

Bilingual Students and the Effects of Literacy Instruction  
in their First and Second Languages

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A Special Project  
Presented to  
Dr. Jack McPherson  
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Kerry F. Chama

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FACULTY APPROVAL

Bilingual Students and the Effects of Literacy Instruction  
in their First and Second Languages

Approved for the Faculty

\_\_\_\_\_, Faculty Advisor

\_\_\_\_\_, Date

## ABSTRACT

The purpose of this quantitative research study was to compare English Language Learners (ELL) with a background of literacy instruction in Spanish and English to ELL who had received reading instruction in English only. By examining pre- and posttest scores on a reading comprehension test, the researcher (Kerry F. Chama) examined what effects, if any, literacy instruction in the ELL's native language had on their reading comprehension in English. To accomplish this purpose, a review of selected literature was conducted. Additionally, essential baseline data were obtained and analyzed to formulate related conclusions and recommendations. The data analysis produced clear results. The *t*-test showed there was virtually no difference between reading comprehension of ELL who had received dual language reading instruction and those who had received instruction in English only.

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## CHAPTER 1

### Introduction

#### Background for the Project

According to a well-known study of English Language Learners (ELL) by Thomas & Collier (2004), students who received reading instruction in both their native language and their second language made greater gains in language learning than ELL students who received language instruction solely in their second language, Krashen (1991). In a more recent study, Laija-Rodriguez (2006) also showed that first language reading instruction showed a slightly positive effect on achievement in second language reading comprehension. Dr. Patricia Valdez-Zontec, Professor of Heritage University, categorically stated that ELL students made greater progress in their second language when they received literacy instruction in their first language. This research related directly to the participants in this project.

Hispanics made up 85% percent of the population of Adams Elementary School (AES) in Yakima, Washington. Second language learners at the school have had reading instruction either in Spanish or in English. In this research project, ELL students, some of whom were formerly in bilingual classes and others who had always had English only classes, were tested in reading comprehension using the Accelerated Reading program Standardized Test for Assessment of Reading (STAR) two times during the 2008-2009 school year. The test results were compared to see if past reading

instruction in the students' first language made an impact on reading comprehension of students' second language.

### Statement of the Problem

Reading comprehension of students at AES, as measured by the Washington Assessment of Student Learning, was significantly lower than the state average. Subsequently, AES was placed on a schedule of Annual Yearly Progress (AYP) and as monolingual English staffed retired or moved, they were often replaced by bilingual staff. Students had the option of having literacy instruction in English or in Spanish up to and including the 3<sup>rd</sup> grade. Staff wanted to know if English Language Learners (ELL) who received literacy instruction in their native language of Spanish would ultimately catch up or surpass their ELL counterparts who had received literacy instruction in English only.

Phrased as a question, the problem which represented the focus of the present study may be stated as follows: To what extent did ELL who have had reading instruction in Spanish and English score differently on reading comprehension tests as measured by the STAR?

### Purpose of the Project

The purpose this quantitative research study was to compare ELL with a background of literacy instruction in Spanish and English to ELL who had received reading instruction in English only. By examining pre-and posttest scores on a reading comprehension test, the researcher (Kerry F. Chama) examined what effects, if any,

literacy instruction in the ELL's native language had on their reading comprehension in English. To accomplish this purpose, a review of selected literature was conducted. Additionally, essential baseline data were obtained and analyzed to formulate related conclusions and recommendations.

### Delimitations

Adams Elementary School, with a student population of 715, has been a neighborhood school since 2003. Eighty-five percent of the population consisted of Hispanics, 9% Caucasians with other minorities comprising the remaining 6% of the population. Of the large majority Hispanic population, 53% qualified for and were enrolled in Transitional Bilingual classes. Some 30% of students qualified as Migrant students as well. The vast majority of AES's students came from families of limited economic resources with 97% of students qualifying for Free or Reduced-Price Meals.

Academically, a large percentage of students at AES did not pass the 4<sup>th</sup> Grade Washington Assessment of Student Learning (WASL) test with only 29% passing the Reading portion and only 13% percent passing the Math portion. In Writing, 34% of 4<sup>th</sup> graders passed the test.

For this project, the STAR was administered as pre- and posttests in September 2008 and January 2009. The pre- and posttests were different versions of the STAR. Students were chosen for participation by qualifying as either current or former ELL based on the Washington Language Placement Test (WLPT). Students in the 5<sup>th</sup> grade

were chosen as a result of a convenience sample based on their WLPT II scores and by having attended Adams for three of the last six years.

Teachers at AES came from a wide variety of backgrounds and experience. The average teacher had 15 years of experience with 43% of teachers possessing a Masters Degree. Since this project focused on 5<sup>th</sup> graders, AES teachers Cheryl Jordan, Dave Padilla and Jesse Padilla figured prominently. All of them had at least five years experience. While Jesse Padilla was the only bilingual teacher among the group, all three of the teachers have dedicated much or all of their teaching careers to working with schools with large Hispanic populations. When employed at AES in 2007, the researcher had bilingual skills and over twenty-five years of teaching experience as well.

### Assumptions

Due to the size of the 5<sup>th</sup> grade population, a convenience sampling was used. For this experimental project, 30 students were chosen from the second-language learners in the 5<sup>th</sup> grade population. Half of those students had received literacy instruction in Spanish as well as English while the other half had received literacy instruction in English only. The STAR test to verify reading comprehension was administered to all participants in a similar manner. Teachers who administered the pre and post STAR tests were comfortable with assessments and had used the STAR test to measure progress comprehension for several years.

### Hypothesis

English Language Learners who have had reading instruction in Spanish and English will score significantly higher on reading comprehension tests than ELL who received reading instruction in English only, as measured by the Standardized Test of Assessment of Reading.

### Null hypothesis

English Language Learners who have had some reading instruction in Spanish and English will not score higher than ELL who received reading instruction in English only as measured by the Standardized Test of Assessment of Reading. Significance will be assessed for  $p \geq$  at .05, .01 and .001 levels.

### Procedure

First, participants were selected based on their WLPT-II scores. The test was administered to ELL in May of 2008 or within ten days of a student's enrollment. Students were then chosen based on their previous placement in either a bilingual or a monolingual English classroom. Typically, a student with low scores on the WLPT-II was advised to begin in a bilingual classroom but ultimately, parents had the choice of where to place their student.

Next, participants were administered the STAR in September of 2008 to determine reading comprehension at the beginning of the year as a pre-test and then again in January 2009 as a posttest. The classroom teacher scored the STAR test. Test results generated an Accelerated Reader recommended reading range in English. If the

student's reading range was from 1.6-2.3, the student tried to choose books within or close to that range. The majority of books in the AES library were marked with an AR reading level making it easy for students to select appropriate books. Many books in Spanish were also marked with their reading level, but the STAR test gave students a recommended reading level in English.

### Definition of Terms

Significant terms used in the context of the present study have been defined as follows.

quantitative research. Refers to the collection of numerical data in order to explain, predict, and /or control phenomena of interest.

t test for Independent Samples. A parametric test of significance used to determine whether, at a selected probability level, a significant difference exists between the means of two independent samples.

Standardized Test of Assessment of Reading. This standardized reading test measures a student's range of comprehension in English.

Washington Assessment of Student Learning. The WASL is a high-stakes assessment used in Washington State.

### Acronyms

AES. Adams Elementary School

AR. Accelerated Reader

AYP. Annual Yearly Progress

CALP. Conversational Academic Language Proficiency  
ELL. English Language Learner  
SES Socioeconomic Status  
STAR. Standardized Test of Assessment of Reading  
U.S. United States  
WASL. Washington Assessment of Student Learning  
WLPT II. Washington Language Placement Test I  
ZPD. Zone of Proximal Development

## CHAPTER 2

### Review of Selected Literature

#### Introduction

Bilingual education has emerged during the last few years as a critical issue across the United States (U.S.). Initiatives such as California's Proposition 227 and ballot initiatives in Arizona and Massachusetts were enacted to support an English only policy. Proponents of such legislation defended their efforts to eliminate bilingual education with the reasoning that the sooner second language learners acquired English and stopped using their native language outside their homes, the sooner new immigrants became full citizens of the U.S. Defenders of bilingual education cited the benefits of acquiring English while maintaining their native language as a way of adding to the rich cultural heritage of the U.S. For the English Language Learners in the U.S., and their teachers, what had always been important was the central question of what would help their students to achieve academically (Hamilton & Krashen, 2006).

In Chapter 2, the writer (Kerry F. Chama) reviewed articles in three different areas concerned with the research topic. First, examined was what recent research showed about the effectiveness, or lack thereof, of Bilingual Education. Second, what elements of reading programs achieved greater gains in comprehension for English Language Learners, and third, how comprehension as measured by the Standardized Testing of Assessment of Reading (STAR) test as part of the Accelerated Reader program showed growth in reading comprehension. The hypothesis of this special



project examined whether or not early literacy instruction in Spanish and English made a difference in the growth in comprehension of ELL students at the fifth grade level. The issues of bilingual education, effective elements of reading instruction, and the assessment of comprehension all played a role in determining whether or not early literacy in Spanish made in difference in reading achievement in the intermediate grades.

### The Effectiveness of Bilingual Education

According to Valdez-Zontec (2007), during the past thirty years, Bilingual Education has become a major issue driving legislation, training, and programs, with some promoting and others prohibiting Bilingual Education. Even though papers have received frequent letters from descendants of immigrants espousing that their ‘grandparents had to learn English and no one taught them in their native language,’ Bilingualism has been part of education in the U.S. for much longer than the last thirty years.

A documentary made in Texas, “Celebrating Our Legacy,” showed that during the 1800’s and continuing into the 1900’s, there were bilingual schools. Not only did some schools teach material in Spanish, but German, Polish and Czech populations had their schools as well. Of course circumstances were different over a hundred years ago. The school system lacked cohesiveness and the jobs available to a minimally educated student were still plentiful in a society that had largely agricultural, factory, or service work for the average citizen (Allen, 2006).

Those days vanished long ago and students who started grade school in the Twenty-First Century faced a future of globalization, constant technological innovations and an increased need for higher education. The latest wave of immigration changed the social fabric of the United States. According to Hamilton & Krashen, “The number of children living in homes where English is not the primary language more than doubled from 1979 to 1999” (p.26). Furthermore, the dropout rate among language minority children with English skills climbed to 31 percent while dropout rates for students with minimal or no English skills was a dismal 51 percent. The question of how best to educate our second language learners would become more and more crucial. However, which method was best was a question hotly debated (Hamilton & Krashen, 2006).

Studies by Collier & Thomas (1996) indicated that proponents of bilingual instruction among the academic community outnumbered advocates of English only instruction. This classic study concluded that Dual Language Instruction produced the highest achievement levels over the long term. Other studies have not produced such crystal clear results.

MacSwan & Pray (2005) in their article, “Effects of the Implementation of Proposition 227 on the Education of English Learners K-12” examined the effects of English immersion programs implemented as a result of California’s Proposition 227. The five-year, \$2.5 million dollar study concluded that neither bilingual education of English immersion appeared to be better. Another researcher, Dr. Amy Merickel,

suggested that it was not the model of instruction, but rather, the quality that mattered (Hamilton and Krashen, (2006).

In recent years, English immersion programs were recommended for their efficacy, and citizens were told that English Language Learners (ELL) would transition to regular classes in one year. However, in Arizona and California where immersion programs were initiated, Dr. Stephen Krashen cited that, “English learners are currently gaining less than one level per year out of five, where level five means ready for the mainstream.” (Hamilton and Krashen, p.24). At this rate, it would take the average ELL student five years to function in a mainstream classroom. Although estimates varied from one study to another, an average of four to seven years was required for students to develop academic language proficiency (MacSwan and Pray). The time required varied from student to student with such factors as age, (8-11 years old being the fastest group), academic background, income level, and family structure among others. With such conclusions, it only made sense that some bilingual instruction in the content area subjects, at least until the ELL learner could function in a regular classroom, was a better solution than English only. This precedent had been established long ago when in *Lau v. Nichols* (1973), the Supreme Court concluded that “students who do not know English are effectively foreclosed from any meaningful education” because the language of the classroom was incomprehensible (MacSwan and Pray, 2005).

In some school districts bilingual education went hand in hand with a growing immigrant population. In other districts, with smaller numbers of ELL students, it was a question of spending precious monies on a relatively small number of students. What then, was the advantage of encouraging students to maintain their first language while acquiring English? In an article entitled, “Update: Bilingual Education,” Allen (2006) cited numerous examples of Hispanics who felt the loss of their native language. Furthermore, Pedro Ruiz, president of the National Association for Bilingual Education noted that states with English-only curricula did not show improved test scores for ELL students on state wide assessments (Allen). Dropout rates among Hispanics have long told the story that Hispanics felt excluded by the culture of many schools. Whether or not a school district provided bilingual instruction, every school district could include curriculum that used sheltered instruction and that supported the cultures of language minority students. Ultimately, the question of bilingual instruction was superseded by another question asked by many teachers and school districts: Which instructional strategies have shown promise for second language learners from low Socioeconomic Status (SES) backgrounds?

#### English Language Learners and Reading

An article by Slavin (2005) cited that some 17% of Americans aged 5-24 spoke a language other than English at home by the year 1999. Schools across the United States had to look at how best to educate the ELL student. Added to the formidable challenge was the pressure of the No Child Left Behind legislation to meet benchmarks

in Reading and other subject areas, or to show considerable Yearly Progress (Slavin). Unfortunately, on the National Assessment of Educational Progress which excluded students at the lowest levels of English Proficiency, only 44% of Latino 4<sup>th</sup> graders showed a basic level of proficiency compared with 75% of Anglo students (Grigg, Daane, et al, 2003). While everyone involved in the issue agreed that reading success for ELL students was crucial, there was controversy about how best to attain proficiency in reading for the second language learner.

A question raised by Slavin focused on how much of a role native language instruction should play in reading instruction. Many reviews of programs failed to exercise rigorous methods of comparing programs. For example, researchers evaluated programs without comparable control groups, studies were not longitudinal, and many were not random in their sampling leading to selection bias. However, some conclusions stood out; bilingual education was either more effective or just as effective for learning how to read in English. None of the studies suggested that English immersion produced better results in improving reading. What did this mean in terms of acquiring reading? Students taught reading in their native language first, or at the same time as they learned English, established the idea that letters and sounds combined to form words, words familiar to the learners. Conversely, a student who learned to read in English only, must try to do the same process with partially or wholly unfamiliar words.

Wallace (2007) explored the crucial relationship of ELL literacy and vocabulary development. Second language learners needed not only depth of vocabulary but breadth as well. Depth of vocabulary, knowing the meaning as well as syntactic and semantic structure, expanded students' vocabulary. These skills also provided students with clues about how to incorporate other new vocabulary by knowing what marked a part of speech, verb tense, recognizing cognates, and so on. Breadth of vocabulary came as result of reading a great deal and having seen vocabulary used frequently. Typically, Native English speakers have acquired from 5000 to 7000 words before starting school. By comparison, second language learners entered school having acquired much less or hardly any vocabulary at all in their second language. Strategies such as teaching cognates, inferring word meaning, clues to identify the structure of a word, and building basic vocabulary through such strategies as read-alouds followed by language-development activities helped build a working vocabulary for ELL students. Vocabulary knowledge was central to oral language proficiency which in turn was vital for both aural and reading comprehension. Further, studies indicated that if a reader failed to recognize even two percent of the vocabulary in a reading, it impaired his understanding. Wallace's article concluded that oral fluency in reading although important, proved useful but inadequate for second language learners who were trying to gain reading comprehension. Exposure to a large vocabulary, supported by in-depth study of vocabulary led to improved reading comprehension.

Carlo, August, et al. (2004) alluded to specific strategies for building vocabulary. Focusing on general academic words rather than vocabulary specific to only one discipline resulted in higher general comprehension. Also, if texts in both English and Spanish were used (Slavin and Cheung, 2005), the context was meaningful no matter which language was dominant for students. Instruction should provide students the opportunity to read or use a word multiple times to help reinforce new vocabulary. These authorities found that both ELL students and English Only students augmented their vocabulary after learning techniques to analyze and predict meanings of words. This last point was probably the most useful because ELL students and English Only students were typically in mixed classrooms, especially at the elementary level.

In addition to vocabulary, Ucceli & Páez (2007) explored another area of reading that contributed to comprehension. The narrative or story-telling ability proved an important precursor to literacy. This skill was important whether or not the student was an ELL learner or a native speaker of English. In particular, what did researchers learn about Spanish/English bilingual students? Although bilinguals tended to make mistakes in vocabulary or specific grammatical structures, they produced somewhat better performances in narrative English than in Spanish. There was a strong area of cross-over in terms of story structure and more complex syntactical structure. However, children from low SES families performed at a lower level of proficiency with a more limited ability, especially in terms of story recall. Since many Hispanic children are not

from high or middle SES, focusing on children who lived in poverty became crucial. In Uccli & Páez's study of 24 kindergarten and first-grade children over a period of two years, researchers looked at students' ability to narrate in both English and Spanish. They examined both the use of vocabulary and story elements such as the ability to recount events and tell a story coherently. From kindergarten to first-grade, vocabulary grew in English significantly while it remained stagnant in Spanish. It was worth noting that only a third of the students were enrolled in bilingual programs. Although students in first-grade did perform better in general, all the students except one were still behind the average monolingual English child.

In terms of narrative ability, Ucceli & Páez found ELL students performed better in narrative ability than in vocabulary in both in kindergarten and first-grade. As in earlier studies, students' performances showed a positive correlation between narrative skills in Spanish and English at the first-grade level. Not surprisingly, the higher the student's story score was in Spanish, the higher it was in English. After looking at many studies, researchers emerged with more questions. Even though vocabulary development seemed to positively influence narrative ability, did the two skills develop at very different rates among bilinguals? and, to what extent could the positive correlation between narrative skills in Spanish and English facilitate learning in young children?

Ucceli & Páez also had specific suggestions for educators of young bilingual students. First, the student's abilities and progress in oral language development in both



languages needed to be monitored. Second, acquisition of both vocabulary and narrative ability should be emphasized as they appeared to be related but not the same in terms of language development. Third, skills needed to organize a story needed to be taught, especially in Spanish because of the crossover into English story telling skills. Ucceli & Páez also reiterated the need for more research with larger populations of bilingual children.

Finally, Aukerman (2007) maintained that ELL students often failed in the school setting because while they acquired conversational English they did not acquire Conversational Academic Language Proficiency (CALP). In an article focused on the acquisition of CALP, Aukerman, proposed that the problem lay neither with the second language student's inability to learn academic language nor with the teacher's failure to teach content area language to the ELL student. Rather the problem lay with the literacy model used for instruction. A model based on constructivism, in which the student's own language and experience was incorporated into the learning process, appeared to have promise.

#### The STAR and the Accelerated Reader Program

According Grenawalt (2004) programs such as Accelerated Reader (AR) came into use because classic approaches to teaching reading, such as using novels, were not working. Teachers would choose fairly high quality texts for reading; the problem was not everyone read the texts. Students whose reading level lay far below that of the book

often did not understand the text; class discussions were somewhat helpful. Accelerated Reader and similar programs gave students a way to read materials specifically at their reading level as determined by the STAR test. Students then would choose books to read from a vast array of both fiction and nonfiction books with levels ranging from pre first-grade to twelfth-grade. Once having completed a book, students took a comprehension test on the book. Easier to read books had five questions while more difficult texts, such as the Harry Potter series had up to twenty questions. In many schools, besides AR points, students received rewards, small prizes and recognition to motivate them to read more.

Haycock (2005) concluded that what most studies could agree upon was that students in AR schools read more books and more frequently. Thus, AR seemed like the solution to many of the problems of improving reading. First and foremost, it promoted reading for students at their individual level of reading. However, criticism of AR was far from infrequent.

Studies conducted by Groce & Groce (2005) which examined whether or not AR truly motivated students to read produced mixed and fairly negative results. While students in AR schools generally read more books these researchers found that students were not necessarily reading more books unless they were earning AR points. In another study cited by Groce & Groce, students were classified into three groups based on the number of AR points they had earned. While the students who earned the most AR points increased in self-efficacy, those in the middle group, who had earned a

respectable number of AR points, declined in terms of self-efficacy. Surprisingly, students with the lowest amounts of AR points also experienced declines in self-efficacy, but not as much as the middle group. Another study called into question the long-term ability of AR to motivate students. It found that students in an elementary AR program viewed the program negatively by the time they had reached the seventh grade (Haycock). While Renaissance Learning claimed that AR served as a great motivator and builder of better readers, it remained to be seen whether or not a program based on extrinsic motivators was useful in the long term.

Another frequent criticism cited by Groce & Groce was AR's over-emphasis on basic comprehension skills. These authorities looked at items tested on an AR reading test and found all items to be at the level of basic knowledge or comprehension. Thus, questions that required inference, synthesis or analysis were never included on book tests. Grenawalt (2004) considered the STAR inadequate because it was a cloze test procedure that might not reflect students' true reading ability. In addition to the tests, questions remained about the way some teachers and librarians used the program.

One area of AR praised by both proponents and critics was the ability of the students to choose the books that interested them the most. However, Haycock found that some teachers and librarian were overly strict about what books the students could read and did not permit students to read below or above their STAR assessed Zone of Proximal Development (ZPD). While well intentioned, students' interest in the material should have also served as a guide to choosing materials. At Adams Elementary

School, the researcher observed that while a student with a ZPD of 1.6 -2.6 should not have read a book at the 6.1 level, interest in a book was often enough to make a student who chose a book slightly above the stated ZPD, successful. Haycock also noted another more practical problem resulting from a dearth of AR materials which limited students' book selection.

### Summary

The review of selected literature reported in Chapter 2 supported the following research themes:

1. Bilingual students whose first language and culture are supported by the education system generally made greater gains.
2. English Language Learners who have a multi-faceted reading program that includes vocabulary and narrative development make gains in reading in English.
3. A well equipped Accelerated Reading program provides students the opportunity to read a variety of text at the students' individual reading ranges.

## CHAPTER 3

### Methodology and Treatment of Data

#### Introduction

The purpose of this quantitative research study was to compare English Language Learners (ELL), 5<sup>th</sup> graders at Adams Elementary School (AES), with a background of literacy instruction in Spanish to ELL 5<sup>th</sup> graders at AES who had received reading instruction in English only. By examining pre- and posttest scores on a reading comprehension test, the researcher examined what effects, if any, literacy instruction in the ELL's native language had on their reading comprehension in English. To accomplish this purpose, a review of selected literature was conducted. Additionally, essential baseline data were obtained and analyzed to formulate related conclusions and recommendations.

Chapter 3 has provided a description of the methodology used in the study. Details concerning participants, instruments, design, procedure, treatment of the data, and summary have been included.

#### Methodology

A quantitative research methodology was used to determine whether or not reading instruction in both Spanish and English was more effective in improving reading comprehension for ELL students than reading instruction in English only. A *t*-test for independent samples provided data analysis to determine significance following

a Standardized Test for Assessment of Reading pre- and posttest. The research was completed from September 2008 to January 2009.

### Participants

This research project included 5<sup>th</sup> grade ELL ranging in ages from 10-12 at AES in Yakima, Washington. All students included in the study were enrolled in the classes of Mr. Dave Padilla, Mr. Jesse Padilla and Ms. Cheryl Jordan. Only those participants that were in attendance from fall through winter quarters of 2008-2009 school year were included.

### Instruments

The participants' Fall (September, 2008) STAR reading range was measured against the students' Winter (January, 2009) STAR reading level. The difference between pre- and posttest scores were used to compare gains achieved by ELL with previous bilingual reading instruction to those ELL who had received reading instruction in English only. Results of the two groups on pre- and posttests were used to determine significance.

### Design

In this quantitative research study, the researcher analyzed ELL Fall, 2008 STAR results and Winter, 2009 STAR results to determine the extent to which bilingual reading instruction improved the participants level of reading comprehension.

## Procedure

Procedures utilized in the present day study developed in various stages, as follows.

1. The researcher received permission from the principal of Adams Elementary School, Dave Chaplin, on September 5, 2008 to undertake the study and to use the STAR results of 5<sup>th</sup> grade students.

2. Participants were selected based on their WLPT-II scores which qualified them as ELL. The test was administered to ELL students in May 2008 or within ten days of a student's enrollment.

3. Participants also must have been enrolled in either dual language or monolingual English classrooms as 2<sup>nd</sup> and 3<sup>rd</sup> graders.

4. All participating students were enrolled at AES from fall 2008 to January 2009.

5. 5<sup>th</sup> grade teachers administered the STAR test in September 2008 and once again in January 2009.

6. Between September 2008 and January 2009 participants received direct reading instruction and were instructed to do free reading and take AR quizzes outside of regular classroom time.

7. Only ELL pre-and posttests qualified for this study.

### Treatment of the Data

A *t*-test for independent samples was utilized in conjunction with the Windows STATPAK statistical software program in conjunction with Research: Competencies for Analysis and Applications, Sixth Edition (Gay, Mills, and Airasian, 2006). This permitted the researcher to compare pre-and posttest STAR scores. Significance was determined for  $p \geq$  at .05, .01, and .001 levels. The following formula was used for data analysis.

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

### Summary

Chapter 3 included a description of the research methodology employed in the study, participants, instruments used, research design and procedure utilized. Details concerning the treatment of the data obtained and analyzed were also provided.



## CHAPTER 4

### Analysis of the Data

#### Introduction

This quantitative research study sought to determine the extent to which English Language Learners (ELL) who have reading instruction in Spanish and English score differently on reading comprehension tests as measured by the Standardized Test of Assessment of Reading (STAR) . The researcher compared pre- and posttest scores of participating 5<sup>th</sup> grade ELL students.

#### Description of the Environment

Conducted at Adams Elementary School (AES) from September, 2008 to January, 2009, the study included both male and female 5<sup>th</sup> grade ELL. Participants were in attendance both fall and winter quarters of the 2008-2009 school year. Only ELL were enrolled in the study. In September, 2008 and in January, 2009, 5<sup>th</sup> grade students took the STAR in the AES computer lab. The 5<sup>th</sup> grade homeroom teachers administered the test. Students were administered the test at individual work stations. From September 2008 to January 2009, all participating 5<sup>th</sup> grade students received both direct reading instruction and incentives in the form of points to read for pleasure using the Accelerated Reader (AR) program.

#### Hypothesis

English Language Learners who have had reading instruction in Spanish and English will score significantly higher on reading comprehension tests than ELL who received reading instruction in English only, as measured by the Standardized Test of Assessment of Reading.

#### Null hypothesis

English Language Learners who have had some reading instruction in Spanish and English will not score higher than ELL who received reading instruction in English only as measured by the Standardized Test of Assessment of Reading. Significance will be assessed for  $p \geq$  at .05, .01 and .001 levels.

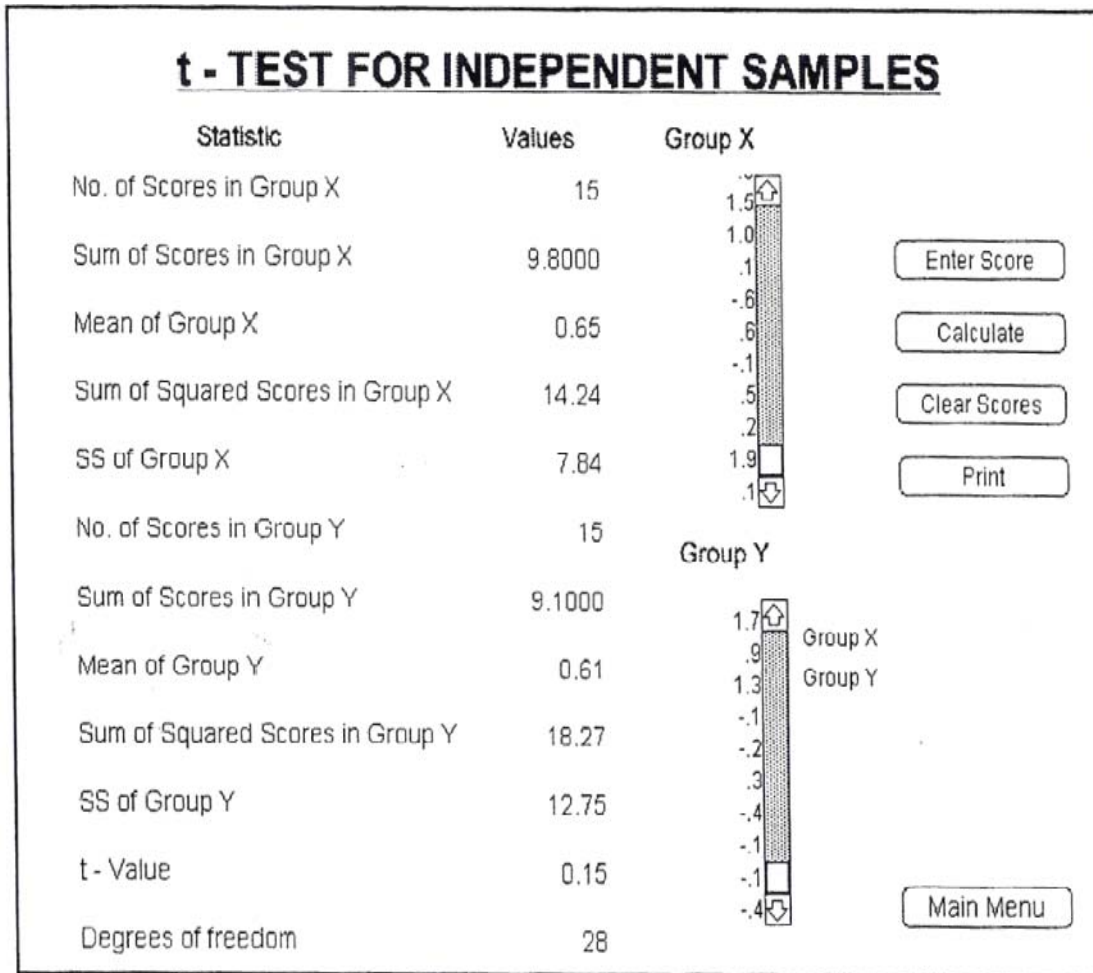
#### Results of the Study

*Figure 1* showed the *t*-test for independent variables on the Window STATPAK in conjunction with in conjunction with Educational Research: Competencies for Analysis and Applications, 6<sup>th</sup> edition, (Gay, Mills and Airasian, 2006) was utilized to calculate data statistics and values. The *t*-value was .15 and the degrees of freedom were 28. The means for Group X was 0.65 and that of Group Y was 0.61.

#### Findings

The analysis of data shown in *Figure 1* demonstrated that significance was not determined for  $p \geq$  at .05, .01 and .001 levels. Therefore, the null hypothesis was accepted at  $p \geq$  at .05, .01 and .001 levels. Accordingly, the hypothesis was not supported at  $p \geq$  at .05, .01 and .001 levels. The data analysis compiled in the produced clear results. The *t*-test results showed that there was virtually no difference between

reading comprehension of ELL who had received dual language reading instruction and those who had received instruction in English only.



*Figure 1, t-test Comparing Pre-and Posttest Scores for ELL 5<sup>th</sup> Grade Participants*

2008-2009

Discussion

Although the null hypothesis was supported, there may have been several mitigating factors. For example, the sample population may have been too small and

the time period too limited to yield valid results. Next, the period of dual language instruction may have been too short to have produced the kind of gains that have been seen in other longitudinal studies on the role of dual language. Further, different data may have been obtained by using other measures of reading comprehension, not merely the STAR. Finally, issues related to low Socioeconomic Status and its effects on student learning may have contributed to the development of literacy regardless of language.

#### Summary

Chapter 4 provided a review of the environment, hypothesis, results of the study, findings, and discussion. An analysis of the data showed that there was virtually no difference between reading comprehension of ELL who had received dual language reading instruction and those who had received instruction in English only.

## CHAPTER 5

### Summary, Conclusions and Recommendations

#### Summary

The purpose of this quantitative, experimental research study was to compare English Language Learners (ELL), 5<sup>th</sup> graders at Adams Elementary School (AES), with a background of literacy instruction in Spanish to ELL 5<sup>th</sup> graders at AES who had received reading instruction in English only. By examining the pre- and posttest scores on a reading comprehension test, the researcher examined what effects, if any, literacy instruction in the ELL's native language had on their reading comprehension in English. To accomplish this purpose, a review of selected literature was conducted. Additionally, essential baseline data were obtained and analyzed to formulate related conclusions and recommendations.

#### Conclusions

From the review of literature presented in Chapter 2 and from the analysis of data in Chapter 4, the following conclusions were reached:

1. Bilingual students whose first language and culture are supported by the education system generally made greater gains.
2. English Language Learners who have a multi-faceted reading program that includes vocabulary and narrative development make gains in reading in English.

3. A well equipped Accelerated Reading program provides students the opportunity to read a variety of text at the students' individual reading ranges.

4. The *t*-test results showed that there was virtually no difference between reading comprehension of ELL who had received dual language reading instruction and those who had received instruction in English only.

5. An analysis of data obtained indicated ELL who received reading instruction in both English and Spanish versus those who received reading instruction in English only yielded mixed results.

### Recommendations

Based on the conclusions listed above, the following recommendations have been suggested:

1. To assist ELL to make greater academic gains, their first language and culture should be integrated in their academic instruction.

2. Reading instruction for ELL should include a both vocabulary and narrative development.

3. Schools using the AR program should encourage students to read by providing a wealth of reading materials in many genres.

4. Elementary ELL reading instruction should be studied in greater depth to determine what yields the greatest academic gains for second language learners.

5. Reading instruction should concentrate on utilizing quality methodology and curriculum rather than on the language of instruction.

6. Schools/ school districts interested in bilingual students and the effect of literacy instruction in their first and second languages may wish to utilize information contained in the present study or, they may wish to undertake research more suited to their unique needs.

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