered the differences of pronunciation in that the way his or her name is spelled in Spanish does not agree with the English letter sounds.

The average score on the LSF for the bilingual instructional group was 14.96 (SD = 12.69), while the average score on the LSF for the monolingual instructional group was

18.93 (SD = 11.25). A one-way ANOVA was conducted on the mid-year LSF scores for the two instructional groups (Appendix J, Table 3). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = .2.02, p = .16, r = .16.

While the average scores were comparable, a categorical variable entitled "LSF Benchmark Mid-Year" was created to gauge whether the student had met the benchmark score of 20 for LSF. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. In the bilingual instructional group, 6 (24%) scored at or above benchmark mid-year on the LSF compared to 22 (38%) in the monolingual instructional group. Pearson's Likelihood ratio Chi-square analysis (Appendix J, Table 4) found no significant association between LSF and instructional program X^2 (1, n =83) = 1.58, p = .21. The students in both instructional groups also perform comparably in meeting benchmarks on the LSF. While they do not perform comparably to English speakers (51% of English speakers in the same 2 year period were at or above benchmark in LSF at mid-year Kindergarten), emergent bilinguals in the bilingual instructional group did not suffer in achievement on LSF because of the language of instruction. Rather, by performing comparably to the monolingual instructional group, the bilingual instructional group demonstrates a greater skill in identifying letters and their corresponding sounds since the LSF tests English letters only but the bilingual instructional group has learned two alphabets and two sets of corresponding letter sounds and still performed comparably to the group learning only one alphabet. In other words, to perform on the LSF, emergent bilinguals receiving bilingual instruction needed to distinguish the sound of the *J* in *Juan* from the *J* in

John, indicating greater acuity in the skill of naming letter sounds. Nevertheless, since what matters is speed and accuracy within a minute, this group cannot demonstrate their greater skill. Acuity is sacrificed to automaticity.

Phoneme Segmentation Fluency (PSF)

The *Phoneme Segmentation Fluency (PSF)* measure attempts to gauge how well a child recognizes individual sounds (phonemes) within English words by counting correct responses per word within one minute. This assessment is entirely auditory; the child must listen for the individual sounds in the word "mop," for example, and respond with the individual phonemes /m/ /o/ /p/. The child has 3 seconds to formulate and pronounce his or her response. What happens if a child does not know what a "mop" is? He or she must demonstrate incredible auditory acuity in focusing solely on the sounds produced by the assessment administrator and disregard the fact that he or she does not know what is being said.

Hearing individual phonemes is an important emergent literacy for children learning to read in alphabetic writing systems. However, a timed measure of how automatically emergent bilinguals can reproduce the phonemes in a word *in English* is problematic. One needs to know English words in order to recognize their component parts. In order to hear individual phonemes, a child must "hold" a word in his or her mind long enough to segregate its phonemes. It strains credibility to consider PSF an appropriate assessment for emergent bilinguals, and yet PSF remains an important assessment requirement for Kindergarten.

The average score on PSF for the bilingual instructional group was 12.32 (SD = 11.38), while the average for the monolingual instructional group was 15.74 (SD = 13.92). A

one-way ANOVA was conducted on the mid-year PSF scores for the two instructional groups (Appendix J, Table 5). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = 1.17, p = .28, r = -0.13. While the average scores were comparable, a categorical variable entitled "PSF Benchmark Mid-Year" was created to gauge whether the student had met the benchmark score of 18 for LSF. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. In the bilingual instructional group, 8 (32%) students were at or above benchmark in PSF compared to 18 (31%) students in the monolingual group. Pearson's Likelihood ratio Chi-square analysis (Appendix J, Table 6) found no significant association between PSF and instructional program X^2 (1, n =83) = .008, p = .93. Like the prior fluency measures, emergent bilinguals perform comparably to one another, although they may lag behind English speakers. For a similar population of English speakers (n = 52) who had attended the same two years at Adelante School, 26 (50%) scored at or above benchmark on PSF. The question of significance of speed in a timed assessment of an English language skill for emergent bilinguals persists.

Summary of timed fluency assessments: LNF, LSF, and PSF

The scores on all three fluency timed measures (LNF, LSF, and PSF) follow a similar pattern. Fluency in English is precisely what emergent bilinguals need to acquire, and so it can be argued that fluency measures of skills in English are inappropriate for individuals who are still learning the language. Fluency measures are part of the Curriculum Based Measures required by New York State as "researched-based" assessments for the elementary grades. Fluency measures are firmly embedded in the framework of assessment and instruction that

can lead to remediation and even classification for special education. And yet, scores for both groups indicate, essentially, that timed fluency disadvantage emergent bilinguals regardless of their instructional program. They also dictate a path of remediation based on skill and drill modalities also contraindicated for emergent bilinguals.

If fluency scores obtained through timed assessments may be considered indicators of progress in English emergent literacy skills for English speakers, although not for emergent bilinguals, how will we monitor progress for emergent bilinguals? At mid-year in Kindergarten there were also two *untimed* measures of letter recognition and letter sounds — the PALS-LC and the PALS-LS. A comparison of performance on timed and untimed measures may reveal the intersection between second language learning and emergent literacy skills. We now turn to describing the findings for the untimed fluency measures.

Phonological Awareness Literacy Screening – Lower Case Alphabet Recognition (PALS-LC)

The *Phonological Awareness Literacy Screening – Lower Case Alphabet Recognition (PALS-LC)* assessment attempts to gauge a student's *depth of knowledge* about the English alphabet by asking him or her to identify all 26 letters. Unlike the fluency measures that may present a child with one letter more than once (and some not at all) in order to test for automaticity, the PALS-LC is untimed but asks about every letter. The PALS-LC sets a benchmark score of 18 letters for mid-year Kindergarten.

The untimed PALS-LC indicates that both groups of emergent bilinguals recognized almost all the letters of the English alphabet. On this measure, the group instructed bilingually had a mean score of 21.48 (SD = 4.96) and the monolingually instructed group

had a mean score of 23.03 (SD = 4.85). A one-way ANOVA was conducted on the mid-year PALS-LC scores for the two instructional groups (Appendix J, Table 7). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) =1.77, p = .19, r = *-0.16*.

While the average scores on the PALS-LC for the bilingually-instructed and monolingually-instructed groups were comparable, a categorical variable entitled "PALS-LC Benchmark Mid-Year" was created to gauge whether the student had met the benchmark score of 18 for lower case letters. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. In the bilingually instructed group, 21 (84%) students were at or above the benchmark on the PALS-LC, in the monolingually instructed group 51 (88%) were at or above the benchmark. Pearson's Likelihood ratio chi-square analysis (Appendix J, Table 8) found no significant association between PALS-LC and instructional program X^2 (1, n =83) = .23, p = .63.

Phonological Awareness Literacy Screening – Lower Case Letter Sounds Recognition (PALS-LS)

The *Phonological Awareness Literacy Screening – Lower Case Letter Sounds Recognition (PALS-LS)* assessment attempts to gauge a student's *depth of knowledge* about the English alphabet by asking him or her to identify the corresponding sounds for all 26 letters. On this measure, the bilingually-instructed group received a mean score of 19.44 (SD = 6.51), and the monolingually-instructed group received a mean score of 20.84 (SD = 5.33). A one-way ANOVA was conducted on the mid-year PALS-LS scores for the two instructional groups (Appendix J, Table 9) There was no statistical significance in the

difference of scores between the bilingual and the monolingual instructional groups $F(1, 81) = 1.06$, $p = .31$, $r = -0.12$.

A categorical variable entitled "PALS LS Benchmark Mid-Year" was created to gauge whether the student had met the benchmark score of 12 for letter sounds. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. In the bilingually instructed group, 20 (80%) students were at or above the benchmark on the PALS-LC, in the monolingually instructed group 53 (91%) were at or above the benchmark. Pearson's Likelihood ratio chi-square analysis (Appendix J, Table 10) found no significant association between PALS-LS and instructional program X^2 (1, n =83) = 1.99, $p = .16$.

The timed- fluency measures (LNF, PSF & LSF) and the untimed PALS measures (LC & LS) are all assessments of phonological awareness, an important emergent literacy skill. These data suggest that emergent bilinguals in both instructional groups are performing almost identically. I showed above, however, that there were differences between emergent bilinguals and English-speaking monolingual students in timed fluency measures, with English-speaking students doing much better than Spanish-speaking students regardless of program of instruction.

Since performance was so similar across instructional groups, an attempt could be made to isolate the influence of timing on assessments of phonological awareness. Table 12 compares the rate of meeting mid-year benchmarks on the timed and untimed measures for three groups – emergent bilinguals receiving bilingual instruction, emergent bilinguals receiving monolingual instruction, and English speakers receiving monolingual instruction.

Table 12

TIME 5: Comparison of Timed and Untimed Measures of Phonological Awareness – Average Scores and Performing "At or Above Benchmark"

		Emergent Bilinguals Bilingual Instruction n = 25		Emergent Bilinguals Monolingual Instruction n = 53		English Speakers Bilingual Instruction n = 52	
Assessment	**Administration**	**Average Score**	**At or Above Benchmark**	**Average Score**	**At or Above Benchmark**	**Average Score**	**At or Above Benchmark**
Letter Naming Fluency (LNF)	Timed	32.56	8 (32%)	34.47	22 (38%)	41.67	25 (48%)
Letter Sound Fluency (LSF)	Timed	14.96	6 (24%)	18.93	22 (38%)	22.77	28 (54%)
Phoneme Segmentation Fluency (PSF)	Timed	12.32	8 (32%)	15.74	18 (31%)	20.13	26 (50%)
Phonological Awareness Literacy Screening – Lower Case Letters (PALS-LC)	Untimed	21.48	21 (84%)	23.03	51 (88%)	23.75	47 (90%)
Phonological Awareness Literacy Screening – Letter Sounds (PALS-LS)	Untimed	19.44	20 (80%)	20.84	53 (91%)	21.44	42 (81%)

It can be argued that the untimed benchmark scores are set lower and are therefore easier to reach; however, the emergent bilinguals demonstrated that in untimed measures they are performing more like the English speakers (who also had two years of preschool instruction). Second language learning is still a factor in naming English letters, but given the time to think before responding, the emergent bilinguals in both groups perform considerably better than in timed measures of the same skill.

Developmental Reading Assessment, Second Edition (DRA2)

The mid-year administration of the DRA2 is the second opportunity to observe how a child brings together all individual emergent literacy skills while actually reading a book. The manual for the DRA2 recommends two administrations in a school year (beginning and end) as it is meant to capture how well skills are integrated over time. The English Language

Arts department of the Rivertown schools set the desirable benchmark levels for the DRA2 loosely following the guidelines of the published instrument; there was one added administration mid-year and the benchmark was set at level 1. Achieving benchmark mid-year was a strong indicator of eventual achievement in June.

At mid-year student falling below 1, in the A category, were still scored as either "Emerging, Developing or Independent" but all of these categories are considered below benchmark. Students scoring in the A category mid-year received multiple AIS interventions to bring them up to speed. Both the bilingual and the monolingual instructional programs offered sufficient opportunity to integrate emergent literacy skills and the expectation was that both groups would score comparably.

DRA2 scores for the two groups were as follows: the bilingually instructed group had a mean score of 1.65 (SD = .842) while the monolingually instructed had a mean score of 1.59 (SD = .728). A one-way ANOVA was conducted on the mid-year DRA2 scores for the two instructional groups (Appendix J, Table 11). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = .09, p = .76, r = .04.

A categorical variable entitled "DRA2 Grade Level – Mid-Year" was created to gauge whether the student had met the cut off score of 1 for the DRA2. One of two values was assigned to each student: 1) Below Grade Level or; 2) At or Above Grade level. In the bilingually instructed group, 24 (96%) students were at or above the benchmark on the DRA2 compared to 54 (93%) in the monolingually instructed group. Pearson's Likelihood ratio chi-square analysis (Appendix J, Table 12) found no significant association between

DRA2 and instructional program X^2 (1, n =83) = .279, p = .60. Both groups of emergent bilinguals are keeping pace with each other and with instructional expectations on this global measure of emergent literacy skills. The students in the bilingual instructional group have also been assessed in a Spanish equivalent of the DRA2. These young children are simultaneously developing emergent literacy skills in two languages and decoding two sets of symbols. It is important to note that this has not had any detrimental effect on the development of skills in English.

Time 5 Summary

By mid-year in Kindergarten, students had progressed substantially in emergent literacy skills. Most knew the entire English alphabet although reciting letters quickly in a timed measure was still a challenge for emergent bilinguals. At Time 5, both groups performed comparably in all measures indicating that: 1) bilingual instruction did not impede or delay the development of emergent literacy skills; 2) despite learning similar skills in two distinct languages, the students in the bilingual group demonstrated the capacity to distinguish symbols (letters) associated with each language with the same success rate as those learning only one language. The latter reflects growing metalinguistic skills that enable the students to understand and analyze features of the two languages they speak.

Time 6

Year-End Kindergarten

Time 6 represents the third administration of several measures of emergent literacy skills. Timed and untimed measures are administered at the end of Kindergarten and the scores children receive can be categorized as “below” or “at or above” grade level. The

pressure teachers face in “producing grade level” is palpable in the school building. All the isolated emergent literacy skills that children were taught and tested in are critical to accomplishing the final task on the *Developmental Reading Assessment, Second Edition* (DRA2). There was considerable debate in the school district regarding the precise expectation for Year-End Kindergarten on the DRA2. The technical manual recommends level 3, but the district demanded a level 4. The qualitative difference between these two levels is significant. It can be likened to the difference between leafing through a book in a foreign language searching for similar looking words and attempting to decipher all the words on every page. This distinction is obvious to anyone familiar with the DRA2; however, the debate regarding grade level expectation arises from another issue common in early childhood programs: pushing down the expectations once relegated to higher grades. Nevertheless, teachers and administrators advocated for consistent and appropriate expectations for these young students and ultimately a compromise was reached to keep the year-end grade level for Kindergarten at level 3.

At time 6 there were additional measures of emergent literacy included in the list of year-end assessments. Table 13 lists the year-end assessments included in the study along with their specific features.

Table 13

Time 6: Year-End Assessments

Student Group	Benchmark Score	Norm	Administration
Letter Naming Fluency (LNF)	44	Median Score for prior 3 Years	Timed
Letter Sound Fluency (LSF)	27	Median Score for prior 3 Years	Timed
Phoneme Segmentation Fluency (PSF)	28	Median Score for prior 3 Years	Timed
Word Identification Fluency (WIF)	16	Median Score for Prior 3 Years	Timed
Phonological Awareness Literacy Screening - Lower Case Letters (PALS-LC)	24	Published	Untimed
Phonological Awareness Literacy Screening - Letter Sounds (PALS-LS)	20	Published	Untimed
Phonological Awareness Literacy Screening – Rhyme (PALS-R)	9	Published	Untimed
Developmental Reading Assessment, Second Edition (DRA2)	3	Set by the School District	Untimed

Timed and untimed measures for Time 6 were analyzed in two ways: an analysis in the variance of the mean scores between instructional groups (One-way ANOVA) and a comparison of achievement within categories of "Below" or "At or Above" Grade Level associated with the instructional program (chi-square). The analyses of the untimed fluency measures (LNF, PSF, LSF) and the timed ones (PALS-LC, PALS-LS) were similar to those conducted at Time 5 and yielded similar results (Appendix K, Tables 1 - 10). There was no statistical significance in difference of mean scores between groups and no significant

association between grade level categories and instructional program. Those assessments given solely at the end of year will be discussed individually.

Word identification Fluency (WIF)

The *Word Identification Fluency* (WIF) is only conducted at year end. This assessment involves showing children a list of isolated words which are frequently used in the English language. The list is compiled from the published *Dolch Sight word List* as well from the curriculum at Adelante School. The children would have been exposed to these words over the course of the Kindergarten year and they each can be recognized "automatically" within three seconds. In other words, children would not be sounding out these words with letter sounds or phonemes but simply responding to them as whole words. Once again, emergent bilinguals may be penalized in a timed measure by losing precious time trying to make meaning of the task, translating it in their minds, and then responding in English. The WIF essentially measures progress in the English language since it is unlikely that an emergent bilingual child would be able to reproduce a word that he or she has not yet learned.

On the WIF, the bilingually instructed had a mean score of 19.60 (SD = 15.39) compared to 16.09 (SD = 8.97) for the monolingually instructed group. A one-way ANOVA was conducted on the year-end WIF scores for the two instructional groups (Appendix K, Table 11). There was no statistical significance in the difference of mean scores between the bilingual and the monolingual instructional groups F (1, 81) = 1.70, p = .20, r = .14.

While the average scores were comparable, a categorical variable entitled "WIF Benchmark Year-end" was created to gauge whether the student had met the benchmark

score of 16 for WIF. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. For the bilingually instructed group 11 (44%) students were at or above benchmark compared to 26 (45%) students in the monolingually instructed group. Pearson's Likelihood ratio chi-square analysis (Appendix K, Table 12) found no significant association between WIF and instructional program X^2 (1, n =83) = .01, p = .95.

Phonological Awareness Screening – Rhyme (PALS-R)

The rhyme measure of the *Phonological Awareness Screening* (PALS-R) instrument was conducted at the end of the year. This assessment involves showing children a page with pictures in rows stating a word and asking the child to respond with another word that rhymes with the stated word from a corresponding row of pictures. The assessment is untimed. Although this measure utilizes visual stimuli, it is an auditory exercise. As such, it represents a disproportionate difficulty for emergent bilinguals. Although rhyming is an emergent literacy skill, it is intrinsically related to language skills. In order to "hear" sounds within words, hold on to these sounds to be able to 'hear" them again in another word, children need to first know and understand the stated word. Emergent bilingual adults undergoing this assessment may have well developed vocabulary in one or more languages, or may have a firm grasp on the concept of "rhyming," but emergent bilingual preschool children meet neither of these conditions. At year-end the PALS-R is measuring how well children rhyme by discovering how well they have acquired English vocabulary. Nevertheless, rhyming is an important emergent literacy skill although it is dependent on the acquisition of English language skills.

The two instructional groups (bilingual and monolingual) have demonstrated different rates of English language skills acquisition over time. Would this difference be evident in their performance on the PALS-R? The mean score for the bilingually instructed group was 9 (SD = 2.51) compared to 8.40 (SD = 2.06) for the monolingually instructed group. A one-way ANOVA was conducted on the year-end PALS-R scores for the two instructional groups (Appendix K, Table 13). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = 1.31, p = .26, r = .13.

A categorical variable entitled "PALS-R Benchmark Year-End" was created to gauge whether the student had met the benchmark score of 9 for rhyming. One of two values was assigned to each student: 1) Below Benchmark or; 2) At or Above Benchmark. In the bilingually instructed group, 21 (84%) students were at or above benchmark on the PALS-R compared to 32 (55%) in the monolingually instructed group. Pearson's Likelihood ratio Chi-square analysis (Appendix K, Table 14) found a significant association between meeting the year-end benchmark and the instructional group X^2 (1, n =83) = 6.84, p = .01. This suggests that a student was 4.27 times more likely to achieve the year-end benchmark in rhyming if he or she received bilingual instruction.

At the Kindergarten level, the skill of rhyming contributes a great deal to early reading skills. When a child can recognize, for example, that "mat" rhymes with "cat," he or she can begin to look for visual similarities in the letters that form those words. It follows that the child can more readily decode other rhyming words he or she encounters because the phoneme "at" has become familiar. In this case, bilingual instruction has strengthened the

skill of rhyming. Phonemic awareness in Spanish is taught with consonant-vowel blends such as *ma, pa, fa, la,* etc. The goal is not to teach children to rhyme in Spanish but having mastered these blends, children can then form entire words such as *mama, papa, mapa,* etc., that do in fact rhyme. Regular practice of these skills transfer into English as increased rhyming ability with English words. Literacy instruction in the Spanish language is directly benefiting emergent bilinguals in their development of English literacy skills.

Developmental Reading Assessment, Second Edition (DRA2)

As a measure of the integration of literacy skills, the scores on the DRA2 are predictive of later performance on the state standardized tests. The mean score on the DRA2 at the end of Kindergarten was 4.40 (SD = 2.94) for the bilingually instructed group compared to 3.57 (SD = 1.20) for the monolingually instructed group. A one-way ANOVA was conducted on the year-end DRA2 scores for the two instructional groups (Appendix K, Table 15). There was no statistical significance in the difference of scores between the bilingual and the monolingual instructional groups F (1, 81) = 3.37, p = .07, r = *.18*.

A categorical variable entitled "DRA2 Grade Level – Year-End" was created to gauge whether the student had met the cut off score of 3 for the DRA2. One of two values was assigned to each student: 1) Below Grade Level or; 2) At or Above Grade level. In the bilingually instructed group, 19 (76%) students were at or above the benchmark compared to 51 (88%) of students in the monolingually instructed group. Pearson's Likelihood ratio chi-square analysis (Appendix K, Table 16) found no significant association between DRA2 and instructional program X^2 (1, n =83) = 1.77, p = .18.

New York State English as a Second Language Achievement Test (NYSESLAT)

According to New York State regulation, beginning in Kindergarten, all "English Language Learners" must be tested annually with the NYSESLAT to determine progress in English acquisition. The test used for the Kindergarten level is the same as that used for the First Grade level but different cut-off scores determine the Performance Level. The NYSESLAT requires young children to read brief passages and to write a simple sentence. How identical tasks can be presented to a First Grade child who can actually decode (read) words and also to a Kindergarten child who may still be tracing words by hand, challenges the validity of the NYSESLAT as a Kindergarten achievement test. It is less a test of developing English proficiency and more a test of progress in literacy. As such, it may present difficulties even to English speaking Kindergartners (if they ever had to take a standardized test) who have not progressed so far in their reading skills.

The Performance Level on the NYSESLAT is determined by the New York State Department of Education. The Overall Proficiency, or Performance Level, is reported back to the school district for every child classified as an *English Language Learner*. Table 14 illustrates the performance of emergent bilinguals on the NYSESLAT.

Table 14

Time 6: Overall Proficiency on the NYSESLAT

NYSESLAT Performance Level	Bilingual Instruction *n* = 25	Monolingual Instruction *n* = 53
Exited ELL category in Pre-K – not tested on the NYSESLAT	17 (68%)	29 (50%)
Scored as "Beginning"	2 (8%)	4 (7%)
Scored as "Intermediate"	6 (24%)	19 (33%)
Scored as "Advanced"	0	4 (7%)
Scored as "Proficient"	0	2 (3%)

A chi-square analysis found no association X^2 (4, n =83) = 5.78, p = .22 between the instructional group and the overall proficiency level assigned by the NYSESLAT (Appendix K, Table 17). The NYSESLAT goes further and determines an optimum rate of growth in English language acquisition and classifies this as the "Adequate Yearly Progress" (AYP) for which schools are accountable. "Adequate Yearly Progress" on the NYSESLAT is calculated as a minimum of growth in one Performance Level within one academic year.

At the start of Kindergarten (Time 4) there was a statistically significant difference in the rate with which emergent bilinguals in the bilingual instruction group progressed in English acquisition as measured by the LAB-R and in speaking skills on the ELA Tally. By the time the students began Kindergarten, 68% of students in the bilingually-instructed group had already exited the category of "English Language Learner" altogether, compared to 50% in the monolingually-instructed group. Once exiting this category, these students do not have to be tested with the NYSESLAT. Thus, the only students for which these scores are

available are those that remain classified as “English language learners” because they scored less than “Proficient” in the LAB-R at the start of Kindergarten.

Time 6 Summary

Analyses of timed and untimed measures at Time 6 indicate that both instructional groups performed comparably with the exception of the skill of rhyming where the bilingual instructional group performs better. That is, by the end of Kindergarten, emergent bilinguals instructed bilingually do as well, and in some ways better, than those instructed monolingually. In addition, they are becoming biliterate, as they read and write in two languages. In the PALS-R measure of rhyming, the bilingual group outperformed the monolingual group in meeting or exceeding the benchmark. This is a significant finding which points, once again, to substantive gains in English language development for the bilingual group.

Time 6 represents the end of the Time Series. The students are now exiting Kindergarten and no longer considered preschoolers. Many leave Kindergarten reading conventionally and many will need an additional year to solidify their decoding and comprehension skills. Table 15 illustrates the results at each time of the Time Series.

Table 15

Results at Each Time in the Series

Time 1 **Start of Pre-Kindergarten** **Fall 2008**	**Time 2** **Mid-Year Pre-Kindergarten** **Winter 2009**	**Time 3** **Year-End Pre-Kindergarten** **June 2009**	**Time 4** **Start of Kindergarten** **Fall 2009**	**Time 5** **Mid-Year Kindergarten** **Winter 2010**	**Time 6** **Year-End Kindergarten** **June 2010**
LAB-R Performance Levels Demographics	ELA Tally Scores	ELA Tally Scores	**LAB-R** Performance Levels **DIBELS** - LNF **DRA2** Scores	**DIBELS** – LNF & PSF **CBM** - LSF **DRA2** Scores **PALS-LC & PALS-LS**	**DIBELS** – LNF & PSF **CBM** – LSF & WIF **DRA2** Scores **PALS-LC & PALS-LS** **PALS-RHYMING** **NYSESLAT**
The two groups were comparable except in measures of poverty. The bilingual instructional group had more poor children.	Bilingual group was 3 times more likely to score 50 points or higher on the ELA Tally.	Bilingual group was 2.83 times more like to score 80 points or higher on the ELA Tally. Statistically significant difference in performance on 5 categories indicating greater expressive language skills. Three sub-groups demonstrate greater achievement: • Poor students • Students whose mothers had primary education • Students who had an early start at 3 years old.	Higher percentage (68% versus 50%) in the bilingual group exited ELL category. Bilingual group was 6.94 times more likely to grow 2 or more Performance Levels on the LAB-R indicating a higher rate of "AYP." Comparable performance between groups on LNF and DRA2. Timed measures emerge as inextricably linked to English proficiency.	Comparable achievement in all measures.	Comparable achievement in all measures except in Rhyming where the bilingual group was 4.27 times more likely to meet the benchmark. Fewer students in the bilingual group had to take the NYSESLAT because they had exited the ELL category. For the rest, they performed comparably to the monolingual group in "Overall Proficiency" on the NYSESLAT.

All the targeted emergent literacy skills for the Pre-Kindergarten and Kindergarten grades must be woven together fluently in the act of reading. For any child, but certainly for emergent bilinguals, that is a feat of comprehension. Recognizing written words in a second language, sounding out those words you do not recognize, connecting the word to its meaning or concept, following a storyline, making connections between the story and its broader meaning, responding verbally to questions about that story – these are all the year-end tasks for this group of 83 emergent bilingual preschool children. Performing comparably on global measures such as the DRA2 indicates that the group that is instructed bilingually has not suffered in developing reading comprehension; and in addition they can do so in two languages. This final measure (DRA2) is a critical link to achievement in later grades when the stakes are much higher and supports may have dwindled.

At Adelante School, Time 6 represents "graduation" from Kindergarten. All 359 children in the cohort leave the school in June and enter another school in September for First Grade. At the conclusion of the year, reports are submitted to central administration outlining the achievement of students during the Kindergarten year. All "English Language Learners" form one population category although conditions such as years of instruction (Pre-Kindergarten and Kindergarten), and language of instruction (bilingual or monolingual) may have varied. This study compared achievement for emergent bilinguals in two instructional groups who attended Adelante School for *two years.* There were emergent bilinguals within the cohort of 359 children who were not included in this study because they only attended Adelante for one year. What differences might be evident in the performance

of emergent bilinguals who only had one year (Kindergarten) of monolingual instruction at Adelante School?

Table 16 illustrates the performance on year-end measures of 3 groups of emergent bilinguals at Adelante School. The first was the bilingually instructed group included in this study (*n* = 25). The second was the monolingually instructed group included in this study (*n* = 53). The third group consisted of 14 emergent bilinguals who attended only one year (Kindergarten) at Adelante and received monolingual instruction.

Table 16

Three Groups of Emergent Bilinguals Meeting Benchmarks at Year-End

Measures of Emergent Literacy	Emergent Bilingual Bilingual Instruction for 2 Years n = 25	Emergent Bilingual Monolingual Instruction for 2 Years n = 53	Emergent Bilingual Monolingual Instruction for 1 Year n = 14
LNF (Timed)	16 (64%)	27 (47%)	4 (29%)
LSF (Timed)	12 (48%)	34 (59%)	6 (43%)
PSF (Timed)	16 (64%)	41 (71%)	6 (43%)
WIF (Timed)	11 (44%)	28 (45%)	1 (7%)
PALS-LC (Untimed)	24 (96%)	54 (93%)	12 (86%)
PALS-LS (Untimed)	25 (100%)	57 (98%)	12 (86%)
PALS-Rhyme (Untimed)	21 (84%)	32 (55%)	4 (29%)
DRA2 (Global, untimed)	19 (76%)	51 (88%)	6 (43%)

The third group can very well represent the majority of young Latinos in the United States, the majority of who do not attend Pre-Kindergarten and receive only monolingual instruction once they enter school. Despite receiving excellent early childhood education at Adelante, which is demonstrated to greatly benefit other groups, this third group is

inadequately prepared for First Grade. The pattern of decreased achievement in meeting year-end measures of emergent literacy skills that is evident for this group portends future delays and an ever-widening gap in achievement compared to the general population. Interventions designed to support these children are urgently required. This study demonstrates how bilingual instruction can accelerate growth in language skills, particularly for poor children. Perhaps for this third group, bilingual instruction is the only intervention with can sufficiently accelerate their rate of growth in time to prevent the lasting damage of decreased rates of achievement. The issue of what instructional programs to make available to young Latino preschoolers deserves undivided attention; if we know of programs that benefit these children, is it not our moral imperative as educators to provide them?

CHAPTER 5

DISCUSSION

This causal comparative study looked at the effects of bilingual instruction on the emergent literacy skills of Spanish-speaking emergent bilingual preschool children over a two year period. The study offered the rare opportunity to compare outcomes for emergent bilinguals who were randomly assigned to bilingual or monolingual instruction. As educational research, insights from this or any study should produce greater clarity or direction to policymakers as well as classroom teachers. But the needs of largely poor children born of immigrants do not tend to dominate discussion except when describing their deficiencies.

This study finds its place in the heated national discourse regarding our ability to compete in a global market but also in the anxiety of a declining economy, in the debates about educational reform and immigration reform, and in the local battles for power within a school district. Against that backdrop, a study of bilingual instruction must be designed to isolate benefits defined, not by the participants, but by an extensive power structure. Like early childhood education, it must prove to be worth the investment.

This study has uncovered substantial benefits associated with bilingual instruction. Data analyses in a Time Series reveal a pattern of positive effects of bilingual instruction on the English emergent literacy skills of Spanish-speaking preschool children. It also reveals how the nature of the assessment (timed or untimed) distorts the performance of emergent bilinguals on measures of English emergent literacy skills. The types of assessments used in the first year of the Time Series differed from those in the second year in other ways. Except

for the DRA2, the Kindergarten assessments focused more on discreet skills that were, in a sense, unraveled from the reading process and scored independently. While it is important to monitor growth incrementally as children are learning to read, the act of reading itself is wholly integrated and dependent on comprehension and meaning-making. There were different patterns of achievement in each of the two years of the Series but each year demonstrated distinct benefits resulting from bilingual instruction. The benefits uncovered by this study are summarized here as follows:

- *Greater metalinguistic skills evidenced within the first year of preschool instruction;*
- *Greater expressive language skills evidenced within the first year of preschool instruction;*
- *Greater rates of English language acquisition as early as within one year of bilingual instruction;*
- *Greater rates of meeting benchmarks in English language acquisition for children whose mothers had only a primary level of education;*
- *Highest rates of English language acquisition for children who first began bilingual instruction at the age of three;*
- *Greater rates of phonemic awareness by the end of Kindergarten;*
- *Comparable rates of achievement in English emergent literacy skills with the monolingual instructional group;*

- *Timed assessments of letter names and letter sounds disadvantaged both groups. The bilingual instructional group, by definition, had greater knowledge of letter names and sounds as they develop biliteracy. Timed measures may particularly disadvantage children who are bilingually instructed.*
- *Bilingual instruction interrupted the trends of decreased achievement associated with poverty and English Language Learners.*

Each of these is discussed individually.

Greater metalinguistic skills evidenced by the first year of preschool instruction

There is a body of research which has identified metalinguistic skills as a strength for bilingual children (Bialystok, 2006)). This study identifies this advantage but yields two additional factors:

1) Metalinguistic skills are indicative of critical thinking and an advanced grasp of abstract concepts. For preschool children, critical or abstract thinking is only in its nascent stage. It is the *opportunity* afforded by bilingual instruction that enables the bilingually instructed group to exceed their monolingually instructed counterparts in developing greater cognitive skills. In other words, older bilingual children may have a reservoir of experiences with languages that promotes the development of metalinguistic skills, but preschool children are still developing their first language and still developing the ability to think abstractly. *Bilingual instruction, not bilingualism per se, boosted the development of cognitive skills for these very young children.*

2) All the children in this study were emergent bilinguals. They all spoke two languages. Compared to each other, the group receiving bilingual instruction had the highest

performance. It can be concluded, then, that bilingual instruction introduced at the preschool level intensified cognitive development for emergent bilinguals enabling them to outperform other emergent bilinguals in measures of early literacy skills such as *Concepts of Print* and *Conventions of Print*

Bialystok (2006) reported that bilingual children consistently outperform monolingual children in measures of phonological awareness, such as concepts of print. This study affirms Bialystok's findings. However, since both groups of children were bilingual, the increased advantage here is because of bilingual instruction. The instructional program has highlighted the differences between languages in a manner that generates greater achievement in English emergent literacy skills. At an age when children are moving from concrete to more abstract thinking, increased metalinguistic awareness can become a force that enhances achievement in reading.

Greater expressive language skills evidenced within the first year of preschool instruction

Oral language development is of critical importance at the preschool level. All learning is dependent on the child's ability to effectively communicate as language is the primary sense-making mechanism at this stage of human development. While many preschool children may have receptive language skills, expressive skills indicate greater development; these skills are essential to acquiring emergent literacy skills. Expressive skills pave the way for vocabulary development, building comprehension strategies, and self expression in writing. They are also a necessary precursor to developing adequate academic language in later grades.

Tabors and Snow (1994) describe a pattern where young children who are learning a second language often undergo a silent period during which they first observe and listen to the new words they must learn. Being silent in school can have a catastrophic impact on academic achievement. Silent children cannot be assessed nor can they participate fully in commonplace learning activities. Much of the classroom instruction becomes inaccessible to them. It is particularly harmful for children to be silent during the precise time (preschool) when the primary instructional goal for them is to develop expressive language skills. The emergent bilinguals receiving bilingual instruction in this study do not appear to exhibit a period of silence, in fact, they demonstrated greater expressive language skills; for these children, bilingual instruction mitigated the factors that might engender a silent period.

Snow, Tabors and Dickinson (2001) identify the predictive relationship between early vocabulary and conventional reading. This study demonstrates how bilingual instruction leads to greater expressive language skills including vocabulary. Bilingual instruction at the preschool level is seen here as creating a link between the preschool years and eventual achievement that combines the benefits of early childhood education and home language instruction.

This finding is significant for another reason. The only demographic category where the two groups in the sample demonstrated a statistically significant difference was in the variable of poverty. There were more poor children in the bilingual group than in the monolingual group. Decreased expressive language has been reported for poor children (Hart & Risley, 1995). Bilingual instruction, in this case, created conditions that not only mitigated the possible effect of poverty on language development, but propelled growth

beyond the rates of more affluent children in the monolingual instructional group. Hart and Risley (1995) found significant differences in the number of words and utterances among the homes of poor children as compared to their affluent peers. This study contradicts the findings of Hart and Risley, specifically within the confines of the school setting. It is in the school setting where bilingual instruction is made available and where emergent bilinguals from poor homes can demonstrate and develop their expressive language skills. Hart and Risley only studied English-speaking children, but their study has nevertheless cemented an association between poverty and vocabulary in educational research. By contrast, this study of bilingual children receiving bilingual instruction lays out a clear path to the development of vocabulary and expressive language skills for poor children.

Greater rates of English language acquisition as early as within one year of bilingual instruction

Policymakers may find this finding counterintuitive. Children who were exposed to their home language in preschool learned English more quickly. In this study, children in the bilingual group were 6.94 times more likely to advance 2 or more Performance Levels on the LAB-R over the course of the Pre-Kindergarten year than their counterparts receiving monolingual instruction. As a result, they exited the "English Language Learner" category more quickly.

True to Cummins' (2001b) theory of linguistic interdependence, home language instruction facilitated the learning of English in this study. Building on the home language skills of the children in the bilingual instructional group yielded a direct advantage in acquiring English. In this study, bilingual instruction became the "optimal learning

environment" described by Bernard et al. (2006), where children are prepared for greater achievement first through developing language skills and then by enhancing early literacy skills.

Acquiring the English language more quickly in preschool proves a boon to achievement. It maximizes the benefits of preschool education in that it better prepares children for school, specifically by enhancing English emergent literacy skills. This enhanced rate of growth also satisfies some of the demands of NCLB which places such significance in the predominance of the English language.

Hammer, Lawrence and Miccio (2007) found cross-linguistic influences in early literacy skills among bilingual children. They found that language development in either language predicted literacy skills in the other. Likewise, Gabriele, Troseth, Martohardjono and Otheguy (2009) found cross-linguistic transfer between languages and literacy skills. This study does not identify that same relationship; however, it is possible that such dynamic interaction between language learning and literacy development is being established in these first two years of bilingual instruction. Archival records of student achievement in the Rivertown School District suggest the possibility that that relationship does exist. In the year before this study, 2008-2009, students in the Dual Language Program (bilingual instruction) outperformed all other students on the English Language Arts (ELA) statewide exam at grade four.

Greater rates of meeting benchmarks in English language acquisition for children whose mothers had only a primary level of education

Gándara and Contreras (2009) describe the complex relationship between Latino mothers' educational attainment and eventual outcomes for their own children. The low levels of education among Latino mothers represent yet another risk factor for young Latino emergent bilinguals. Yet the nature of poverty among immigrants is such that subsisting is the primary focus of the adults in a family. Providing for children in the immigrant family is unlikely to leave time energy or funds for mothers and fathers to pursue their own education. Schools, on the other hand, can identify and employ programs that change the trajectory of achievement for the children of immigrants.

This study uncovered an advantage to children of mothers with low educational attainment resulting from bilingual instruction. In the selection of children whose mothers had only a primary education, a higher percent of students from the bilingual instructional group met benchmarks in 3 measures of English language acquisition. It is important to explore to what extent bilingual instruction can neutralize the correlation between decreased achievement for children and the limited educational attainment of their mothers. Preliminary findings in this study suggest that bilingual instruction has the potential to neutralize that association.

Highest rates of English language acquisition for children who first began bilingual instruction at the age of three

Despite good birth outcomes and robust health in infancy, by the age of two, Latino toddlers exhibit deleterious effects of poverty in terms of smaller cognitive gains as compared to their white peers (Fuller et al., 2009). A true preventive framework in education

attempts to identify the earliest point in which to introduce supports or enrichment in order to mitigate the risks confronting students. This study began with the Pre-Kindergarten year but for some children that may be too late; by age four, some children may exhibit the need for remediation, not prevention.

In addition to introducing preventive measures at a young age, very early education may afford gains for all children. At a global level there is a growing trend toward universal educational services for children as young as three years old (Neuman & Bennett, 2001).

A small subset of the sample attended a bilingual nursery program at age three. A smaller number (9) remained with bilingual instruction for Pre-Kindergarten and Kindergarten. When the achievement of this group of 9 students was traced over key measures of English language skills, this group had the highest percent of students who met benchmarks in every category. This suggests that even when we offer bilingual instruction, *the earlier the better.*

Greater rates of phonemic awareness by the end of Kindergarten

The statistically significant positive association between the bilingual program and the development in rhyming skills is another important finding. The results in this study contradict Koutsoftas, Harmon and Gary (2009) who reported that emergent bilinguals are "known to have difficulty developing phonemic awareness" (117). Emergent bilinguals in this study performed comparably across instructional groups on the *Phonemic Segmentation Fluency* (PSF). However on another measure of phonemic awareness, the PALS-Rhyming, they outperformed the monolingual group. This suggests that bilingual instruction facilitates the development of phonemic awareness for emergent bilinguals. That is, the difficulty in

developing phonemic awareness lies in the irrelevance of the rhyming task for children who do not yet know the words they must rhyme, and not in anything about the nature of second language acquisition that might limit the perception of phonemes in words. It is important to explore the claim by Koutsoftas, Harmon and Gary (2009) because to list emergent bilinguals among the children known to have "difficulty developing phonemic awareness" implies a detriment to bilingualism that potentially affects achievement. The claim is in fact inaccurate according to the findings in this study, and once again, bilingual *instruction* settles the matter. These findings concur with Stewart's (2004) in recognizing the effectiveness of home language instruction for the development of English phonological awareness.

Comparable rates of achievement in English emergent literacy skills with the monolingual instructional group

There was no assessment of emergent literacy skills that revealed a statistically significant advantage to the monolingually instructed group. In every measure – timed and untimed – the bilingual group kept pace in the development of emergent literacy skills. Timed phonics measures (letter names and sounds) proved challenging for both groups of emergent bilinguals but in untimed phonics measures, not only did the bilingual instructional group perform comparably to the monolingual instructional group; they performed comparably to English speakers.

This finding is a surprise to the literature. Collier and Thomas (2009) report that in achievement of literacy skills in older emergent bilinguals, students receiving monolingual instruction with ESL content support initially outperform students being instructed bilingually. This reverses in the long term where students bilingually instructed consistently

outperform the monolingually instructed. Unfortunately, that initial disparity tends to influence policies governing the selection of programs for emergent bilinguals (Collier and Thomas, 2009). This study does not demonstrate an initial disparity in performance for students instructed bilingually. Beginning bilingual instruction at the preschool level may change the trajectory of achievement early, and perhaps, contribute to even greater gains in the long term.

The bilingual instructional group was also expected to develop phonics skills in Spanish; rather than create confusion for the young children, it likely enhanced their performance. Here greater metalinguistic skills aided in the development of biliteracy. The monolingual instructional group demonstrated no advantage to being exposed exclusively to one code of symbols and sounds – they did not learn the English alphabet and the corresponding letter sounds any more thoroughly or quickly than the bilingual instructional group.

Using Teale and Sulzby's (1992) conceptualization of emergent literacy as a continuum of skills beginning at birth and culminating with conventional reading in the early grades, it is possible to recognize the constitutive relationship of language learning in early childhood. It can be argued that instructional programs that promote language development in ECE lend a particular advantage to the development of emergent literacy skills. This has been a guiding principle in the articulation of curriculum and instruction at Adelante School. An emphasis on acquisition of vocabulary and strong oral language development is a hallmark of the vision of early childhood education at Adelante.

In this study, the bilingual instructional group outperformed the monolingual instructional group in language and vocabulary development. This would surely have been an underlying factor in keeping pace with the development of English emergent literacy skills as argued by Snow, Tabors and Dickinson (2001). But the bilingual instructional group also kept pace with instructional goals for *Spanish* emergent literacy skills. At the end of Kindergarten the children who were bilingually instructed were assessed in English with the Developmental Reading Assessment, Second Edition (DRA2) and with the Spanish version entitled, *Evaluación del Desarrollo de la Lectura (EDL).* Both instruments are global assessments of emergent literacy – they require a child to combine concepts of print, phonological skills, decoding, and comprehension strategies in order to read. Table 17 lists the performance of the bilingual instructional group (n = 25) on the DRA2 and the EDL at the end of Kindergarten; it illustrates how this group met instructional goals in two languages. Comparable achievement in both languages of instruction at the end of Kindergarten suggests that the children in the bilingual instructional group did not experience a phase of language imbalance as Coppola (2005) describes. As a group, the bilingually instructed students are meeting grade level expectations in both languages.

Coppola's presentation of a phase of language imbalance suggests that the home language undergoes some decline as the child learns English. There are no assessments of the monolingually instructed children's Spanish language skills, but the bilingually instructed group demonstrated slightly elevated skills in Spanish while still meeting (for 76%) grade level expectations on a measure of English reading skills (DRA2).

Table 17

The Development of Bi-literacy by the End of Kindergarten for the Bilingual Instructional Group

Developmental Reading Assessment, Second Edition (DRA2)		*Evaluación del Desarrollo de la Lectura (EDL)*	
Average Score	At or Above Benchmark	Average Score	At or Above Benchmark
4.40	19 (76%)	5.11	20 (80%)

This finding radically opposes the conclusions reached by Slavin et al. (2011) in their most recent study. Slavin et al. conclude from their 5 year longitudinal study with emergent bilingual Kindergartners, that it is not the language of instruction which produced comparable achievement in English but the quality of instruction. Clearly, quality instruction is a prerequisite for achievement. This study, by contrast, comes to the opposite conclusion. All the children at Adelante School receive high quality instruction with experienced teachers; but those emergent bilingual Kindergartners who received bilingual instruction exited Adelante School with additional gains that were only available to them because they received instruction in their home language as well as in English.

Throughout the study, individual English emergent literacy skills were measured and compared. At the conclusion of the study, we find that bilingual instruction proved to be no hindrance to the development of English emergent literacy skills; on the contrary, it propelled the achievement of poor children who are typically "at risk" of failure in measures of literacy skills. What do we conclude? The efficacy of bilingual instruction at the preschool level to neutralize the influence of poverty or mother's limited education is a significant protective

factor for young emergent bilinguals. Even within a framework, such as NCLB, that elevates the importance of English acquisition to a top priority for schools, we find that instruction in a child's home language along with English is still advantageous. More than we see in other results in this study, a finding of comparable achievement with the monolingual instructional group in English emergent literacy skills is cause to acknowledge the power of bilingualism, and the value of the instruction that harnesses that power, precisely to meet the goals of NCLB.

Timed assessments of letter names and letter sounds disadvantaged both groups. The bilingual instructional group, by definition, had greater knowledge of letter names and sounds as they develop biliteracy. Timed measures may particularly disadvantage children who are bilingually instructed.

The performance of emergent bilinguals on the timed assessments compared to monolingual English speakers in the same school raise important questions. The fluency measures were all normed on English speakers to monitor progress in English literacy skills. The timing aspect of assessments disadvantaged emergent bilinguals in this study. Ironically, *English as a Second Language* (ESL) teachers are taught important strategies to teach emergent bilinguals, the primary of these being that these students simply need more wait time. Timed fluency measures such as DIBELS and CBM are the acceptable "research based" tools in the state's new *Response to Intervention* (RTI) framework. Across the state all children will be assessed on a schedule similar to the one used in this study every year; there is an urgent need to understand what role, if any, automaticity (the element rated in fluency measures) plays in the development of literacy skills for emergent bilinguals. While the questions raised here are beyond the scope of this study, it is curious to note that on year-

end (Time 6) untimed measures, all the children in the study performed appropriately for Kindergartners.

The bilingually instructed group is learning and developing Spanish emergent literacy skills. The same expectations and assessment protocols exist for both languages of instruction. Therefore, by definition, these children have greater knowledge of letters and letter sounds. They are taught and expected to know the 26 English letters and sounds and 28 letters and sounds in Spanish. It is their greater task, however, to distinguish these letters and their sounds in a one minute test. Timed fluency measures are not interested in the depth of a child's knowledge about letters, simply in the rapid naming of letter names. These timed measures are ubiquitous in American early childhood classrooms. They are sanctioned by federal and state departments of education who insist on "research-based" approaches where no research has been conducted with emergent bilinguals.

Fluency measures offer the lure of efficiency; they are quick and easy to administer. However, what can that benefit if they so grossly underestimate the abilities of biliterate children? It is possible that timed fluency measures represent an even greater disadvantage to children being taught bilingually. Although employing greater metalinguistic skills to recognize letters in more than one language, these children may lose precious seconds in the timed score simply because they took the time to ascertain which language the presented letters belong to. Fluency measures are solely interested in the automaticity a child displays in naming letters and sounds; on these measures, biliteracy emerges as an inconvenience for which children are penalized.

In many schools, a child's performance on fluency measures is enough to qualify for academic intervention services and even special education classification. This is a serious problem for emergent bilinguals who have not yet developed fluency in the English language and, therefore, cannot perform quickly in a language related task.

Bilingual instruction interrupted the trends of decreased achievement associated with poverty and the "English Language Learner" category

In this country, entering preschool as a poor child who does not speak English, places one in a category of compounded risk factors from which one may never emerge. These two characteristics appear repeatedly in the literature as concomitant conditions of the lamentable "achievement gap." The findings of this study suggest that both of these risk factors can be neutralized through the use of bilingual instruction. All but one child in the bilingual instructional group was poor and yet, they maintained comparable rates of achievement with the monolingual instructional group which had far fewer poor children. The bilingual instructional group also exited the "English Language Learner" category more quickly and in greater proportion than the monolingual instructional group. The well known longitudinal studies which have identified early childhood education as an efficacious preventive measure for poor children only studied English-speaking children; they could not have discovered what works best for emergent bilinguals. The interest in identifying the benefits of early childhood education (ECE) are now coupled with the specific benefits garnered from bilingual early childhood education. While the seminal longitudinal studies on ECE were all conducted with monolingual English-speakers, this study of bilingual ECE already shows sustained benefits for two preschool years. Findings in this study suggest that the early

preschool years (prior to Kindergarten) represent a critical period to influence the academic trajectory of emergent bilinguals and that bilingual instruction is an indispensable resource during this period.

This study brings together research in ECE and specifically explores the performance of children who enter school with little or no English language skills. Here the power of bilingual instruction to interrupt trends associated with poverty and second language learning is apparent immediately (within one school year) suggesting a significant combined efficacy in *bilingual* early childhood education as well as urgency to guarantee those benefits to all emergent bilinguals. As the numbers of poor, Spanish-speaking children grows throughout the country, what can be more important than identifying effective instructional approaches to meet their needs as they develop English language skills?

This finding has dramatic implications for educational reform. Historically, much of the educational research focusing on poverty serves to document its negative effects or correlations. In order to reap the maximum gain from educational reform and ultimately invigorate the potential of our young people, we especially need approaches which accelerate achievement for the poor. However, bilingual education has been silenced and largely excluded (O. García, 2009) from the discourse on educational reform. Whatever specific benefits might ensue from bilingual instruction can be lost for those children who might need them most. While the "Dual Language" programs have made bilingual education more palatable to the public, it is perhaps because it is enrichment also for English speakers and not an indispensable approach for emergent bilinguals. The findings here suggest a win-win combination that can appeal to the larger community and advance achievement for poor

emergent bilinguals. It may be this "dual" appeal that protects bilingual instruction in some communities.

The future of Latino children, a group which experiences disproportionate rates of poverty (Gándara and Contreras, 2009), depends on educational reform or initiatives which break the cycle of underachievement associated with poverty. Without such reform, the growing number of Latinos can be relegated to a permanent underclass with decreased rates of educational attainment with which to contribute to the economy. This is a pressing social justice issue in our society today.

This study demonstrates how bilingual instruction can break the cycle of underachievement associated with poverty. By neutralizing the influence of poverty in the preschool years, these emergent bilinguals are better prepared for academic achievement in the later grades.

Significance within the National Landscape of Education

The curriculum and instruction at Adelante School paint a familiar picture of early childhood education for Pre-Kindergarten and Kindergarten. Most public schools across the state (and even the nation) follow a similar schedule of assessments and many use the very same instruments. It is important in calculating the significance of the findings in this study, to recognize its conditions as commonplace and replicable. At the national level, states are grappling with educational reform to increase achievement for all and consistently failing minority groups at a grand scale. NCLB is the framework that defines success for the child, for the population, and for the school, yet NCLB does not address instruction – it addresses outcomes.

Early childhood education has long been associated with improved academic outcomes in the long term, particularly for poor children. As such, it is a credible preventive measure in which school districts should invest. The findings in this study suggest that for a population of poor emergent bilinguals, bilingual instruction magnifies the benefits of early childhood education to suit the particular needs of this population and reproduce the outcomes demonstrated in studies with English speaking preschoolers. Positive outcomes in English emergent literacy skills for Spanish-speaking preschool children can be attained and surpassed with age-appropriate bilingual instruction. This requires a commitment to protect several conditions:

- Access to bilingual instruction from the earliest age;
- Sound assessment practices that do not disadvantage second language learners as is evident in timed fluency measures;
- Limited use of standardized tests in early childhood;
- Creating safety and comfort during the administration of assessments;
- Limiting the number and frequency of assessments;
- Limiting the use of published instruments in favor of assessment by observation.

The troubling questions that arise over testing for very young children are embedded in the question of pedagogy for preschool – What is appropriate instruction? What are the underlying philosophical ideas about how children learn? What are the best ways to deliver instruction? What will we teach and why?

The urgency to pass standardized tests in the NCLB framework creates an artificial logic to "start earlier" without regard to what is appropriate in the earliest grades. Overly academic expectations rob preschool children of the necessary stages of discovery and mastery that underlie the learning process. Children may be able to memorize information and reproduce it in a standardized test, but that is not the same as internalizing concepts that can be drawn upon later for problem solving or meaning making. Ironically, overly academic expectations can create a condition where preschool children are infantilized. Unable to manipulate their environment, pace their learning, or pursue their interests, children can only be passive recipients of information emanating from an adult. Emergent literacy skills can be presented in a language-rich, multi-sensory environment or in highly repetitive activities like flashcards or choral chants. Since NCLB rewards exactitude and not innovation, it creates momentum for the instruction of explicit skills at the expense of comprehension or meaning making (Menken, 2008). This creates yet another subtractive condition for emergent bilinguals whose first task in meeting instructional goals necessarily requires comprehension.

Emergent bilinguals are particularly disadvantaged by "cramming" expectations from higher up when building vocabulary in English takes time, exposure and concentration. Regardless of the program of instruction, emergent bilinguals in preschool have a double task. For those in monolingual instructional programs, emergent bilinguals speak a home language different from the language of instruction. For the very few who are fortunate enough to be instructed in bilingual programs they are developing two languages at once and rely on varied experiences in order to link vocabulary and meaning across two languages.

Often poor children who enter schools with fewer preparatory skills than their middle class counterparts are most often assigned skill and drill instruction in response to the urgency of looming tests. Insofar as emergent bilingual Latino preschool children are also disproportionately poor in this country, they are more likely to experience higher rates of directed skills instruction than other groups. Harvard's Richard Elmore, a leading critic of school reform, has said, "The rich get richer and the poor get direct instruction." As we observe their numbers grow, can we anticipate a new form of segregation for emergent bilinguals based on instructional strategies?

Nearly all 50 states have so far adopted the new national *Common Core Standards* (CCS) in education for grades Kindergarten to Twelfth. Two states, Alaska and Texas, have rejected the CCS altogether (retrieved May 1, 2011 from http://www.heartland.org/schoolreform-news.org/Article/27354/Alaska_Texas_Reject_Common_Core_Standards.html). These new standards organize instruction and learning in a new way that may cause educators to reconsider the role of bilingual education. At the very least, the CCS will force a dialogue about how emergent bilinguals will meet these new standards. New York, the home of the Rivertown School District and Adelante School, is the only state which adopted Pre-Kindergarten standards. Will New York follow Illinois' example and mandate bilingual instruction at the Pre-Kindergarten level? This study is one voice advocating for bilingual education for New York's young emergent bilinguals.

Conclusion

Public education holds as its promise to the nation the idea that all American children, regardless of their circumstances, would have an opportunity to develop their abilities, intellect and creativity enough for productive engagement with and contribution to society. It is not, however, what happens. Instead we design classist, racist and monolingual schools that can only favor white, affluent English speakers. NCLB, for all its good intentions, exacerbates the problem by highlighting the inequity of outcomes for different groups of children without enabling a differentiated approach to meet their needs. Bilingual education dares to challenge that paradigm and offers a viable alternative.

In communities such as Rivertown, tensions between groups -- taxpayers and school districts, citizens and immigrants, the rich and the poor, the advocates for English-only and the advocates for multilingualism – erupt with destructive force. Although members of opposing groups may be neighbors, they do not see themselves as one community. The poor, non-citizen, emergent bilingual individuals are cast as the least desirable and are vested with the least power. But Rivertown is not unique; it is a prototype of affluent suburban communities that want to reject the "other" that is not white, not affluent, not English speaking. Under these social conditions, bilingual education represents a form of liberation. It represents sharing fully in the benefits and the power of education. It enables greater comprehension, cultural relevance, and social engagement. Most of all, bilingual education creates a unique condition where the home language is recognized as a feature of one's identity and not simply a lexical compilation. This, most of all, may be what redresses the prejudice that exists in American communities.

The 2010 census tells a story about how America is changing. The number of Latinos continues to grow in record numbers. More and more Spanish-speaking children will enter our preschools. What will they encounter there that delivers the promise of public education? If we believe that public education has transformative power for each child and not just for some, and that we are accountable for igniting that transformation, then the demographic change evident in census figures simply illustrates America's face today -- not with foreboding about unmet needs but with eagerness for discovery.

Appendices

Appendix A
Home Language Questionnaire

Appendix A

The University of the State of New York • The State Education Department • Office of Bilingual Education
Albany, New York 12234

Home Language Questionnaire (HLQ)

Dear Parent or Guardian:

In order to provide your child with the best possible education, we need to determine how well he or she understands, speaks, reads and writes English. Your assistance in answering these questions is greatly appreciated.

Thank You

TO BE COMPLETED BY SCHOOL PERSONNEL

Please print or type clearly

DISTRICT

SCHOOL GRADE

STUDENT NAME

DATE OF BIRTH
Month: Day: Year:

STUDENT IDENTIFICATION NUMBER

COUNTRY OF BIRTH / ANCESTRY

NUMBER OF YEARS ENROLLED IN SCHOOL OUTSIDE THE U.S.

NAME/POSITION OF SCHOOL PERSONNEL COMPLETING THIS SECTION

DETERMINATION:
❑ Possible LEP
❑ English Proficient

(✔ boxes that apply)

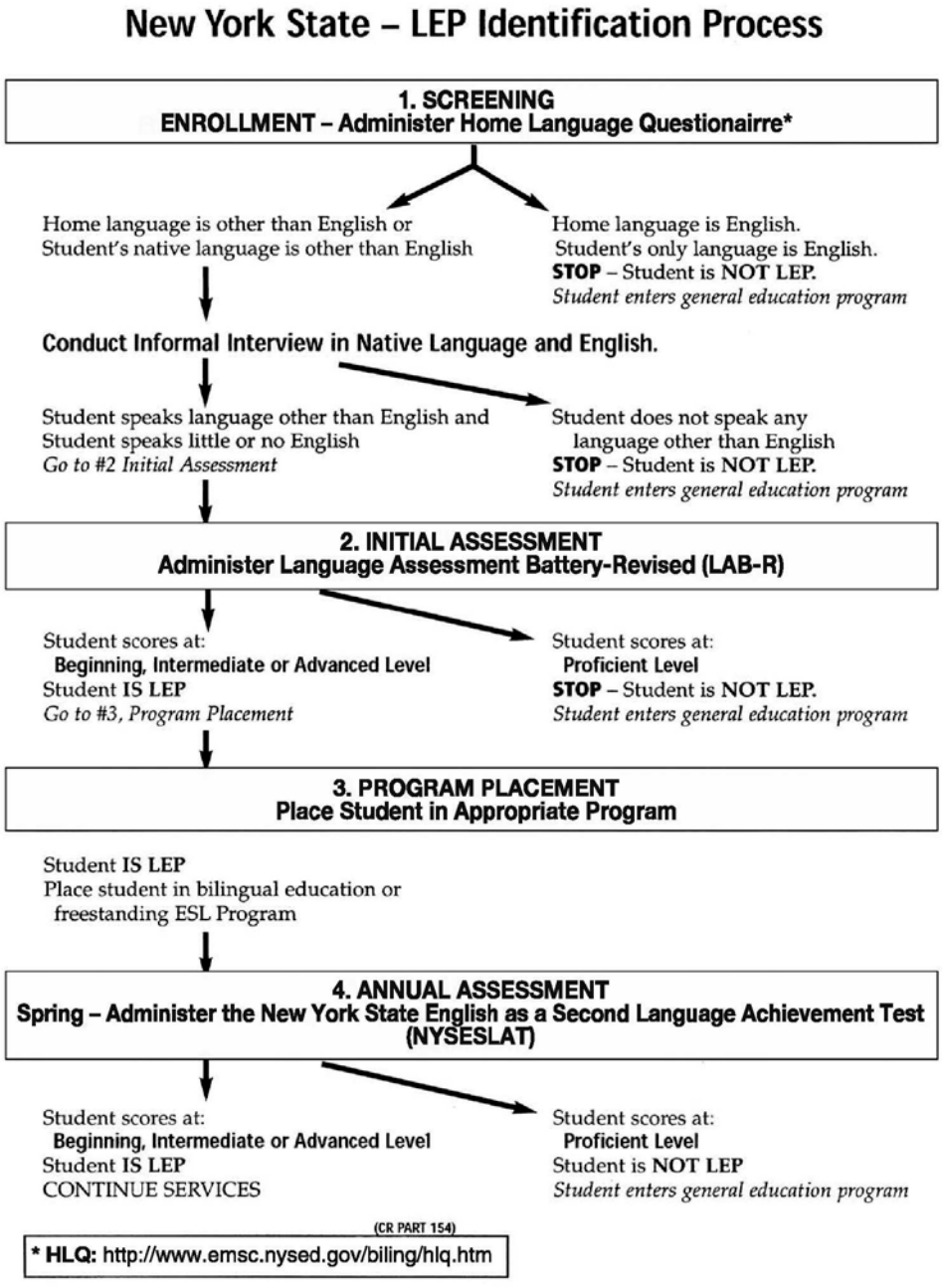
1. What language(s) is spoken in the student's home or residence? ❑ **English** ❑ **Other** _____ *specify*
2. What language(s) are spoken most of the time to the student, in the home or residence? ❑ **English** ❑ **Other** _____ *specify*
3. What language(s) does the student understand? ❑ **English** ❑ **Other** _____ *specify*
4. What language(s) does the student speak? ❑ **English** ❑ **Other** _____ *specify*
5. What language(s) does the student read? ❑ **English** ❑ **Other** _____ *specify* ❑ **Does Not Read**
6. What language(s) does the student write? ❑ **English** ❑ **Other** _____ *specify* ❑ **Does Not Write**
7. In your opinion, how well does the student understand, speak, read and write English?

	Very well	*Only a little*	*Not at all*
Understands English	❑	❑	❑
Speaks English	❑	❑	❑
Reads English	❑	❑	❑
Writes English	❑	❑	❑

_____ Month: Day: Year:
Signature of Parent/Guardian/Other *Date*

HLQ (2/00) 99-337 PM

Appendix B


New York State – LEP Identification Process
1. SCREENING
ENROLLMENT – Administer Home Language Questionairre*
Home language is other than English or
Student's native language is other than English
Home language is English.
Student's only language is English.
STOP – Student is NOT LEP.
Student enters general education program
Conduct Informal Interview in Native Language and English.
Student speaks language other than English and
Student speaks little or no English
Go to #2 Initial Assessment
Student does not speak any
language other than English
STOP – Student is NOT LEP.
Student enters general education program
2. INITIAL ASSESSMENT
Administer Language Assessment Battery-Revised (LAB-R)
Student scores at:
Beginning, Intermediate or Advanced Level
Student IS LEP
Go to #3, Program Placement
Student scores at:
Proficient Level
STOP – Student is NOT LEP.
Student enters general education program
3. PROGRAM PLACEMENT
Place Student in Appropriate Program
Student IS LEP
Place student in bilingual education or
freestanding ESL Program
4. ANNUAL ASSESSMENT
Spring – Administer the New York State English as a Second Language Achievement Test (NYSESLAT)
Student scores at:
Beginning, Intermediate or Advanced Level
Student IS LEP
CONTINUE SERVICES
Student scores at:
Proficient Level
Student is NOT LEP
Student enters general education program
(CR PART 154)
* HLQ: http://www.emsc.nysed.gov/biling/hlq.htm

Appendix C

Pre-Kindergarten
ELA Integrated Framework

Reading

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
R1. Understands that print conveys ideas, information and messages	Reads own name Recognizes and interprets familiar signs and symbols from the environment, such as labels on classroom furniture, real life items, STOP signs Exhibits skills in handling books (Concepts of Print left/right-top/bottom sweep; front/back covers; text vs. illustration Knows the letters of the alphabet especially those in own name	**Non-Negotiables:** Print rich environment Strategies (word vs. letter) Modeling daily reading & writing authentic, continuous text ***Activities:*** Emergent Literacy Active Learning Centers Daily "reading" & "writing" including chants, rhymes and poetry Carpet mats w/ names Attendance charts w/ names Job cards w/ names Cubbies/coat hooks w/ names Name Games Reading Activities – e.g. morning message; sight words Display of Student Work Thematic Letters	Teacher Observations Conferring notes Bracken	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Reading — Understands What is Read Aloud

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
R2. **Understands "Big Ideas"** Big ideas are defined as underlying themes of text, what authors are trying to communicate in their writing.	Shows curiosity and interest beyond the literal level of text – "Why" questions Identifies ideas and experiences from texts	***Non-Negotiables:*** • Many & varied texts • Discussion & reflection • Explores underlying themes • Analyze/Synthesize/Evaluate **Activities:** Relating stories and illustrations to own experiences - making connections Role Playing Flannel boards Questioning Express feelings, ideas, experiences Describe or explain experiences or ideas Express understandings during group discussions Begin to think about Author's point of view Seeks out text-text; text-self; text-world connections from students during group discussions States author's purpose in writing (Author's point of view) Encourages discussion regarding personal responses to text Activates background knowledge during pre-reading activities to instill awareness of personal experiences, thoughts and ideas Initiates and facilitates discussion centering on underlying themes, ideas and feelings found within text Engage children in books and other texts with multiple layers of meaning.	Group Discussions Teacher Observations	ELA Section Play Section (Expresses Ideas through Play)

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Reading — Understands What is Read Aloud

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
R3. **Is familiar with a wide range of reading materials** Students will have been read a substantial amount of books and other materials across literary genres, different forms of print, diverse topics and cultures, across content areas.	Listens when read to. Engages in independent "reading." Participates in choral reading and songs.	**Non-Negotiables:** • Reading from multiple genres (diversity, forms, purpose) • Make available substantial printed & electronic material • *Daily* opportunities to read widely • Frequent opportunity to share • Substantial material on their own, across genres • Environmental Print Checklist **Activities:** Reading across all genres Compare and contrast different versions of same story Recognize and identify environmental print. Reading behaviors/book handling Reading around the room Books on tape Nursery rhymes, poetry, nonfiction, nature, science, etc… Attention given to cultural diversity Self-selection KidPix computer program Whole Class Share; Think-Pair-Share; Group Discussions; Buddy Reading Charts and other visual aids *The PreK teacher will ensure that the children are exposed daily to different genres such as fiction, non-fiction and poetry through Read Alouds, Shared Reading and electronic print.	Teacher observations Reading Logs	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Writing—Dictation/Scribing

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
W1. Communicates through picture making and dictation	Recognizes the difference between drawing and writing. Dictations: **Makes links between oral and written language. **Assigns a message to own symbols **Orally recounts own experiences. **Talks about own drawing/writing **Tells adults what to write **States purpose for own writing, e.g. "This is my shopping list."	**Non-Negotiables:** • Expose students to, and analyze with them, examples of writing that represent a variety of purposes, audiences, and topics. • Provide regular opportunities for students to write on a variety of topics, for authentic audiences and purposes. • Model, teach and practice strategies for communicating meaningful ideas in writing for authentic purposes and audiences. • Balance on-demand writing with extended compositions. • Expose students to, and have them analyze, a wide range of organizing structures in writing (lists, letters, webs). **Activities:** Writing center Writing journals/self written books Shared writing Writing for different purposes: labeling, lists, letters, etc. Illustrations that are representative of concrete objects/ideas Incorporating writing throughout the centers Drawing/Art Activities Describing art **Oral Language Focus:** **Knows some favorite parts of songs, fingerplays, etc… In a literacy rich environment, the teacher will: **Arrange learning experiences that help children see the links between spoken and other forms of language. In this way the development of oral language skills will lead naturally and logically into reading and writing **Provide models of correct English ** Use Language Experience Charts (Recording children's thoughts and contributions) **Demonstrates the connection between oral and written language **Encourage students to share their writing experiences	Portfolio Student work/ Writing journals Conferring Notes Informal Observations Name Recognition	ELA Section Art Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Writing—Approximations

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
W2. Understands that there are conventions governing print	Prints Name Grips pencil correctly Uses adequate pencil pressure Distinguishes between upper and lower case letters in their names. Distinguishes letters from numbers	**Non-Negotiables:** • Expose students to, and analyze with them, examples of positive and negative writing mechanics. • Model, teach practice correct/appropriate mechanics within authentic writing. • Provide direct instruction in writing mechanics when necessary. • Expose students to, and have them analyze, a wide range of organizing structures in writing (lists, letters, webs). **Activities:** Name writing Capitalizing first letter of their names Writing center activities Writing journals Model writing (words, spaces) - Write Aloud Handwriting – pencil grip and pressure Spatial awareness (size of letters on page) Directionality – left/right; top/bottom sweep in writing Picture sequences (1st, next, last) dictated sequence Illustration vs. print approximations Morning message (write in the presence of the children) Shared writing activities – narrative and informational; graphic organizers and language experience charts **Oral Language Focus:** **Model writing every day **Demonstrate that written messages remain constant. **Print concepts and conventions	Student work Writing Journals Teacher Observation	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Listening

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
L1. **Makes sense of what is read from informational texts** Informational text includes textbooks, primary source documents, nonfiction tradebooks and magazines. .	Uses simple illustrations to begin to collect data, facts, and ideas Makes text to self connections (multicultural, non-fiction, community helpers, etc.) Answers questions about the content of informational texts.	***Non-Negotialbles:*** Wide range of informational text (print & electronic) • Variety of content • Strategies for comprehension • Response w/ evidence • Beginning understanding of non-fiction text **Activities:** Monthly graphing activities Emergent Literacy – non-fiction books Everyday print-signs, packages, labels Daily letter Themes (i.e. senses)-shopping, vocabulary, word lists, menu Books Graphic organizers/webs Nonfiction books available at centers – recipe books, architectural books, community helpers. Hands-on science projects and corresponding nature books Real vs. imaginary Retells familiar informational text with repetitive text ***Oral Language Focus*:** **Include collaborative and exploratory activities that encourage children to predict, hypothesize and make comparisons **Promote language that allows children to discuss and express opinions related to topics, issues and interests **Develops specific vocabulary to suit different purposes, e.g. language for description, classification, comparison, argument **Shows evidence of language cohesion; narrative logical, sequenced retells recounts sequenced by time order	Group discussions Teacher Observations	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Listening

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
L2. **Makes sense of what is read from literary texts.** Literary texts include classic and contemporary literature in both prose and poetic forms.	Connects a picture or illustration to a story. Makes predictions about story events. Answers questions about the content of literary texts.	***Non-Negotiables:*** • Frequent opportunities to read & discuss • Wide variety of literary styles, elements, techniques • Practice response w/ evidence **Activities:** Emergent Literacy Themes Books Guided Discussions Story Elements Sequential Organizers (beginning, middle, end) Role playing/acting Predicting Flannel boards Retelling – puppets, props, etc… Real vs. imaginary Identifies and talks about familiar characters/people from text ***Oral Language Focus:*** **Provide opportunities to listen and respond to stories, songs, poems **Include collaborative and exploratory activities that encourage children to predict, hypothesize and make comparisons **Develop the language necessary to express an understanding of narrative structure, e.g. giving logical, sequenced retells, describing setting, characters, and events, or incorporating literary language **Promote language that allows children to discuss and express opinions related to topics, issues and interests **Shows evidence of language cohesion; narrative logical, sequenced retells recounts sequenced by time order **Uses language to predict and recall	Reading Log Teacher Observations Group Discussions	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Listening

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
L3. **Is a critical and responsive listener** We define understanding what is heard as the ability to understand, organize, synthesize, and apply information that is heard. We define responsive listening as the student's ability to listen with empathy, considering other's points of view.	Listens to peers and is able to explain, paraphrase or summarize other's point of view. Demonstrates appropriate listening behavior – facing the speaker, making eye contact, listening attentively and responding appropriately. Exhibits appreciation of music, rhythm, rhyme. Expresses self through music and movement. **To develop a positive attitude to listening and speaking	**Non-Negotiables:** • Frequent opportunities to engage in listening to wide variety (1to1, small group, large group, etc.) • Expose to variety of speakers and voices for different purposes (information, debate, social interaction…) • Model, teach, practice strategies for all aspects of listening (note-taking, graphic organizers, visualizing…) **Activities:** Introduction of new concepts, e.g. rules of a game, directions for activities, steps to complete a specific goal Giving clear, precise directions that grow in complexity throughout the year Individual conferences with teacher "Guest speaker" parents Assembly programs Puppet shows & storytelling Paired discussions Shared reading and writing experiences Multicultural books Emergent Literacy - buddy reading; Think-pair-share Accountable book talk Show & Tell sharing Sharing insights and feelings Exposure to semantic webs Visualizing – "making pictures in your head" Rhymes, chants and poetry; Name Games **Oral Language Focus:** **Provide opportunities to listen and respond to stories, songs and poems **Develop students' ability to ask and answer questions as a strategy for problem solving **Can sustain a conversation with a variety of audiences, e.g. teachers, peers, parents **Uses language to interact with peers, e.g. collaborative activities **Listens to evaluate, draw inferences and make judgments	Teacher Observations	ELA Section Music Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
S1. **Uses verbal dictations to enhance representations**	Moves from simple labeling/commenting of representations to more elaborate dictations. May include: Complete sentences w/ descriptors. Clear beginning, middle and end. May follow a story like format—Once upon a time... Links dictations to representation. *Prompting for more information or elaboration is acceptable (ie. "Tell me more." "What happened next?")	**Non-Negotiables:** • Expose students to and analyze text that represents a wide range of styles, voices and language usage. • Model, teach, practice effective language during shared writing. • Help students discover and develop their voice during dictations. Teachers act as scribes. **Activities:** Developing self-initiated writing (expanding on their story in writing journals) Retelling/creating stories using story language: Once upon a time, etc. Multicultural stories and books Active Learning Centers—incorporate writing utensils and materials throughout centers.	Writing journals Student Work Dictations	ELA Section Art Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
S2. **Retells Familiar Stories**	Retells the original story using language from the text. Expresses sequence (what happens first, next, last, etc.).	**Non-Negotiables:** Regular opportunities to read aloud (1 to 1, groups) Practice reading with expression Expression that contributes to comprehension Expose students to, and have them analyze, a wide range of organizing structures in writing (lists, letters, webs). ***Activities:*** Read Alouds – theme related and Emergent Literacy Books Shared Reading – e.g. Big Books, chants, rhymes etc… "Reading" activities at Centers Emergent Reading – Expressive retelling – partnered & independent Choral reading Storytelling through role playing/acting ***Oral Language Focus:*** **Judges whether a sentence is grammatically correct and adapts accordingly **Uses tone, volume, pace, intonation pattern, and gesture to enhance meaning **Shows evidence of language cohesion; narrative logical, sequenced retells recounts sequenced by time order	Retelling using benchmark text	ELA Section Science/Social StudiesSection

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
S3. Communicates Ideas Effectively There are two aspects of speaking, one that focuses on content of what is spoken, and one on techniques. By "communicating ideas" we mean that students have interesting and/or relevant things to say. By "technique" we mean style, language, audience awareness, audibility, intonation, gestures and poise.	Participates in discussions – whole group, small group, pairs and independently. Expresses ideas clearly. Speaks in complete sentences. Speaks with appropriate volume. Demonstrates appropriate speaking behavior: eye contact focused topic audibility taking turns Initiates conversations with peers Initiates conversations with adults Uses appropriate social courtesies	**Non-Negotiables:** • Provide frequent opportunities for students to speak to a variety of audiences (peers, wider audiences, formal and informal settings). • Provide opportunities to revise and deepen their understanding through conversation. • Model, teach, practice strategies for speaking for different purposes and in various contexts, strategies that promote productive and thoughtful conversation. • Provide opportunities for constructive feedback and self-evaluation. **Activities:** Participate during Whole Group, Small Group, Partner, & Individual activities. Class Jobs (calendar, etc.) Teacher interacts with class to promote conversation among children. Frequent dictations Dramatic Play; Social Play Show & Tell Share Chair Author/Illustrator Chair	Dictations Teacher observations Discussions with peers, discussions with adults	ELA Section Play Section Personal Responsibility ***Continued***

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
Continued **Communicates Ideas Effectively** There are two aspects of speaking, one that focuses on content of what is spoken, and one on techniques. By communicating ideas, we mean that students have interesting and/or relevant things to say. By technique, we mean style, language, audience awareness, audibility, intonation, gestures and poise.	***Continued***	***Continued*** **Oral Language Focus:** **Provide opportunities to listen and respond to stories, songs, poems, etc… **Uses language to predict and recall **Uses language to interact with peers e.g. collaborative activities **Assist students to use different styles of language to suit a range of audiences and purposes **Include collaborative and exploratory activities that encourage children to predict, hypothesize and make comparisons **Promote language that allows children to discuss and express opinions related to topics, issues and interests **Introduce subject-specific vocabulary through oral, written and reading activities **Develop students' ability to ask/answer questions as a strategy for solving problems **Develop students' ability to ask/answer questions as a strategy for clarifying or gaining new information **Help students present factual information clearly and logically **Shows evidence of language cohesion; narrative logical, sequenced retells recounts sequenced by time order conversation sustained **Uses tone, volume, pace, intonation pattern and gesture to enhance meaning **Can sustain a conversation with a variety of audiences, e.g. teacher, peers, parents **Develops specific vocabulary to suit different purposes, e.g. language for description, classification, comparison, argument , e.g. language for description, classification, comparison,	*… continued*	*...continued*

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
S4. **Has an extensive speaking vocabulary** We expect students to have a good understanding of words they hear in conversation and in authentic text including both technical and idiomatic vocabulary.	Identifies and pronounces personally relevant words. Recognizes the vocabulary and writing conventions (e.g. greetings and closings) of social communication Uses comparative language word pairs (big/ small, day/night, first/last)	**Non-negotiables:** • Expose students to rich vocabulary in wide variety of literature • Model, teach, analyze meanings, figurative language, technical language, content area • Engage in conversation that enriches vocabulary • Model, teach, practice strategies for figuring out meaning **Activities:** Lessons are presented with "whole body" responses and experiences Promoting synonyms—fun with words Theme related activities Frequent Dictation activities Emergent Literacy Block Independent choice reading Dramatic play is encouraged – pretend or role-playing Frequent opportunities for speaking to the class ***Oral Language Focus:*** **Introduce subject-specific vocabulary through oral, written and reading activities **Develop the language necessary to express an understanding of narrative structure, e.g. giving logical, sequenced retells, describing setting, characters and events, or incorporating literary language	Teacher Observation Bracken	ELA Section Play Section (Dramatic, Social) Math Section Science/Social Studies Section Technology Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Speaking

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
S5. Discriminates Sounds Student has an understanding of the phonemic structure of language and begins to recognize and identify independent sounds within words (phonemes).	Identifies rhyming words Generates rhyming words	**Non-negotiables:** • Expose students to rich vocabulary in wide variety of literature • Model, teach, analyze meanings, figurative language, technical language, content area • Engage in conversation that enriches vocabulary • Model, teach, practice strategies for figuring out meaning **Activities:** Theme related activities Frequent Dictation activities Emergent Literacy Block Independent choice reading Dramatic play is encouraged – pretend or role-playing Frequent opportunities for speaking to the class Word games Nursery Rhymes Poems Choral chants ***Oral Language Focus:*** **Introduce subject-specific vocabulary through oral, written and reading activities **Develop the language necessary to express an understanding of narrative structure, e.g. giving logical, sequenced retells, describing setting, characters and events, or incorporating literary language	Teacher Observation Bracken	ELA Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Viewing

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
V1. **Is a Critical and Responsive Viewer** Viewing is making sense of what is seen or observed. We expect students to be able to organize, synthesize and apply information in a variety of ways. A critical viewer, like a critical listener, can analyze and evaluate what is seen, and can discriminate what is significant from what is not. *The PreK teacher will ensure that the children are exposed to a range of visual material and media.	Identifies and describes attributes/characteristics of various items Gains new understanding and knowledge through viewing real life representations, pictures, books, etc. Discriminates between illustration and text. Distinguishes letters from numbers Identifies feelings based on facial expression, social cues and body language of others, e.g. peers, teachers, character illustrations. Responds appropriately to different social situations based upon visual evidence.	**Non-Negotiables:** • Provide frequent opportunities for students to view, analyze, discuss a range of visual material (film, art, cartoons, charts, graphs, diagrams, advertisements, demonstrations, etc.) • Model, teach, and have students practice strategies for critical viewing and viewing for information and understanding. **Activities:** Calendar/Weather/Attendance Computers – Living Books, KidPix Manipulatives Picture chats (photos, wordless storybooks, drawings) Show and Tell Puppets Role Playing Nature Walks/Seasonal Field Trips "Share Chair" – student selected work Circle time – morning message with "word in pictures" included Charts, Graphing activities, visual cues Provide, when possible, real life representations Picture Chat (discussing illustrations, paintings, etc.) "Fishbowl technique" for problem solving and role playing activities Use of Big Books to enhance viewing and discussion of illustrations and text Individual or group viewing, advertisements, videos, movies.	Reading Logs Teacher Observations	ELA Section Math Section Science/Social Studies Section Technology Section Art Section Music Section

Appendix C — Continued

Pre-Kindergarten
ELA Integrated Framework

Representing

Attribute	Mastery	Instructional Contributions	Assessment	Report Card
RP1. Communicates ideas effectively in a variety of media Representing is communicating ideas in a variety of appropriate media (drawing, photography, role-playing, electronic media, charts, maps, models, etc.)	Draws as a means of communication. Creates process art pieces that symbolize or represent something important to the child. Engages in play that represents real life experiences and feelings. Draws, dramatizes or otherwise represents ideas, knowledge and experiences. Utilizes choice in creating a graph. Assigns meaning to own drawings, artwork, building, etc. Expresses ideas through play. Employs a variety of materials. Expresses ideas through the use of art.	**Non-Negotiables:** Provide frequent opportunities for students to create authentic representations of what they know or are learning. • Encourage (and sometimes require) students to use various forms of media presentation (eg. Multimedia, drawings, illustrations, models, maps, charts, dramatizations, photographs, etc.) • Model, teach, practice strategies for making effective presentations **Activities:** Drawing, writing center Process art activities Active Learning Centers Show and Tell Writing activities/journal writing Puppetry/retelling/characters Role playing/Dramatic Play Group Discussions Scribe writing Photograph as a record of communication of ideas Graphing Morning message Language Experience Charts Interactive/shared writing, e.g. Thank You cards Provide a wealth of materials, including real life representations, for student use, e.g. collage materials, empty cereal boxes, etc. Provide different writing tools encouraging fine motor skills – chubby/skinny crayons and markers, pencils, pens, scissors, tape, staplers	Writing Journals Student Work Teacher Observations Group Discussions	ELA Section Play Section Science/Social Studies section Art Section Music Section

Appendix D

Key:
H2 = high 2
L2 = low 2
( ) = point value

*All skills listed as a (2) point value, may receive a (1) to reflect ***emerging*** skills.

READING:

R1. Understands that print conveys ideas, information and messages

Rubric Scores	1 (0)	L2 (1-3)	H2 (4-5)	3 (6)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(1) Reads own name

(1) Recognizes and interprets familiar signs and symbols from the environment, such as labels on classroom furniture, real life items, STOP signs

(2) Exhibits skills in handling books*
(Concepts of Print: left/right-top/bottom sweep; front/back covers; text vs. illustration)

(2) Knows the letters of the alphabet especially those in own name*

R2. Understands "Big Ideas"
Big ideas are defined as underlying themes of text, what authors are trying to communicate in their writing.

Rubric Scores	1 (0)	L2 (1-2)	H2 (3)	3 (4)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(2) Shows curiosity and interest beyond the literal level of text – "Why" questions*

(2) Identifies ideas and experiences from texts*

Appendix D -- Continued

R3. Is familiar with a wide range of reading materials

Students will have been read a substantial amount of books and other materials across literary genres, different forms of print, diverse topics and cultures, across content areas.

Rubric Scores	1 (0)	L2 (1-3)	H2 (4)	3 (5)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(1) Listens when read to

(2) Engages in independent "reading" *

(2) Participates in choral reading and songs*

WRITING:

W1. Communicates through picture making and dictation

Rubric Scores	1 (0)	L2 (1-2)	H2 (3)	3 (4)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(1) Recognizes the difference between drawing and writing

Dictations:
**Make links between oral and written language
**Assigns a message to own symbols
**Orally recounts own experiences
**Talks about own drawing/writing
**Tells adults what to write
**States purpose for own writing, e.g. "This is my shopping list."

(3) At least one complete sentence
OR
(2) Phrases only
OR
(1) Labeling only

Appendix D -- Continued

W2. Understands that there are conventions governing print

Rubric Scores	1 (0)	L2 (1-2)	H2 (3)	3 (4)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(2) Prints Name*

(1) Distinguishes between upper and lower case letters in their names.

(1) Distinguishes letters from numbers

LISTENING:

L1. Makes sense of what is read from informational texts

Informational text includes textbooks, primary source documents, nonfiction tradebooks and magazines.

Rubric Scores	1 (0)	L2 (1-3)	H2 (4-5)	3 (6)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(2) Uses simple illustrations to begin to collect data, facts, and ideas*
(2) Makes text to self connections (multicultural, non-fiction, community helpers, etc.)*
(2) Answers questions about the content of informational texts*

L2. Makes sense of what is read from literary texts.

Literary texts include classic and contemporary literature in both prose and poetic forms.

Rubric Scores	1 (0)	L2 (1-3)	H2 (4)	3 (5)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(1) Connects a picture or illustration to a story
(2) Makes predictions about story events*
(2) Answers questions about the content of literary texts*

Appendix D -- Continued

L3. Is a critical and responsive listener

We define understanding what is heard as the ability to understand, organize, synthesize, and apply information that is heard. We define responsive listening as the student's ability to listen with empathy, considering other's points of view.

Rubric Scores	1 (0)	L2 (1-3)	H2 (4-5)	3 (6)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

(2) Listens to peers and is able to explain, paraphrase or summarize other's point of view*

(2) Demonstrates appropriate listening behavior – facing the speaker, making eye contact, listens attentively and responds appropriately*

(1) Exhibits appreciation of music, rhythm, rhyme

(1) Expresses self through music and movement

SPEAKING:

S1. Uses verbal dictations to enhance representations

Rubric Scores	1 (0)	L2 (1)	H2 (2)	3 (3)
	Not Observed	Observed utilizing SOME of the identified skills/concepts		Observed utilizing ALL of the identified skills/concepts

**Moves from simple labeling/commenting of representations to more elaborate dictations
**Complete sentences w/ descriptors
**Links dictation to representation
**May follow a story like format—Once upon a time...

(3) At least one complete sentence.
OR
(2) Phrases only.
OR
(1) Labeling only.

Appendix D -- Continued

S2. Retells Familiar Stories

Rubric Scores	1 (0)	L2 (1-7) H2 (8-11)	3 (12)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

Retells the original story:

(1) Title (Books selected from the Teachers' list compiled 12/08)
(1) Character name(s)
(2) Specialized vocabulary (Determined by Teacher, based on the Title selected)
(2) Expresses sequence (what happens first, next, last, etc.) in order.
(1) Retells with expression
(2) Retells without prompting

Language: Pick one

(3) At least one complete sentence.
OR
(2) Phrases only.
OR
(1) Labeling only.

S3. Communicates Ideas Effectively

There are two aspects of speaking, one that focuses on content of what is spoken, and one on techniques. By communicating ideas, we mean that students have interesting and/or relevant things to say. By technique, we mean style, language, audience awareness, audibility, intonation, gestures and poise.

Rubric Scores	1 (0)	L2 (1-8) H2 (9-12)	3 (14)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

(2) Participates in discussions – whole group, small group, pairs and independently*
(1) Expresses ideas clearly
(2) Speaks in complete sentences
(1) Speaks with appropriate volume
(2) Demonstrates appropriate speaking behavior:*
eye contact
focused topic
audibility
taking turns
(2) Initiates conversations with peers*
(2)Initiates conversations with adults*
(2) Uses appropriate social courtesies*

Appendix D – Continued

S4. Has an extensive speaking vocabulary

We expect students to have a good understanding of words they hear in conversation and in authentic text including both technical and idiomatic vocabulary.

Rubric Scores	1 (0)	L2 (1-3) H2 (4)	3 (5)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

(1) Identifies and pronounces personally relevant words from the home and school environments.

(2) Recognizes the vocabulary and writing conventions (e.g. greetings and closings) of social communication*

(2) Uses comparative language word pairs (big/small, day/night, first/last)*

S5. Discriminates Sounds

Students have an understanding of the phonemic structure of language and begins to recognize and identify independent sounds within words (phonemes).

Rubric Scores	1 (0)	L2 (1-2) H2 (3)	3 (4)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

(2) Identifies rhyming words*

(2) Generates rhyming words*

Appendix D -- Continued

VIEWING:

V1. Is a Critical and Responsive Viewer

Viewing is making sense of what is seen or observed. We expect students to be able to organize, synthesize and apply information in a variety of ways. A critical viewer, like a critical listener, can analyze and evaluate what is seen, and can discriminate what is significant from what is not.

Rubric Scores	1 (0)	L2 (1-6) H2 (7-8)	3 (9)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

(1) Discriminates between illustration and text

(1) Distinguishes letters from numbers

(1) Identifies feelings based on facial expression, social cues and body language of others, e.g. peers,
teachers, character illustrations

(2) Identifies and describes attributes/characteristics of various items*

(2) Gains new understanding & knowledge through viewing real life representations, pictures, books*

(2) Responds appropriately to different social situations based upon visual evidence*

Appendix D -- Continued

REPRESENTING:

Rp1. Communicates ideas effectively in a variety of media

Representing is communicating ideas in a variety of appropriate media (drawing, photography, role-playing, electronic media, charts, maps, models, etc.)

Rubric Scores	1 (0)	L2 (1-9) H2 (10-12)	3 (13)
	Not Observed	Observed utilizing SOME of the identified skills/concepts	Observed utilizing ALL of the identified skills/concepts

(1) Draws as a means of communication

(1) Engages in play that represents real life experiences and feelings

(1) Draws, dramatizes or otherwise represents ideas, knowledge and experiences

(1) Utilizes choice in creating a graph

(1) Assigns meaning to own drawings, artwork, building, etc.

(2) Creates process art pieces that symbolize or represent something important to the child*

(2) Expresses ideas through play*

(2) Employs a variety of materials*

(2) Expresses ideas through the use of art*

Appendix E

2008 HHS Poverty Guidelines

Persons in Family or Household	48 Contiguous States and D.C.	Alaska	Hawaii
1	$10,400	$13,000	$11,960
2	14,000	17,500	16,100
3	17,600	22,000	20,240
4	21,200	26,500	24,380
5	24,800	31,000	28,520
6	28,400	35,500	32,660
7	32,000	40,000	36,800
8	35,600	44,500	40,940
For each additional person, add	3,600	4,500	4,140

SOURCE: *Federal Register*, Vol. 73, No. 15, January 23, 2008, pp. 3971–3972

Appendix F
Table 1

TIME 1: Chi-square analysis of Gender by Instructional Program

Crosstab

			Instructional Program		
			Bilingual	Monolingual	Total
Gender	Male	Count	16	26	42
		% within Instructional Program	64.0%	44.8%	50.6%
	Female	Count	9	32	41
		% within Instructional Program	36.0%	55.2%	49.4%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.569[a]	1	.109		
Continuity Correction[b]	1.859	1	.173		
Likelihood Ratio	2.596	1	.107		
Fisher's Exact Test				.151	.086
Linear-by-Linear Association	2.538	1	.111		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.35.

b. Computed only for a 2x2 table

Appendix F
Table 2

TIME 1: Chi-square analysis of Child's Country of Origin by Instructional Program

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Child -- Country of Origin * Instructional Program	83	100.0%	0	.0%	83	100.0%

Child -- Country of Origin * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
Child -- Country of Origin	Guatemala	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	Peru	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	United States	Count	25	54	79
		% within Instructional Program	100.0%	93.1%	95.2%
	Uruguay	Count	0	2	2
		% within Instructional Program	.0%	3.4%	2.4%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.811[a]	3	.612
Likelihood Ratio	2.954	3	.399
Linear-by-Linear Association	.666	1	.414
N of Valid Cases	83		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .30.

Appendix F
Table 3

TIME 1: Chi-square analysis of Mother's Country of Origin by Instructional Program

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Mother -- Country of origin * Instructional Program	83	100.0%	0	.0%	83	100.0%

Mother -- Country of origin * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
Mother -- Country of origin	Unknown	Count	10	17	27
		% within Instructional Program	40.0%	29.3%	32.5%
	Chile	Count	0	2	2
		% within Instructional Program	.0%	3.4%	2.4%
	Colombia	Count	0	2	2
		% within Instructional Program	.0%	3.4%	2.4%
	Ecuador	Count	7	26	33
		% within Instructional Program	28.0%	44.8%	39.8%
	El Salvador	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	Guatemala	Count	1	4	5
		% within Instructional Program	4.0%	6.9%	6.0%
	Honduras	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	Mexico	Count	3	2	5
		% within Instructional Program	12.0%	3.4%	6.0%
	Peru	Count	3	1	4
		% within Instructional Program	12.0%	1.7%	4.8%
	Puerto Rico	Count	1	0	1
		% within Instructional Program	4.0%	.0%	1.2%
	United States	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	Uruguay	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.818[a]	11	.243
Likelihood Ratio	15.640	11	.155
Linear-by-Linear Association	.982	1	.322
N of Valid Cases	83		

a. 20 cells (83.3%) have expected count less than 5. The minimum expected count is .30.

Appendix F
Table 4

TIME 1: Chi-square analysis of Mother's Level of Education in Categories by Instructional Program

Crosstab

			Instructional Program		
			Bilingual	Monolingual	Total
Mother's Level of Education in Categories	Primary Education	Count	12	18	30
		% within Instructional Program	52.2%	32.7%	38.5%
	High School Education	Count	6	28	34
		% within Instructional Program	26.1%	50.9%	43.6%
	College and Beyond	Count	5	9	14
		% within Instructional Program	21.7%	16.4%	17.9%
Total		Count	23	55	78
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.148[a]	2	.126
Likelihood Ratio	4.289	2	.117
Linear-by-Linear Association	.607	1	.436
N of Valid Cases	78		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.13.

Appendix F
Table 5

TIME 1: Chi-square analysis of PreK LAB-R Performance Level by Instructional Program

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PreK ESL Tag * Instructional Program	83	100.0%	0	.0%	83	100.0%

PreK ESL Tag * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PreK ESL Tag	Beginning	Count	15	43	58
		% within Instructional Program	60.0%	74.1%	69.9%
	Intermediate	Count	6	10	16
		% within Instructional Program	24.0%	17.2%	19.3%
	Advanced	Count	4	5	9
		% within Instructional Program	16.0%	8.6%	10.8%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.791[a]	2	.408
Likelihood Ratio	1.730	2	.421
Linear-by-Linear Association	1.742	1	.187
N of Valid Cases	83		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.71.

Appendix F
Table 6

TIME 1: Chi-square analysis of Session by Instructional Program

Crosstab

			Instructional Program		
			Bilingual	Monolingual	Total
Session	AM	Count	13	32	45
		% within Instructional Program	52.0%	55.2%	54.2%
	PM	Count	12	26	38
		% within Instructional Program	48.0%	44.8%	45.8%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.071[a]	1	.790		
Continuity Correction[b]	.001	1	.979		
Likelihood Ratio	.071	1	.790		
Fisher's Exact Test				.814	.489
Linear-by-Linear Association	.070	1	.791		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.45.
b. Computed only for a 2x2 table

Appendix F
Table 7

TIME 1: Chi-square analysis of Poverty Measure by Instructional Program

Crosstab

			Instructional Program		
			Bilingual	Monolingual	Total
Poverty Measure	Within Poverty guidelines	Count	24	46	70
		% within Instructional Program	96.0%	79.3%	84.3%
	Exceeds Poverty guidelines	Count	1	12	13
		% within Instructional Program	4.0%	20.7%	15.7%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.684[a]	1	.055		
Continuity Correction[b]	2.529	1	.112		
Likelihood Ratio	4.514	1	.034		
Fisher's Exact Test				.096	.048
Linear-by-Linear Association	3.639	1	.056		
N of Valid Cases	83				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.92.
b. Computed only for a 2x2 table

Appendix G
Table 1

TIME 2: Analysis of Variance on the mean score on the Mid-Year ELA Tally

Descriptives

Mid-Year Tally Score

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	58.84	27.020	5.404	47.69	69.99
Monolingual	58	49.31	19.115	2.510	44.28	54.34
Total	83	52.18	22.068	2.422	47.36	57.00

Descriptives

Mid-Year Tally Score

	Minimum	Maximum
Bilingual	5	96
Monolingual	8	90
Total	5	96

Test of Homogeneity of Variances

Mid-Year Tally Score

Levene Statistic	df1	df2	Sig.
5.235	1	81	.025

ANOVA

Mid-Year Tally Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1586.515	1	1586.515	3.351	.071
Within Groups	38347.774	81	473.429		
Total	39934.289	82			

Robust Tests of Equality of Means

Mid-Year Tally Score

	Statistic[a]	df1	df2	Sig.
Welch	2.558	1	34.790	.119
Brown-Forsythe	2.558	1	34.790	.119

a. Asymptotically F distributed.

Appendix G
Table 2

TIME 2: Chi-square analysis on the Half Point Score by Instructional Program

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Half Point Score * Instructional Program	83	100.0%	0	.0%	83	100.0%

Half Point Score * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
Half Point Score	Scoring less than 50 on Mid-Year ELA Tally	Count	8	34	42
		% within Instructional Program	32.0%	58.6%	50.6%
	Scoring over 50 on the Mid-year ELa Tally	Count	17	24	41
		% within Instructional Program	68.0%	41.4%	49.4%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.953[a]	1	.026		
Continuity Correction[b]	3.945	1	.047		
Likelihood Ratio	5.035	1	.025		
Fisher's Exact Test				.033	.023
Linear-by-Linear Association	4.893	1	.027		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.35.
b. Computed only for a 2x2 table

Appendix H
Table 1

TIME 3: Analysis of variance on the average scores on the Year-End ELA Tally

Descriptives

Year-End Tally

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	78.24	21.331	4.266	69.43	87.05
Monolingual	58	72.28	18.032	2.368	67.53	77.02
Total	83	74.07	19.151	2.102	69.89	78.25

Descriptives

Year-End Tally

	Minimum	Maximum
Bilingual	28	99
Monolingual	26	99
Total	26	99

Test of Homogeneity of Variances

Year-End Tally

Levene Statistic	df1	df2	Sig.
1.087	1	81	.300

ANOVA

Year-End Tally

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	621.420	1	621.420	1.709	.195
Within Groups	29454.146	81	363.631		
Total	30075.566	82			

Robust Tests of Equality of Means

Year-End Tally

	Statistic[a]	df1	df2	Sig.
Welch	1.494	1	39.484	.229
Brown-Forsythe	1.494	1	39.484	.229

a. Asymptotically F distributed.

Appendix H
Table 2

TIME 3: Chi-square analysis on the Year-end Threshold Score by Instructional Program

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Threshold Score of 80 on the ELA Tally * Instructional Program	83	100.0%	0	.0%	83	100.0%

Threshold Score of 80 on the ELA Tally * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
Threshold Score of 80 on the ELA Tally	Below Threshold Score	Count	9	36	45
		% within Instructional Program	36.0%	62.1%	54.2%
	At or Above Threshold Score	Count	16	22	38
		% within Instructional Program	64.0%	37.9%	45.8%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.783[a]	1	.029		
Continuity Correction[b]	3.790	1	.052		
Likelihood Ratio	4.808	1	.028		
Fisher's Exact Test				.034	.026
Linear-by-Linear Association	4.725	1	.030		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.45.
b. Computed only for a 2x2 table

Appendix I
Table 1

TIME 4: Analysis of variance of mean scores on the LNF at the start of Kindergarten

Descriptives

Letter Naming fluency - Entry

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bilingual	25	13.20	12.169	2.434	8.18	18.22	0	43
Monolingual	57	10.95	10.801	1.431	8.08	13.81	0	44
Total	82	11.63	11.208	1.238	9.17	14.10	0	44

Test of Homogeneity of Variances

Letter Naming fluency - Entry

Levene Statistic	df1	df2	Sig.
1.028	1	80	.314

ANOVA

Letter Naming fluency - Entry

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	88.182	1	88.182	.699	.405
Within Groups	10086.842	80	126.086		
Total	10175.024	81			

Robust Tests of Equality of Means

Letter Naming fluency - Entry

	Statistic[a]	df1	df2	Sig.
Welch	.637	1	41.335	.429

a. Asymptotically F distributed.

Appendix I
Table 2

TIME 4: Analysis of variance of mean scores on the DRA2 at the start of Kindergarten

Descriptives

Developmental Reading Assessment 2 - Entry

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bilingual	25	.6100	.50042	.10008	.4034	.8166	.25	2.00
Monolingual	58	.4397	.23089	.03032	.3789	.5004	.25	1.00
Total	83	.4910	.34137	.03747	.4164	.5655	.25	2.00

Test of Homogeneity of Variances

Developmental Reading Assessment 2 - Entry

Levene Statistic	df1	df2	Sig.
13.340	1	81	.000

ANOVA

Developmental Reading Assessment 2 - Entry

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.507	1	.507	4.538	.036
Within Groups	9.049	81	.112		
Total	9.556	82			

Robust Tests of Equality of Means

Developmental Reading Assessment 2 - Entry

	Statistic[a]	df1	df2	Sig.
Welch	2.653	1	28.506	.114

a. Asymptotically F distributed.

Appendix I
Table 3

TIME 4: Chi-square analysis of ESL growth in Performance Levels by Instructional program at the start of Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
ESL Growth in Performance Levels * Instructional Program	83	100.0%	0	.0%	83	100.0%

ESL Growth in Performance Levels * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
ESL Growth in Performance Levels	Remained the same or Increased by 1 Performance Level	Count	1	13	14
		% within Instructional Program	4.0%	22.4%	16.9%
	Increased by 2 or more Performance Levels	Count	24	45	69
		% within Instructional Program	96.0%	77.6%	83.1%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.224[a]	1	.040		
Continuity Correction[b]	3.013	1	.083		
Likelihood Ratio	5.207	1	.022		
Fisher's Exact Test				.054	.034
Linear-by-Linear Association	4.173	1	.041		
N of Valid Cases	83				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.22.
b. Computed only for a 2x2 table

Appendix J
Table 1

TIME 5: Analysis of variance of mean scores on the LNF at Mid-Year Kindergarten

Descriptives

Letter Naming Fluency - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	32.56	17.366	3.473	25.39	39.73
Monolingual	58	34.47	15.581	2.046	30.37	38.56
Total	83	33.89	16.056	1.762	30.39	37.40

Descriptives

Letter Naming Fluency - Mid-Year

	Minimum	Maximum
Bilingual	3	68
Monolingual	4	70
Total	3	70

Test of Homogeneity of Variances

Letter Naming Fluency - Mid-Year

Levene Statistic	df1	df2	Sig.
.346	1	81	.558

ANOVA

Letter Naming Fluency - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.433	1	63.433	.244	.623
Within Groups	21076.591	81	260.205		
Total	21140.024	82			

Robust Tests of Equality of Means

Letter Naming Fluency - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	.223	1	41.444	.639
Brown-Forsythe	.223	1	41.444	.639

a. Asymptotically F distributed.

Appendix J
Table 2

TIME 5: Chi-square analysis on meeting Benchmark in LNF by Instructional Program at Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
LNF Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

LNF Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
LNF Benchmark Mid-Year	Below LNF Benchmark Mid-Year	Count	17	36	53
		% within Instructional Program	68.0%	62.1%	63.9%
	At or Above LNF Benchmark Mid-Year	Count	8	22	30
		% within Instructional Program	32.0%	37.9%	36.1%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.266[a]	1	.606		
Continuity Correction[b]	.071	1	.789		
Likelihood Ratio	.269	1	.604		
Fisher's Exact Test				.804	.398
Linear-by-Linear Association	.263	1	.608		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.04.
b. Computed only for a 2x2 table

Appendix J
Table 3

TIME 5: Analysis of variance on LSF at Mid-Year Kindergarten

Descriptives

Letter Sound Fluency - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	14.96	12.687	2.537	9.72	20.20
Monolingual	58	18.93	11.248	1.477	15.97	21.89
Total	83	17.73	11.765	1.291	15.17	20.30

Descriptives

Letter Sound Fluency - Mid-Year

	Minimum	Maximum
Bilingual	0	47
Monolingual	0	49
Total	0	49

Test of Homogeneity of Variances

Letter Sound Fluency - Mid-Year

Levene Statistic	df1	df2	Sig.
.146	1	81	.703

ANOVA

Letter Sound Fluency - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	275.485	1	275.485	2.015	.160
Within Groups	11074.684	81	136.724		
Total	11350.169	82			

Robust Tests of Equality of Means

Letter Sound Fluency - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	1.829	1	41.035	.184
Brown-Forsythe	1.829	1	41.035	.184

a. Asymptotically F distributed.

Appendix J
Table 4

TIME 5: Chi-square analysis on meeting Benchmark in LSF by Instructional Program at Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
LSF Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

LSF Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
LSF Benchmark Mid-Year	Below Benchmark Mid-Year	Count	19	36	55
		% within Instructional Program	76.0%	62.1%	66.3%
	At or Above Benchmark Mid-Year	Count	6	22	28
		% within Instructional Program	24.0%	37.9%	33.7%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.517[a]	1	.218		
Continuity Correction[b]	.958	1	.328		
Likelihood Ratio	1.571	1	.210		
Fisher's Exact Test				.312	.164
Linear-by-Linear Association	1.498	1	.221		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.43.
b. Computed only for a 2x2 table

Appendix J
Table 5

TIME 5: Analysis of variance on the mean scores on PSF at Mid-Year Kindergarten

Descriptives

Phoneme Segmentation Fluency - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	12.32	11.379	2.276	7.62	17.02
Monolingual	58	15.74	13.916	1.827	12.08	19.40
Total	83	14.71	13.229	1.452	11.82	17.60

Descriptives

Phoneme Segmentation Fluency - Mid-Year

	Minimum	Maximum
Bilingual	0	44
Monolingual	0	51
Total	0	51

Test of Homogeneity of Variances

Phoneme Segmentation Fluency - Mid-Year

Levene Statistic	df1	df2	Sig.
.980	1	81	.325

ANOVA

Phoneme Segmentation Fluency - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	204.500	1	204.500	1.171	.282
Within Groups	14146.561	81	174.649		
Total	14351.060	82			

Robust Tests of Equality of Means

Phoneme Segmentation Fluency - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	1.374	1	55.253	.246
Brown-Forsythe	1.374	1	55.253	.246

a. Asymptotically F distributed.

Appendix J
Table 6

TIME 5: Chi-square analysis on meeting Benchmark in PSF by Instructional Program at Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PSF Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

PSF Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PSF Benchmark Mid-Year	Below Benchmark Mid-Year	Count	17	40	57
		% within Instructional Program	68.0%	69.0%	68.7%
	At or Above Benchmark Mid-Year	Count	8	18	26
		% within Instructional Program	32.0%	31.0%	31.3%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.008[a]	1	.931		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.008	1	.931		
Fisher's Exact Test				1.000	.563
Linear-by-Linear Association	.007	1	.931		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.83.
b. Computed only for a 2x2 table

Appendix J
Table 7

TIME 5: Analysis of Variance on PALS-LC at Mid-Year Kindergarten

Descriptives

PALS Lower Case Names - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	21.48	4.959	.992	19.43	23.53
Monolingual	58	23.03	4.845	.636	21.76	24.31
Total	83	22.57	4.902	.538	21.50	23.64

Descriptives

PALS Lower Case Names - Mid-Year

	Minimum	Maximum
Bilingual	9	26
Monolingual	5	26
Total	5	26

Test of Homogeneity of Variances

PALS Lower Case Names - Mid-Year

Levene Statistic	df1	df2	Sig.
.199	1	81	.657

ANOVA

PALS Lower Case Names - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.215	1	42.215	1.773	.187
Within Groups	1928.171	81	23.805		
Total	1970.386	82			

Robust Tests of Equality of Means

PALS Lower Case Names - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	1.740	1	44.628	.194
Brown-Forsythe	1.740	1	44.628	.194

a. Asymptotically F distributed.

Appendix J
Table 8

TIME 5: Chi-square analysis on meeting benchmark in PALS-LC by Instructional Program in Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PALS LC Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

PALS LC Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PALS LC Benchmark Mid-Year	Below Benchmark Mid-Year	Count	4	7	11
		% within Instructional Program	16.0%	12.1%	13.3%
	At or Above Benchmark Mid-Year	Count	21	51	72
		% within Instructional Program	84.0%	87.9%	86.7%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.235[a]	1	.628		
Continuity Correction[b]	.017	1	.895		
Likelihood Ratio	.228	1	.633		
Fisher's Exact Test				.727	.434
Linear-by-Linear Association	.232	1	.630		
N of Valid Cases	83				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.31.
b. Computed only for a 2x2 table

Appendix J
Table 9

TIME 5: Analysis of Variance on PALS-LS at Mid-Year Kindergarten

Descriptives

PALS Lower Case Sounds - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	19.44	6.513	1.303	16.75	22.13
Monolingual	58	20.84	5.327	.699	19.44	22.25
Total	83	20.42	5.706	.626	19.18	21.67

Descriptives

PALS Lower Case Sounds - Mid-Year

	Minimum	Maximum
Bilingual	2	26
Monolingual	2	26
Total	2	26

Test of Homogeneity of Variances

PALS Lower Case Sounds - Mid-Year

Levene Statistic	df1	df2	Sig.
.968	1	81	.328

ANOVA

PALS Lower Case Sounds - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.478	1	34.478	1.060	.306
Within Groups	2635.763	81	32.540		
Total	2670.241	82			

Robust Tests of Equality of Means

PALS Lower Case Sounds - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	.903	1	38.488	.348
Brown-Forsythe	.903	1	38.488	.348

a. Asymptotically F distributed.

Appendix J
Table 10

TIME 5: Chi-square analysis on meeting benchmark in PALS-LS by Instructional Program in Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PALS LS Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

PALS LS Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PALS LS Benchmark Mid-Year	Below Benchmark Mid-Year	Count	5	5	10
		% within Instructional Program	20.0%	8.6%	12.0%
	At or Above Benchmark Mid-Year	Count	20	53	73
		% within Instructional Program	80.0%	91.4%	88.0%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.135[a]	1	.144		
Continuity Correction[b]	1.196	1	.274		
Likelihood Ratio	1.983	1	.159		
Fisher's Exact Test				.159	.138
Linear-by-Linear Association	2.109	1	.146		
N of Valid Cases	83				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.01.
b. Computed only for a 2x2 table

Appendix J
Table 11

TIME 5: Analysis of variance on the DRA2 in Mid-Year Kindergarten

Descriptives

Developmental Reading Assessment 2 - Mid-Year

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	1.65	.842	.168	1.30	2.00
Monolingual	58	1.59	.728	.096	1.40	1.79
Total	83	1.61	.759	.083	1.45	1.78

Descriptives

Developmental Reading Assessment 2 - Mid-Year

	Minimum	Maximum
Bilingual	0	3
Monolingual	0	3
Total	0	3

Test of Homogeneity of Variances

Developmental Reading Assessment 2 - Mid-Year

Levene Statistic	df1	df2	Sig.
1.199	1	81	.277

ANOVA

Developmental Reading Assessment 2 - Mid-Year

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.053	1	.053	.091	.763
Within Groups	47.228	81	.583		
Total	47.282	82			

Robust Tests of Equality of Means

Developmental Reading Assessment 2 - Mid-Year

	Statistic[a]	df1	df2	Sig.
Welch	.081	1	40.226	.777
Brown-Forsythe	.081	1	40.226	.777

a. Asymptotically F distributed.

Appendix J
Table 12

TIME 5: Chi-square analysis on meeting benchmark on the DRA2 by Instructional Program in Mid-Year Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
DRA2 Benchmark Mid-Year * Instructional Program	83	100.0%	0	.0%	83	100.0%

DRA2 Benchmark Mid-Year * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
DRA2 Benchmark Mid-Year	Below Benchmark Mid-Year	Count	1	4	5
		% within Instructional Program	4.0%	6.9%	6.0%
	At or Above Benchmark Mid-Year	Count	24	54	78
		% within Instructional Program	96.0%	93.1%	94.0%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.259[a]	1	.611		
Continuity Correction[b]	.000	1	.995		
Likelihood Ratio	.279	1	.598		
Fisher's Exact Test				1.000	.523
Linear-by-Linear Association	.256	1	.613		
N of Valid Cases	83				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.51.
b. Computed only for a 2x2 table

Appendix K
Table 1

TIME 6: Analysis of variance on scores on the LNF at Year-end in Kindergarten

Descriptives

Letter Naming Fluency - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	49.48	18.283	3.657	41.93	57.03
Monolingual	58	43.31	13.366	1.755	39.80	46.82
Total	83	45.17	15.170	1.665	41.86	48.48

Descriptives

Letter Naming Fluency - Year-End

	Minimum	Maximum
Bilingual	20	82
Monolingual	22	72
Total	20	82

Test of Homogeneity of Variances

Letter Naming Fluency - Year-End

Levene Statistic	df1	df2	Sig.
3.665	1	81	.059

ANOVA

Letter Naming Fluency - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	664.985	1	664.985	2.959	.089
Within Groups	18204.654	81	224.749		
Total	18869.639	82			

Robust Tests of Equality of Means

Letter Naming Fluency - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	2.314	1	35.537	.137
Brown-Forsythe	2.314	1	35.537	.137

a. Asymptotically F distributed.

Appendix K
Table 2

TIME 6: Chi-square analysis on LNF by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
LNF Benchmark Year End * Instructional Program	83	100.0%	0	.0%	83	100.0%

LNF Benchmark Year End * Instructional Program Crosstabulation

			Instructional Program		Total
			Bilingual	Monolingual	
LNF Benchmark Year End	Below Benchmark Year-End	Count	9	31	40
		% within Instructional Program	36.0%	53.4%	48.2%
	At or Above Benchmark Year-End	Count	16	27	43
		% within Instructional Program	64.0%	46.6%	51.8%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.130[a]	1	.144		
Continuity Correction[b]	1.489	1	.222		
Likelihood Ratio	2.154	1	.142		
Fisher's Exact Test				.160	.111
Linear-by-Linear Association	2.105	1	.147		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.05.
b. Computed only for a 2x2 table

Appendix K
Table 3

TIME 6: Analysis of variance on the LSF at Year-end in Kindergarten

Descriptives

Letter Sound Fluency - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	31.56	17.282	3.456	24.43	38.69
Monolingual	58	31.26	11.355	1.491	28.27	34.24
Total	83	31.35	13.306	1.461	28.44	34.25

Descriptives

Letter Sound Fluency - Year-End

	Minimum	Maximum
Bilingual	7	61
Monolingual	8	64
Total	7	64

Test of Homogeneity of Variances

Letter Sound Fluency - Year-End

Levene Statistic	df1	df2	Sig.
9.263	1	81	.003

ANOVA

Letter Sound Fluency - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.587	1	1.587	.009	.925
Within Groups	14517.281	81	179.226		
Total	14518.867	82			

Robust Tests of Equality of Means

Letter Sound Fluency - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	.006	1	33.277	.937
Brown-Forsythe	.006	1	33.277	.937

a. Asymptotically F distributed.

Appendix K
Table 4

TIME 6: Chi-square analysis on LSF by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
LSF Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

LSF Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
LSF Benchmark Year-End	Below Benchmark Year-End	Count	13	24	37
		% within Instructional Program	52.0%	41.4%	44.6%
	At or Above Benchmark Year-End	Count	12	34	46
		% within Instructional Program	48.0%	58.6%	55.4%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.798[a]	1	.372		
Continuity Correction[b]	.426	1	.514		
Likelihood Ratio	.795	1	.373		
Fisher's Exact Test				.472	.257
Linear-by-Linear Association	.788	1	.375		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.14.
b. Computed only for a 2x2 table

Appendix K
Table 5

TIME 6: Analysis of variance on PSF at Year-end in Kindergarten

Descriptives

Phoneme Segmentation Fluency (PSF) - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bilingual	25	30.64	17.022	3.404	23.61	37.67	2	58
Monolingual	58	35.78	15.405	2.023	31.73	39.83	0	60
Total	83	34.23	15.980	1.754	30.74	37.72	0	60

Test of Homogeneity of Variances

Phoneme Segmentation Fluency (PSF) - Year-End

Levene Statistic	df1	df2	Sig.
.908	1	81	.343

ANOVA

Phoneme Segmentation Fluency (PSF) - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	460.804	1	460.804	1.823	.181
Within Groups	20479.846	81	252.838		
Total	20940.651	82			

Robust Tests of Equality of Means

Phoneme Segmentation Fluency (PSF) - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	1.682	1	41.745	.202

a. Asymptotically F distributed.

Appendix K
Table 6

TIME 6: Chi-square analysis on PSF by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PSF Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

PSF Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PSF Benchmark Year-End	Below Benchmark Year-End	Count	9	17	26
		% within Instructional Program	36.0%	29.3%	31.3%
	At or Above Benchmark Year-End	Count	16	41	57
		% within Instructional Program	64.0%	70.7%	68.7%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.363[a]	1	.547		
Continuity Correction[b]	.119	1	.730		
Likelihood Ratio	.359	1	.549		
Fisher's Exact Test				.610	.361
Linear-by-Linear Association	.359	1	.549		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.83.
b. Computed only for a 2x2 table

Appendix K
Table 7

TIME 6: Analysis of variance on PALS-LC at Year-end in Kindergarten

Descriptives

PALS Lower Case Letters - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	25.16	1.700	.340	24.46	25.86
Monolingual	58	25.28	1.652	.217	24.84	25.71
Total	83	25.24	1.657	.182	24.88	25.60

Descriptives

PALS Lower Case Letters - Year-End

	Minimum	Maximum
Bilingual	18	26
Monolingual	18	26
Total	18	26

Test of Homogeneity of Variances

PALS Lower Case Letters - Year-End

Levene Statistic	df1	df2	Sig.
.028	1	81	.868

ANOVA

PALS Lower Case Letters - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.235	1	.235	.084	.772
Within Groups	224.946	81	2.777		
Total	225.181	82			

Robust Tests of Equality of Means

PALS Lower Case Letters - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	.083	1	44.419	.775
Brown-Forsythe	.083	1	44.419	.775

a. Asymptotically F distributed.

Appendix K
Table 8

TIME 6: Chi-square analysis on meeting benchmark on PALS-LC by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PALS-LC Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

PALS-LC Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		Total
			Bilingual	Monolingual	
PALS-LC Benchmark Year-End	Below Benchmark Year-End	Count	1	4	5
		% within Instructional Program	4.0%	6.9%	6.0%
	At or Above Benchmark Year-End	Count	24	54	78
		% within Instructional Program	96.0%	93.1%	94.0%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.259[a]	1	.611		
Continuity Correction[b]	.000	1	.995		
Likelihood Ratio	.279	1	.598		
Fisher's Exact Test				1.000	.523
Linear-by-Linear Association	.256	1	.613		
N of Valid Cases	83				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.51.
b. Computed only for a 2x2 table

Appendix K
Table 9

TIME 6: Analysis of variance on PALS-LS at Year-end in Kindergarten

Descriptives

PALS Lower Case Sounds - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	25.36	1.036	.207	24.93	25.79
Monolingual	58	24.79	1.735	.228	24.34	25.25
Total	83	24.96	1.573	.173	24.62	25.31

Descriptives

PALS Lower Case Sounds - Year-End

	Minimum	Maximum
Bilingual	22	26
Monolingual	17	26
Total	17	26

Test of Homogeneity of Variances

PALS Lower Case Sounds - Year-End

Levene Statistic	df1	df2	Sig.
3.451	1	81	.067

ANOVA

PALS Lower Case Sounds - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.614	1	5.614	2.305	.133
Within Groups	197.277	81	2.436		
Total	202.892	82			

Robust Tests of Equality of Means

PALS Lower Case Sounds - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	3.389	1	72.483	.070
Brown-Forsythe	3.389	1	72.483	.070

a. Asymptotically F distributed.

Appendix K
Table 10

TIME 6: Chi-square analysis on meeting benchmark on PALS-LS by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PALS-LS Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

PALS-LS Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
PALS-LS Benchmark Year-End	Below Benchmark Year-End	Count	0	1	1
		% within Instructional Program	.0%	1.7%	1.2%
	At or Above Benchmark Year-End	Count	25	57	82
		% within Instructional Program	100.0%	98.3%	98.8%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.436[a]	1	.509		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.722	1	.395		
Fisher's Exact Test				1.000	.699
Linear-by-Linear Association	.431	1	.511		
N of Valid Cases	83				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .30.
b. Computed only for a 2x2 table

Appendix K
Table 11

TIME 6: Analysis of variance on WIF at Year-end in Kindergarten

Descriptives

Word Identification Fluency - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	19.60	15.387	3.077	13.25	25.95
Monolingual	58	16.09	8.968	1.178	13.73	18.44
Total	83	17.14	11.306	1.241	14.68	19.61

Descriptives

Word Identification Fluency - Year-End

	Minimum	Maximum
Bilingual	1	55
Monolingual	2	43
Total	1	55

Test of Homogeneity of Variances

Word Identification Fluency - Year-End

Levene Statistic	df1	df2	Sig.
11.653	1	81	.001

ANOVA

Word Identification Fluency - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	215.696	1	215.696	1.702	.196
Within Groups	10266.569	81	126.748		
Total	10482.265	82			

Robust Tests of Equality of Means

Word Identification Fluency - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	1.137	1	31.261	.294
Brown-Forsythe	1.137	1	31.261	.294

a. Asymptotically F distributed.

Appendix K
Table 12

TIME 6: Chi-square analysis on WIF by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
WIF Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

WIF Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
WIF Benchmark Year-End	Below Benchmark Year-End	Count	14	32	46
		% within Instructional Program	56.0%	55.2%	55.4%
	At or Above Benchmark Year-End	Count	11	26	37
		% within Instructional Program	44.0%	44.8%	44.6%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.005[a]	1	.945		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.005	1	.945		
Fisher's Exact Test				1.000	.569
Linear-by-Linear Association	.005	1	.945		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.14.
b. Computed only for a 2x2 table

Appendix K
Table 13

TIME 6: Analysis of variance on PALS-Rhyme at Year-end in Kindergarten

Descriptives

PALS Rhyme - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Bilingual	25	9.00	2.517	.503	7.96	10.04
Monolingual	58	8.40	2.060	.270	7.85	8.94
Total	83	8.58	2.209	.243	8.10	9.06

Descriptives

PALS Rhyme - Year-End

	Minimum	Maximum
Bilingual	0	10
Monolingual	0	10
Total	0	10

Test of Homogeneity of Variances

PALS Rhyme - Year-End

Levene Statistic	df1	df2	Sig.
.011	1	81	.918

ANOVA

PALS Rhyme - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.362	1	6.362	1.308	.256
Within Groups	393.879	81	4.863		
Total	400.241	82			

Robust Tests of Equality of Means

PALS Rhyme - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	1.115	1	38.512	.298
Brown-Forsythe	1.115	1	38.512	.298

a. Asymptotically F distributed.

Appendix K
Table 14

TIME 6: Chi-square analysis of PALS-Rhyme by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Rhyme Benchmark Year-End * Instructional Program	83	100.0%	0	.0%	83	100.0%

Rhyme Benchmark Year-End * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
Rhyme Benchmark Year-End	Below Benchmark Year-End	Count	4	26	30
		% within Instructional Program	16.0%	44.8%	36.1%
	At or Above Benchmark Year-End	Count	21	32	53
		% within Instructional Program	84.0%	55.2%	63.9%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.290[a]	1	.012		
Continuity Correction[b]	5.103	1	.024		
Likelihood Ratio	6.838	1	.009		
Fisher's Exact Test				.014	.010
Linear-by-Linear Association	6.214	1	.013		
N of Valid Cases	83				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.04.
b. Computed only for a 2x2 table

Appendix K
Table 15

TIME 6: Analysis of variance on the DRA2 at Year-end in Kindergarten

Descriptives

Developmental Reading Assessment 2 - Year-End

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bilingual	25	4.40	2.944	.589	3.18	5.62	2	14
Monolingual	58	3.57	1.201	.158	3.25	3.88	1	8
Total	83	3.82	1.920	.211	3.40	4.24	1	14

Test of Homogeneity of Variances

Developmental Reading Assessment 2 - Year-End

Levene Statistic	df1	df2	Sig.
18.668	1	81	.000

ANOVA

Developmental Reading Assessment 2 - Year-End

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.065	1	12.065	3.367	.070
Within Groups	290.224	81	3.583		
Total	302.289	82			

Robust Tests of Equality of Means

Developmental Reading Assessment 2 - Year-End

	Statistic[a]	df1	df2	Sig.
Welch	1.859	1	27.508	.184

a. Asymptotically F distributed.

Appendix K
Table 16

TIME 6: Chi-square analysis on meeting benchmark on the DRA2 by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
DRA Grade Level Year end * Instructional Program	83	100.0%	0	.0%	83	100.0%

DRA Grade Level Year end * Instructional Program Crosstabulation

			Instructional Program		
			Bilingual	Monolingual	Total
DRA Grade Level Year end	Below Grade Level on the DRA2	Count	6	7	13
		% within Instructional Program	24.0%	12.1%	15.7%
	At or Above Grade Level on the DRA2	Count	19	51	70
		% within Instructional Program	76.0%	87.9%	84.3%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.883[a]	1	.170		
Continuity Correction[b]	1.088	1	.297		
Likelihood Ratio	1.773	1	.183		
Fisher's Exact Test				.197	.149
Linear-by-Linear Association	1.860	1	.173		
N of Valid Cases	83				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.92.
b. Computed only for a 2x2 table

Appendix K
Table 17

TIME 6: Chi-square analysis on the Overall Proficiency on the NYSESLAT by Instructional Program at Year-end in Kindergarten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
NYSESLAT Overall Proficiency * Instructional Program	83	100.0%	0	.0%	83	100.0%

NYSESLAT Overall Proficiency * Instructional Program Crosstabulation

			Instructional Program		Total
			Bilingual	Monolingual	
NYSESLAT Overall Proficiency	Beginning	Count	2	4	6
		% within Instructional Program	8.0%	6.9%	7.2%
	Intermediate	Count	6	19	25
		% within Instructional Program	24.0%	32.8%	30.1%
	Advanced	Count	0	4	4
		% within Instructional Program	.0%	6.9%	4.8%
	Proficient	Count	0	2	2
		% within Instructional Program	.0%	3.4%	2.4%
	No longer ELL - Not Tested	Count	17	29	46
		% within Instructional Program	68.0%	50.0%	55.4%
Total		Count	25	58	83
		% within Instructional Program	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.082[a]	4	.395
Likelihood Ratio	5.778	4	.216
Linear-by-Linear Association	1.118	1	.290
N of Valid Cases	83		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .60.

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