

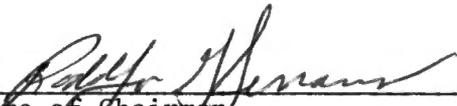
A COMPARATIVE STUDY OF ACHIEVEMENT LEVELS
OF BILINGUAL AND NON-BILINGUAL CLASSES
IN THE BAKERSFIELD CITY SCHOOL DISTRICT

by
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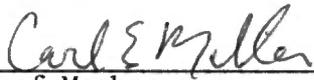
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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....iii

LIST OF TABLES.....v

Chapter

I. INTRODUCTION AND STATEMENT OF PROBLEM.....1

 Introduction.....1

 Statement of the Problem.....4

 Hypotheses.....4

 Need for the Study.....5

II. REVIEW OF THE LITERATURE.....6

III. ASSUMPTION, LIMITATIONS, AND DEFINITIONS.....11

 Assumptions Underlying the Problem.....11

 Limitations of the Study.....11

 Definitions of Terms Used.....12

IV. METHODS OF THE STUDY.....14

V. FINDINGS OF THE STUDY.....22

VI. CONCLUSIONS AND RECOMMENDATIONS.....28

VII. SELECTED BIBLIOGRAPHY.....34

LIST OF TABLES

Table

1.	Mt. Vernon 6th. Grade Class.....11 Matching Groups by I.Q.'s
2.	Jefferson 5th. Grade Class.....20 Matching Groups by I.Q.'s
3.	Baker School 3rd. Grade Class.....21 Matching Groups by I.Q.'s
4.	Jefferson School 5th. Grade Class.....25 Reading and Math Achievement Levels
5.	Baker School 3rd. Grade Class.....26 Reading and Math Achievement Levels
6.	Mt. Vernon 6th. Grade Class.....27 Reading and Math Achievement Levels
7.	Language Dominance of Children in this.....33

CHAPTER I

INTRODUCTION AND STATEMENT OF PROBLEM

Introduction

Bilingual Education is instruction in two languages and the use of those languages as mediums of instruction for any or all of the school curriculum (Anderson, 1970). The terms Bilingual and Bicultural imply two languages and two cultures. In this study when the term Bilingual Education is used it refers to Bilingual-Bicultural Education, and the use of English and Spanish.

In Miami, Florida in 1963, there was an effort to meet the educational needs of the Cubans who were pouring into Miami at the rate of 3,000 a month. Florida undertook a completely Bilingual program in grades one, two, and three of the Coral Way School (Anderson, 1970). In 1964, two programs were launched in Texas. One was the Nye School of the United Consolidated Independent School District in Webb County and another was the San Antonio Independent School District. Soon other programs followed at sites such as in Pecos, New Mexico, and in Edingburg, Texas. In 1966, similar programs were started in Harlandale School District in San Antonio, Texas and in Calexico, California. Las Cruces, New Mexico, Hoboken, New Jersey, Corpus Christi, Texas; and Del Valle, Texas introduced their programs in 1967. Soon after, in 1969, the Bakersfield City

School District began their Bilingual programs.

The list of cities that started Bilingual programs is merely an example of the programs that were started throughout the United States. In most cases the languages involved were English and Spanish; other languages have also been employed with English in Bilingual Education Programs. Approximately 90% of all proposals submitted to HEW for funding under Title VII in 1968-1969 were for projects utilizing both English and Spanish. Since then other programs have been funded that have involved other languages. For example, the Chinese language is used in some (or bay area) San Francisco Schools, Navajo is used at the Rough Rock Demonstration School in Arizona, and Cajun is used in some schools around the New Orleans, Louisiana area.

Fifteen years ago there was no apparent interest anywhere in the United States for organizing Bilingual programs, however, after Miami launched its successful program others soon emerged. It is not really known exactly what created this sudden interest. Several reasons can be advanced. It might be attributed to the success or lack of success of foreign language programs in the schools or the success of Bilingual/Bicultural Education programs in foreign countries. It might also be suggested that it was because of the changes taking place in our society, such as the Supreme Court Desegregation Decision of 1954 and the increasing search for identity and self assertion on the part of ethnic groups

and of low income classes (Anderson, 1970). Whatever the reason for this emergence of Bilingual Education programs, the fact remains that they have had a major impact on some schools in this country.

Bakersfield City School District has several schools involved in Bilingual Education. Some of these schools are Mt. Vernon, Baker, Jefferson, Bessie Owens, Williams, and Fremont School. Most of these schools have a high percentage of Mexican American children enrolled. Children are placed in the Bilingual classes by parent consent and classes are open to children of all races and national origins. In these programs attempts are made to enroll children who are English dominant as well as Spanish dominant in the same class.

Proponents of Bilingual Education in Kern County feel that this is the best educational concept by which to effect learning or meet the educational needs of children. This is especially true of Mexican American children or children who bring from their home environment a language other than English. The child is taught the basic concepts in his native language and is introduced to English as a second language during the first and second years of school. During the third year the child starts to maintain both languages, with different degrees of proficiency depending on the ability of the child. In addition, the English speaking child is taught in English but is introduced to Spanish as a second language. During

this year all children are usually reading in both languages.

In recent years several attempts have been made to evaluate the results of these programs on the achievement levels of children. This study attempted to determine the effectiveness of these programs on the achievement levels of children in math and reading of Bilingual classes and compare the results with achievement levels of children in math and reading on non-bilingual classes.

Statement of the Problem

The purpose of this study was to determine if there was any significant difference in the achievement levels in reading and mathematics of children enrolled in Bilingual classes with those not in Bilingual classes in the Bakersfield City School District.

Hypotheses

This study dealt with and tested the following hypotheses:

1. There is no significant difference in reading achievement levels in English Reading of children in the non-bilingual classes and children in the bilingual classes as measured by the California Achievement Tests.
2. There is no significant difference in math achievement levels of children in non-bilingual classes and children in bilingual classes as measured by C.A.T.

Need for the Study

For the past few years, the educational institutions of our country have failed to meet the educational needs of Mexican American children. This fact has been demonstrated by high dropout rates, in some southwestern schools: in one report this figure reached seventy percent (Guerra, 1972). This has aroused concerns among many educators, politicians, and parents. As a consequence some strategies have been developed to improve the learning of Mexican American children. One of these strategies has been the development of Bilingual Education programs throughout the country, particularly in the southwest.

Since Bilingual programs have been basically designed to meet the needs of Non-English Speaking/Limited English Speaking children, including Mexican American (hereafter also referred to as Chicano children), they have received attention of many concerned parties. They have come under attack by some who feel that by using the child's native language as a means of instruction, the child increases his dependence on that language (Hurwitz, 1975). Others feel that by using two languages the child will be more confused academically. There is also the argument that because everyone in our society is expected to live in English speaking society they should learn English and only English (Hurwitz, 1975).

Bilingual programs have been in existence in the Bakersfield City School District for approximately seven years. It is imperative that an evaluation of these programs be made in order to determine whether the children are benefiting from them in terms of attaining the same levels of achievement as children in the same grade. There is a need to determine if these programs are succeeding in the educational task for which they were specially designed.

CHAPTER II

REVIEW OF THE LITERATURE

The literature suggests that allowances have to be made for children who speak Spanish when they are tested in school (Hickey, 1972). When they are tested in English they do not do as well as when they are tested in their own language. Studies have been conducted for the purpose of constructing a reliable and valid instrument for measuring quantitatively the extent of bilingual background or environment to which an individual is exposed (Hoffman, 1972). Hoffman writes of the inquiries made into the relationship that exist between bilingual background and the factors of chronological age, grade status, sex, and scores on typical tests of reading, verbal intelligence, and non-language intelligence (Hoffman, 1972). He found that a Bilingual Schedule provided a more refined experimental procedure which proved instrumental in securing more precise and crucial results with respect to the effect of bilingual background upon the intellectual, moral, and emotional behavior of the individual or of the various groups.

A number of new publications have appeared recently in the area of Bilingual Education. There are books that tell of the different Bilingual Education programs that have existed in the United States (Anderson, 1970). They discuss the various programs

and tell of the rationale for Bilingual Education. Studies on Bilingualism have been conducted in the barrios or neighborhoods of New Jersey, New Jersey (Fishman, 1971). The main purpose of this study was to maintain the closest possible link to several key concepts of small group socio-linguistics while developing data gathering and data analyzes techniques that might be of value in the study of widespread and relatively stable social environments. Joshua Fishman and Dell Hymes have written several publications in the art of linguistics, culture, and bilingualism.

On the negative side of Bilingual Education there are those who feel that by using the child's native language in the classroom, schools are increasing his dependence on that language and make it difficult for him to learn English (Hurwitz, 1975). A study was conducted in Ireland with Bilinguals. The findings of the study were that there is a 'balance-effect' in language learning, i.e., if a child develops skills in one of his two languages, he generally experiences a deficit in the other. Another finding is that the use of the bilinguals second language as a medium of instruction involves retardation in the subject matter taught but does not affect attainment in either of his two languages (McNamara, 1966). There also exists the argument that having too much in one's head creates a conflict which results in the Bilingual child being imprinted with two different linguistic codes and, as a result, this linguistic conflict produces very real evidence of the

intellectually deficient personality problems (Diebold, 1966).

On the positive side there are those who argue that our past educational system of mono-cultural schools actually created a negative environment which produced the worst racial and ethnic conflicts in the world's history (Simoes, 1975). He discusses three domain themes in support of Bilingual Bicultural Education: the political, the social, and the educational. He concludes that educators must be held more accountable for individual differences, especially in a society that has had a multi-cultural milieu since its foundation (Simoes, 1975). Kobrick sites examples of communities where schools have failed to meet the educational needs of the non-English population. He cites the Puerto Ricans of Boston, the Puerto Ricans of New York, and the Indian populations in different parts of the United States, who have had high dropout rates, in some cases as high as 80% to 90% (Kobrick, 1972). He contends that the reason for this is that the schools have offered only one curriculum and only one way of doing things which are designed to meet the needs of only the English speaking student. He also concludes that Bilingual Bicultural education is perhaps the greatest priority in bilingual communities. It's aim is to include children, not exclude them. It is neither a "remedial" program nor does it seek to "compensate" children for their supposed deficiencies. It views such children as advantaged not disadvantaged and seeks to develop bilingualism as an asset rather than stigmatize

it as a defect (Kobrick, 1972). There are also those that write about both the disadvantages of bilingualism (Jenson, 1962). Jenson concludes that early publications seem to support the fact that there are disadvantages in being bilingual whereas the earlier publications seem to stress the more positive aspects of bilingualism.

Attempts have been made in recent years to evaluate programs in Bilingual Education. In Canada the progress of children at the end of the fifth grade was studied with regard to (1) the linguistic development of both English and French cognitive learning skills and (2) the changes in attitudes (Lambert, 1973). At the end of grade five, children in the Bilingual classes did as well as carefully matched controls on all measures of English language skills and attained a stage of functional bilingualism that permitted them to read, write, comprehend, and speak French with fluency and naturalness. A comparative study of cognitive achievement of thirty one first grade students in a Bilingual Program concluded that by providing pupils with a bilingual program, giving them the time, and teaching them in their native language resulted in higher achievement than expected (Balinsky, 1974). In another investigation, bilingual classes in Gilroy, California were compared with traditional classrooms. One of the conclusions from this study was that Bilingually instructed children learned Spanish and English simultaneously with no apparent difficulty; also there was an apparent beneficial transfer affect from one language to the other (Skocylas, 1975).

CHAPTER III

ASSUMPTIONS, LIMITATIONS, AND DEFINITIONS

Assumptions Underlying the Problem

This study assumed the following:

1. That socioeconomic backgrounds of the bilingual and non-bilingual classes used in this study were similar.
2. That the state mandated tests that were administered in this study were valid for the children being compared.
3. That children compared in the samples were representative of children in that school.

Limitations of the Study

This study was limited in that:

1. Children were tested on Math Skills only in English even though instruction might have been conducted in Spanish.
2. Children in the Bilingual classes were maintaining oral skills and developing reading and writing skills in Spanish but there was lack of a control group with whom to compare them.

3. Children in the non-bilingual classes also came from homes where Spanish is spoken. This may or may not have had a bearing on their scores.

Definitions of Terms Used

The following terms have been used:

- Bilingual Education: Instruction in two languages and the use of those two languages as medium of instruction for any part of or all the school curriculum.
- Bicultural Education: The teaching of two cultures. In this case, the use of English language and culture.
- Bilingual Classes: Classes where Bilingual Education has taken place. This study refers to the use of Spanish and English languages in the classrooms.
- Non-Bilingual Classes: Classes that use more traditional methods of instruction and use only one language which is English.
- Native Speaker: One who has grown up speaking a language and speaks it fluently.

Dominant Language: A person that has greater facility with one language over the other.

Chicano: This term is used to refer also to Americans of Mexican decent.

Functional Bilingualism: Facility in speaking, reading and writing in two languages.

CHAPTER IV

METHODS OF THE STUDY

This study utilizes three schools in the Bakersfield City School District. They were Mt. Vernon, Baker, and Jefferson. The descriptions of the schools are as follows: (Obtained from School Comprehensive School Plan 1975-76 as submitted for school funding).

Mt. Vernon School

Mt. Vernon School is situated in the Northeast part of Bakersfield in an area zoned for industry. Industries in the area are two cotton gins, a waste disposal plant, and a turkey processing plant. The community is basically Mexican American with some Anglo families also. Employment is agrarian and seasonal, contributing to the school's high mobility factor. A large percentage of the families are receiving some type of financial assistance. Seventy-six percent receive some kind of financial assistance, twenty-two percent are considered low income families, and two percent average income families. The cultural make-up is eighty-five percent brown, three percent black, and twelve percent caucasian. Their degrees of bilingualism are forty-one percent English only, thirty-four English fluent and another language, and twenty-five percent limited English and another language. The school receives

state and federal funds under A.B. 2284, S.B. 90, and Early Childhood Funds (Comprehensive School Program Plan 1975-76).

Baker School

Baker School is situated in a rural type area on the outskirts of Bakersfield. Residential housing stops at the school. On the east side of the school is the city waste disposal plant, Bully Boy Fertilizer Plant, Golden State Salvage Yards, and the County Dog Pound. The school is cut off from the city by Freeway 58, on the north by Highway 99, on the west and on the east by unclutivated fields. The residential community is made up of sub-standard and moderate homes along with Federal Housing Projects. According to the Comprehensive School Plan the ethnic make-up of the school is fifty-nine percent Mexican American, forty percent Black, and one percent other. The dominant language is English and the majority of the Mexican American students are bilingual. In the majority of the Mexican American homes Spanish is used as the dominant language. Most labor is agrarian and seasonal (Comprehensive School Program Plan 1975-76).

Jefferson School

Jefferson School is attended by 470 children from Kindergarten through grade six. All the children live within walking distance from the school. Also according to the Comprehensive School Program Plan for that school the population is made up of seventy-five percent Mexican American, twenty-three percent Anglo American, and two percent Black Americans. A language dominance survey determined that 136 children were dominant in Spanish and/or limited in English, 544 children were dominant in English and or limited in Spanish, and, 113 were found to be bilingual. The school is within city limits and is surrounded by a large residential area. There is a large park in close proximity and a library approximately two or three blocks away. Spanish is spoken in some of the homes but the language spoken in the homes varies from Spanish to English (Comprehensive School Program Plan 1975-76).

These schools were selected because they have had Bilingual Programs in operation the longest period of time in the Bakersfield City School District. The length of their participation in Bilingual Programs range from four years to eight years.

After deciding which would be the best schools to use in this study permission had to be obtained from the Bakersfield City School's Board to use these schools in the study. This was needed to obtain achievement scores from the children's cumulative records on file at each particular school.

Once permission was granted, a decision had to be made in order to determine what classes were to be selected for study at each particular school. At Mt. Vernon a sixth grade Bilingual class and a non-bilingual sixth grade class were selected as a basis for comparison. At Baker School a third grade Bilingual class was selected and a non-bilingual third grade class was selected as a basis for comparison. At Jefferson School a fifth grade Bilingual class was selected and a non-bilingual class was selected as a basis for comparison. The selection of classes was made on the basis of which had received Bilingual Instruction for the longest period of time. The selections were made with the help of Dr. Schmoll, Head of Pupil Services for the Bakersfield City School District, and District Bilingual Instruction Department.

After the selection of classes was made, the decision was made as to which children to use from these classes. The criteria for selecting children from the bilingual classes were as follows:

1. That they remained in regular attendance at this school.
2. That they remained in Bilingual classes throughout

their attendance at that school.

The criteria for selecting children from the non-bilingual classes were as follows:

1. That they remained in regular attendance at that particular school because of the high mobility rate of these schools many of the children were not included.
2. That they were stable in staying in one class, i.e., they were not moved around from one class to another.

Care was taken to select only those children who had been in regular attendance at that particular school. This was necessary in order to avoid other factors having an influence on this study.

After the criteria were selected, each child's cumulative record was screened and the following data were obtained:

1. The child's total achievement score for Reading as tested by C.A.T. (California Achievement Tests).
2. The child's total achievement score for Mathematics as tested by C.A.T. (California Achievement Tests).
3. The child's total I.Q. (Intelligence Quotient) score was obtained for each subject as tested by C.T.M.M. (California Test of Mental Maturity) I.Q. Tests are administered in the third grade.

Once these scores were obtained for all the subjects in the study, the subjects were then matched by I.Q. scores (See Tables 1, 2, 3).

TABLE 1

I.Q. Reading and Math scores of Bilingual and Non-Bilingual 6th. grade classes at Mt. Vernon School.

Subject	<u>Bilingual</u>			<u>Non-Bilingual</u>		
	I.Q.	Reading	Math	I.Q.	Reading	Math
1	112	4.3	4.8	113	4.9	4.3
2	105	3.5	4.1	108	7.8	5.7
3	101	5.0	4.9	107	6.6	5.9
4	102	3.6	4.8	95	2.5	3.7
5	100	2.7	4.3	95	3.0	3.5
6	96	4.3	5.2	93	5.2	4.5
7	91	4.1	3.6	93	3.8	3.5
8	91	3.8	4.9	91	3.8	4.9
9	84	5.0	4.9	89	3.4	3.1
10	74	4.3	4.1	74	2.8	2.8
11	78	4.3	4.4	72	4.0	4.8
12	69	3.6	3.9	69	3.4	4.1

TABLE 2

I.Q. Reading and Math scores for Bilingual and Non-Bilingual
5th. grades classes at Jefferson School.

Subject	<u>Bilingual</u>			<u>Non-Bilingual</u>		
	I.Q.	Reading	Math	I.Q.	Reading	Math
1	117	3.2	2.8	110	3.4	4.1
2	114	3.2	3.5	110	4.6	4.7
3	110	4.5	5.0	108	5.5	5.1
4	105	3.9	4.1	108	5.1	4.7
5	102	4.0	3.4	103	5.6	4.8
6	105	3.9	4.1	101	2.9	3.8
7	102	4.0	3.4	98	3.2	4.3
8	98	3.6	2.7	98	3.6	3.8
9	96	2.1	4.8	97	4.2	4.8
10	96	3.6	4.1	96	2.7	3.5
11	94	1.8	3.0	95	2.7	3.2
12	94	3.1	3.6	94	2.2	3.6
13	94	3.8	3.5	89	2.5	2.5
14	89	3.8	3.8	88	3.5	3.2

TABLE 3

I.Q. Reading and Math scores for Bilingual and Non-Bilingual
3rd. grade classes at Baker School.

Subject	Bilingual			Non-Bilingual		
	I.Q.	Reading	Math	I.Q.	Reading	Math
1	104	1.4	2.2	108	1.3	2.9
2	100	4.2	3.2	103	1.8	1.3
3	95	1.3	2.7	100	1.6	2.3
4	94	1.2	1.5	96	1.7	3.2
5	94	0.7	2.3	95	0.6	1.6
6	94	1.7	2.7	93	1.3	1.0
7	94	1.3	2.7	93	1.7	1.9
8	93	1.5	1.5	93	2.0	2.2
9	89	1.5	1.5	90	1.7	1.7
10	89	1.7	2.6	82	1.6	0.6
11	77	1.4	0.9	78	1.8	2.1
12	66	1.2	1.8	70	1.4	1.3

CHAPTER V

FINDINGS OF THE STUDY

After all the children had been matched by I.Q. scores and by grade levels, their scores were subjected to computerized statistical techniques and the data were analyzed. The first hypotheses to be tested was that there would be no significant difference in reading achievement levels of children enrolled in Bilingual classes and children not enrolled in the Bilingual classes in the Bakersfield City School District. The second hypotheses to be tested was that there would be no significant difference in math achievement levels of children in the Bilingual classes and children not enrolled on the Bilingual classes in the Bakersfield City School District. A t-test was the statistical test used to test these hypotheses. At each school Bilingual classes were compared with Non-Bilingual classes to test for significant differences in achievement levels.

Test for Hypotheses No. 1:

There is no significant difference in reading achievement levels in English Reading of children in the non-bilingual classes and children in the bilingual classes in the Bakersfield City School District.

In Table 4, the scores for reading achievement of the Bilingual classes and the Non-Bilingual classes from Jefferson School were compared. To determine significance a t-value was calculated between the mean scores of the two groups. The t-value was nonsignificant, $t=0.76$, $P \geq .05$, for 13 degrees of freedom. The .05 level was the level set for statistical acceptance.

In Table 5, the scores for reading of Bilingual classes and the Non-Bilingual classes were compared from Baker School. A t-value was calculated between the mean scores of the two groups. The t-value was nonsignificant, $t=0.22$, $P \geq .05$, for 11 degrees of freedom. The .05 level was the level set for statistical significance.

In Table 6, the reading scores were also compared for the Bilingual classes and the Non-Bilingual classes at Mt. Vernon. A t-value was calculated to test for significance between the mean scores of the two groups. The t-value was nonsignificant, $t=0.49$, $P \geq .05$, for 11 degrees of freedom. The .05 level was the level set for statistical significance.

Test for Hypotheses No. 2:

There is no significant difference in math achievement levels of children in the Non-Bilingual classes and children in the Bilingual classes in the Bakersfield City School District.

In Table 4, the scores for math achievement for the Bilingual and Non-Bilingual classes at Jefferson School were compared for significance. A t-value was calculated to test for significance of the difference between the mean scores for the two groups. The t-value was nonsignificant, $t=0.41$, $P \geq .05$, for 13 degrees of freedom. The .05 level was the level set for statistical significance.

In Table 5, the math and reading achievement scores were compared for the Bilingual and Non-Bilingual classes at Baker School. The t-value was nonsignificant, $t=0.83$, $P \geq .05$, for 11 degrees of freedom. The .05 level was the level set for statistical significance.

In Table 6, shows the comparison of math achievement scores for the Bilingual and Non-Bilingual classes at Mt. Vernon School. The t-value was nonsignificant, $t=1.13$, $P \geq .05$, with 11 degrees of freedom. The .05 level was the level set for statistical significance.

TABLE 4

Descriptive Statistics and t-values for Math and Reading Achievement Scores of Bilingual and Non-Bilingual Fifth Grade Students at Jefferson School.**

Variable	# of Cases	Means	S.D.	Std. Error	Diff. of Means	S.D. of Means	D.F.	t-value
Bil. Rdg.	14	3.46	0.74	0.20	-0.23	1.13	13	0.76
Non-Bil. Rdg.	14	3.69	1.13	0.30				
Bil. Math	14	3.70	0.67	0.18	-0.31	0.79	13	-.146
Non-Bil. Math	14	4.01	0.76	0.20				

*A t-value of 2.160 is required for significance at the .05 level

**Scores from 1974-75 school year

TABLE 5

Descriptive Statistics and t-values for Math and Reading Achievement Scores of Bilingual and Non-Bilingual Third Grade Students at Baker School.**

Variable	# of Cases	Means	S.D.	Std. Error	Diff. of Means	S.D. of Means	D.F.	t-value
Bil. Rdg.	12	1.59	0.86	0.25	0.05	0.79	11	0.22
Non-Bil. Rdg.	12	1.59	0.36	0.11				
Bil. Math	12	2.13	0.68	0.20	0.29	1.22	11	0.83
Non-Bil. Math	12	1.84	0.77	0.22				

*A t-value of 2.201 is required for significance at the .05 level

**Scores from 1974-75 school year

TABLE 6

Descriptive Statistics and t-values for Math and Reading Achievement Scores of Bilingual and Non-Bilingual Sixth Grade Students at Mt. Vernon School.**

Variable	# of Cases	Means	S.D.	Std. Error	Diff. of Means	S.D. of Means	D.F.	t-value
Bil. Rdg.	12	4.04	0.65	0.19	-0.23	1.59	11	-0.49
Non-Bil. Rdg.	12	4.27	1.59	0.46				
Bil. Math	12	4.49	0.49	0.14	0.41	0.94	11	1.13
Non-Bil. Math	12	4.18	0.90	0.26				

*A t-value of 2.201 is required for significance at the .05 level

**Scores from 1974-75 school year

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The two hypotheses tested were supported by the results of this study. At Jefferson School, Baker School and Mt. Vernon Schools, the reading and math achievement scores for the Bilingual classes were compared to those from the Non-Bilingual classes. In all the schools, the hypotheses of nonsignificant differences in reading and math achievement between groups proved to be tenable. Although the number of subjects used in each class was small, it is apparent that in these schools there is no significant difference in the reading and math achievement between Bilingual and Non-Bilingual students.

The t-test was used to test the hypotheses. For further analysis, the mean achievement scores for both variables were compared. It is interesting to note the results of this comparison show that for reading the Non-Bilingual classes achieved slightly higher mean class scores (See Tables 4, 5, and 6). This is expected because most of these children were English speakers from the start of their school careers. Whereas most of the children in the Bilingual classes are Spanish dominant and had to acquire English skills after they started school (Table 7).

When the mean scores for math achievement were compared for the groups other trends seem to appear. At Jefferson School the Non-Bilingual class still scored slightly higher in math achievement. Math concepts are the same in English and in Spanish; and the fact that these children scored higher than the Non-Bilingual class supports the contention, at least in this study, that when children are instructed in their own language, they tend to learn easier and faster.

It should be noted that in the bilingual classes, the majority of the children included in the study were Spanish dominant (Table 7). At Mt. Vernon nine were Spanish dominant and three were fluent in both languages. At Baker School eight were Spanish dominant, and three English dominant and one fluent in both languages.

As stated earlier, in this study Spanish dominant children were compared to English dominant children. The results indicate that even though these children started out Spanish dominant, they have been able to achieve reading and math skills comparable to their peers in the Non-Bilingual classes.

This study would also tend to support the idea that the use of two languages in the classroom does not hinder the learning process but tends to facilitate learning in the classroom. The

use of two languages does not seem to confuse the child as some contend but rather, clarifies concepts being presented.

Children in Bilingual classes not only achieve in math and reading at levels comparable to their peers, but are also receiving other beneficial effects from participating in these programs. One, is the maintenance and development of their language. They learn to read, write, and to develop oral skills in their dominant language.

Children in the Bilingual classes are also taught a second language. The Spanish dominant child learns English as a second language and the English dominant child learns Spanish as a second language. Both groups tend to try to help each other learn the second language. Empathy for each other develops because each group understands and tried to learn a second language.

Because the child's language is used in the classroom, he tends to feel better about his language and about his background. He learns that he too can contribute something to the class whether it be in English or Spanish. He learns that the language he brings from home is also worthwhile and important. In a Bilingual class, where the child can communicate in either language, he will tend to feel better about himself and his surroundings.

The school can also benefit from bilingual programs. For example, when parents are allowed to use their language in the school they tend to feel better about participating in school activities. Similarly, they can also help their children in their academic studies at home.

Since it was found in this study that children in Bilingual classes achieve as well as those in Non-Bilingual classes in reading and math, this writer strongly recommends that Bilingual Education should be an important part of our educational system. Children should continue to succeed and enjoy the benefits that can be derived from bilingual programs. Not only will the children benefit from these programs but the parents, schools, and the community will also benefit from them.

Bilingual Education is a relatively new educational concept and because of this requires further research. Some of the areas that emerge from this study that require further research include the following:

1. Continued research in student achievement in Bilingual/Bicultural Programs in order to determine their effectiveness in the learning process.
2. Comparative longitudinal studies should be conducted in the area of math and reading achievement to determine long range effects of the Bilingual/Bicultural Programs.

3. Cross-sectional studies should be conducted in different parts of the U.S.A. in order to compare programs.
4. Because of the newness of Bilingual Programs in the United States research in this area with other Ethnic groups also needs to be conducted.

TABLE 7

Language Dominance of
Children in this study*

School	English Dom.	Spanish Dom.	Span. & Eng. or Eng. & Span.	Totals
Jefferson				
Bilingual	7	1	6	14
Non-Bil.	12		2	14
Baker				
Bilingual	3	8	1	12
Non-Bil.	10		22	12
Mt. Vernon				
Bilingual		9	3	12
Non-Bil.	12			12
Totals				
Bilingual	10	18	10	
Non-Bil.	34	0	4	76

*Obtained from cum folders at each school and based on the judgment of their teachers.

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