

THE LANGUAGE HANDICAP OF SPANISH AMERICAN CHILDREN

by

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A Thesis

submitted to the faculty of the

Department of Education

in partial fulfillment of
the requirements for the degree of

Master of Arts

in the Graduate College

University of Arizona

1939

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July 25 '39
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CHAPTER I

INTRODUCTION

In the states of the Southwest bordering Mexico are found many Spanish-American and Mexican families. A few of these peoples have lived in this section of the United States for many years but the majority of them have entered the United States both legally and illegally¹ since 1900, until at the present time they constitute more than twenty-five percent of the population. Their reason for coming to this country in part was to satisfy the demand for cheap labor created by the development of industrial and agricultural interests, many of them being imported directly from Mexico by the large companies. Other reasons might have been to partake in every foreigner's dream of the land of proverbial milk and honey or to escape the continual strife of war and banditry which existed in Mexico during the first part of the twentieth century.

In their homes in Mexico these peoples lived on a very low standard and they seemed to have little inclination in this new land to appreciably better this situation; nor were they encouraged by their American employers, who were so interested in their own ends that they gave no consider-

1. Governor C. C. Young's Mexican Fact Finding Committee, Mexicans in California.

ation to the welfare of their workers. These Mexicans brought with them to this new land their ideals, customs and habits of living as are exhibited in the Mexican sections of many of our American towns and communities. One may enter almost any Mexican community in the Southwest and find the living conditions of these people exceedingly deplorable. Many families occupy a single room while others have but two or three rooms. The average number of children in the Mexican families studied by Delmet² was found to be 4.06. This gives the reader a rough idea of the number of people occupying the one to three rooms. In many sections even the rooms are crude habitations for human beings. Uncleanliness and disease is prevalent, mal-nutrition is common, due to poor and irregular diet. The moral standards are low.³ Delinquency is found to be much higher for these people than for Americans.

The implications involved in this description are tremendous and do not really show their full bearing on the lives of these peoples at the outset.

To go a step further, these peoples have a meager educational background. At Nogales, Arizona, the average

2. Delmet, Don T. "A Study of the Mental and Scholastic Abilities of Mexican Children in the Elementary School," (unpublished Master's thesis, University of Southern California, Los Angeles, 1928)

3. Carpenter, Charles Clifford. "A Study of Segregation of Mexican Children," (unpublished Master's thesis, University of Southern California, Los Angeles, 1935)

length of formal schooling of either parent in the Mexican home was found by Mitchell⁴ to extend over a period of roughly three and one-half years. The children from such homes on entering school are illiterate in their own language, although they are able to speak with some facility. Garretson⁵ found it unusual for a Mexican child to speak English when he enters kindergarten or first grade. Thus, the average Mexican child enters school with a distinct language handicap. The literacy of his home background is low, he can only express himself orally in his mother tongue, and he understands but little of the oral and none of the written language, English, in which he is to be instructed.

The language handicap of the children of these Mexican immigrants constitutes a serious educational problem, particularly in the southwestern part of the United States where they are a real minority. Many of the children of Mexican and Spanish-American parentage learn their first English when they enter school for the first time. So at the outset these children are handicapped as to language when compared with the American child. The Mexican child

4. Mitchell, A. J. "The Effect of Bilingualism in the Measurement of Intelligence," Elementary School Journal, 38:29-37.

5. Garretson, O. K. "A Study of Retardation Among Mexican Children in a Small Public School System in Arizona," Journal of Educational Psychology, 19:31-40.

has to learn a second language not his own. Is there any wonder that there is a general retardation of this element in our schools when we consider this terrific handicap at the beginning of the child's education?

The problem of this thesis is to determine the extent of concurrence of findings of experimental research on the language handicap of Spanish-American children:

1. To determine the effect of the language handicap on the Intelligence Quotient.
2. To determine the effect of the language handicap on achievement.

CHAPTER II

PROCEDURE

This study to find the concurrence of experimental research on the language handicap of Spanish-American children is a study of studies. The material for it has been taken from research studies done by experimenters in the field. Some of the material was taken directly from the original studies while other material was taken from reports of the studies found in various publications.

Only material having a direct bearing on the subject and the reader's interest was taken, and for the most part only those studies dealing with the Spanish-American or Mexican were considered. Matter taken from studies concerning the language handicap of Chinese or Japanese or the north Europeans while more or less similar might confuse the issue and this study is primarily concerned with only the Spanish-Americans.

The material used was discovered in books, pamphlets, reports, periodicals, and unpublished and published theses. The field of material was adequately, but not completely, covered due to the fact that there are probably many unpublished theses not discovered by the author and that several unpublished works were not accessible.

The material having a pertinent bearing on the

problem or the material which relates to the intelligence and achievement of the Spanish-American children will be presented from each study. A summary of any concurrences will be made and conclusions drawn.

CHAPTER III

INVESTIGATIONS CONCERNING THE LANGUAGE HANDICAP

Hanson¹ has made a study of retardation of Mexican and white children on the basis of intelligence test results. She found that more than one-half (twenty-five out of forty-five) of the children in group two (Mexican) tested first with the English form and then with the Mexican form fell below seventy-two months on the English form but succeeded in making a mental age of seventy-two months or better on the Mexican test. These children, who would have been excluded on the basis of the English test, were included in the reading group on the basis of the Mexican test, and their achievement in learning to read compared favorably with that of American children chosen on the English version of the Detroit test. This indicates that the English form of the test is not as reliable a means of predicting B1 success with Mexican children as it is with American pupils. Neither is it a fair test of the intelligence of these children.

Since these children who tested seventy-two months

1. Hanson, Edith Josephine. "A Study of Intelligence Tests' Results for Mexican Children Based on English and Mexican Test Forms," (unpublished Master's thesis, University of Southern California, Los Angeles, June 1931).

and more on the Mexican test but not on the English test succeeded in satisfactorily completing BI work in spite of their language handicap, we must conclude that mental maturity, rather than knowledge of English, is the primary factor in BI success.

Hanson also found that the median Intelligence Quotient on the English form of the Detroit Test for the Mexican children was 79.3, which indicates that this group of Mexicans was very similar, with respect to mental ability, to other groups studied.

Schneider² administered the Rational Learning Test to fifty white and fifty-eight Mexican children of twelve years of age in an effort to compare their respective abilities. The twelve-year-old subjects in the Mexican group ranged from the second to the sixth grades with the majority in the fifth and sixth grades, while the white twelve-year-olds ranged from fourth to eighth grade with the majority in the sixth grade. It would seem that already we have a white superiority plainly showing without the aid of tests. In the analysis of the test results she found a striking difference in the abilities of the two groups, the superiority being in favor of the white group.

2. Schneider, Virginia. "A Comparative Study of the Abilities of White and Mexican Children as Shown by the Rational Learning Test," (unpublished Master's thesis, University of Southern California, Los Angeles, 1930).

In order to get fifty-eight twelve-year-old children she had to pick the Mexican children from sources which included both segregated and unsegregated school systems. She found that the Mexican child from the unsegregated system made a somewhat better score than that of the one from the segregated system. Perhaps this shows that administrative practices are affecting normal progress and school achievement of these Mexican children.

The average Mexican child in this study was retarded about two years and the retardation was attributed to the mental inferiority of the Mexican group coupled with the inferior social conditions and nervous temperament of the Mexican people.

Swalestuen³ made a study of forty-nine Mexican and forty-nine white children in ninth grade algebra with respect to the language handicap. The following table compares the two groups rather thoroughly.

3. Swalestuen, Esther D. "A Comparative Study of the Mexican and White Children in Ninth Grade Algebra with Respect to Language Handicap," (unpublished Master's thesis, University of Southern California, Los Angeles, 1933).

TABLE I

TABULATION OF MEAN AND STANDARD DEVIATION IN VARIOUS TESTS FOR WHITE AND MEXICAN GROUPS

Test or Grade	White M	Group S D	Mexican M	Group S D
Terman Intelligence	96.0	10.0	97.0	10.0
Army Beta	107.0	11.3	107.0	10.5
Reading Comprehension	55.2	13.6	48.6	15.4
Columbia Research(Alg.)	20.6	11.0	16.7	10.7
Semester Mark	83.6	7.0	80.2	10.5

This table should be read as follows: In the white group the mean on the Terman test was 96.0 with a Standard Deviation of 10.0, and in the Mexican group the mean was 97.0 with a Standard Deviation of 10.0.

These results indicate some difference between the racial groups with respect to ability in algebra, but it is so slight as to be practically negligible in so far as any special consideration to be given students because of race is concerned. That the two groups were quite comparable was shown by the intelligence tests, and the difference shown may be due to a slight handicap which may affect success in algebra. Such a conclusion would be based on the difference in abilities measured by the reading comprehension test and on the Columbia Research tests. However, the handicap, if such, is not large and of such a nature that it could probably be overcome by a reasonable

change in instruction methods combined with diagnostic and remedial work.

Drake⁴ tested 144 Mexicans and 173 white children in grades seven and eight with the Pintner-non-Language Test, the National Intelligence Test Scale A, Forms 1 and 2, and the Stanford Achievement Test, Forms A and B. The following tables present a composite picture of the results for the Mexican and white children separately.

4. Drake, Rollin H. "A Comparative Study of the Mentality and Achievement of Mexican and White Children," (unpublished Master's thesis, University of Southern California, Los Angeles, 1927).

TABLE II

TABLE SHOWING VARIOUS CORRELATIONS OF THE WHITE GROUP

Nation- ality	Correlation be- tween Tests	r	r	S D	Mean
White	NIT-SA-F1	0.815	.011	18.6	130.76
	NIT-SA-F2			18.9	141.79
	SAT-FA	0.942	.007	10.2	69.35
	SAT-FB			10.3	77.3
	NIT-SA-F1	0.761	.017	18.5	130.45
	SAT-FB			10.1	69.54
	NIT-SA-F2	0.785	.024	19.1	141.5
	SAT-FA			10.2	69.8
	NIT-SA-F2	0.718	.032	19.3	140.75
	SAT-FA			10.3	70.15
	PNL	0.393	.044	10.9	60.74
	NIT-SA-F1			18.5	130.94
	PNL	0.366	.055	11.2	59.86
	NIT-SA-F2			19.2	142.27
PNL	0.286	.012	11.2	60.52	
SAT-FA			10.0	70.00	
PNL	0.274	.05	11.0	60.5	
SAT-FB			9.6	70.61	

The above table should be read as follows, across the top of the table: For the whites the correlation between scores on the NIT-SA-F1 (National Intelligence Test, Scale A, Form 1) and NIT-SA-F2 (National Intelligence Test, Scale A, Form 2) is r 0.815 plus or minus 0.011, with a standard deviation of 18.6 for form 1 and 18.9 for form 2. The mean for form 1 is 130.76 and for form 2

is 141.79. The abbreviation SAT is used to designate the Stanford Achievement Test.

TABLE III
TABLE SHOWING VARIOUS CORRELATIONS OF THE MEXICAN GROUP

Nation-ality	Correlation between Tests	r	S D	Mean	
Mexican	NIT-SA-F1	0.778	.03	20.2	129.8
	NIT-SA-F2			21.8	117.7
	SAT-FA	0.904	.013	8.9	60.23
	SAT-FB			11.1	61.14
	NIT-SA-F1	0.738	.03	20.7	110.4
	SAT-FA			9.5	59.7
	NIT-SA-F1	0.738	.03	19.9	110.4
	SAT-FB			10.1	63.3
	NIT-SA-F2	0.79	.03	21.6	117.5
	SAT-FA			9.6	59.8
	NIT-SA-F2	0.72	.03	20.8	117.3
	SAT-Fb			10.2	62.3
	PNL	0.527	.04	11.9	52.5
	NIT-SA-F1			19.4	109.8
	PNL	0.57	.2	11.8	52.7
	NIT-SA-F2			20.1	124.4
	PNL	0.396	.06	11.7	52.4
	SAT-FA			9.0	56.1
	PNL	0.324	.07	11.2	52.7
	SAT-FB			9.8	61.6

The Pintner Non-Language Test is not a highly reliable test to be used with either white or Mexican children in the upper grades in predicting academic achievement.

The National Intelligence Test is a highly reliable test when used in the upper grades as a method of predicting academic achievement. This test when used in the upper grades seems to be just as reliable for Mexican children as for white children.

The Stanford Achievement Test is a reliable test with which to measure achievement in the upper grades. It measures the achievement of the Mexican children with approximately the same accuracy as it does that of white children.

Approximately the same degree of correlation exists between the intelligence and achievement of Mexican children taken as a group as exists for the white children treated in the same manner.

The notable conclusions drawn by Drake are:

There is a racial difference in the mentality between Mexicans and white children taken as distinct groups. As a group, when considered from the standpoint of both intelligence and achievement, the mean of the Mexican children is lower than that for the white children by an amount equal to about one-half of the spread of the middle two-thirds of either group.

The mean achievement of Mexican children is in the same ratio to mean intelligence as the mean achievement of the white children is to their mean intelligence. The Mexicans benefit by the exposure to the school curriculum

as much as do the white children of equal mental capacity. The language handicap is of but small importance by the time the Mexican child has completed the sixth grade.

We may conclude then that the racial problem which exists when the Mexican children are present in the upper elementary grades of the public schools is not due to any great extent to the fact that the Mexican children speak a foreign language, but probably is due to the fact that they are definitely lower mentally than white children.

This condition of lower mentality leading to retardation and over-ageness in the upper grades coupled with the fact that the Mexican reaches adolescence at an earlier age than the white constitutes the problem of the Mexican child in the upper elementary grades.

Treff⁵ surveyed Mexican education in Orange County with respect to retardation. The following charts will give a thorough view of retardation.

5. Treff, Simon Ludwig. "The Education of Mexican Children in Orange County," (unpublished Master's thesis, University of Southern California, Los Angeles, 1934).

TABLE IV

SHOWING THE PROGRESS DISTRIBUTION OF MEXICANS IN THE
ELEMENTARY SCHOOLS IN ORANGE COUNTY

Progress	Percent of Total
Retarded	72
Normal	25
Accelerated	3

TABLE V

SHOWING THE PROGRESS DISTRIBUTION OF MEXICANS IN THE
HIGH SCHOOLS IN ORANGE COUNTY

Progress	Percent of Total
Retarded	70
Normal	27
Accelerated	3

TABLE VI
SHOWING THE PERCENT OF EACH GRADE RETARDED

Grade	Percentage
8 Boys	74
8 Girls	69
8 Total	72
7 Boys	80
7 Girls	79
7 Total	79
6 Boys	86
6 Girls	83
6 Total	85
5 Boys	81
5 Girls	83
5 Total	82
4 Boys	83
4 Girls	80
4 Total	81
3 Boys	88
3 Girls	87
3 Total	87
2 Boys	77
2 Girls	75
2 Total	76
1 Boys	54
1 Girls	52
1 Total	53

TABLE VII

SHOWING THE PERCENTAGE OF TOTAL RETARDATION
POSSESSED BY EACH GRADE

Grade	Percentage
8	5
7	7
6	12
5	11
4	15
3	16
2	16
1	8

TABLE VIII

SHOWING THE EXTENT OF RETARDATION OF MEXICAN PUPILS IN
THE ELEMENTARY SCHOOLS OF ORANGE COUNTY

Years Retarded	Percentage
Not retarded	28.16
Less than 1 year	30.04
1 to 2 years	55.26
2 to 3 years	11.09
3 to 4 years	3.96
4 to 5 years	1.16
5 to 6 years	0.17
6 to 7 years	0.05

TABLE IX

SHOWING THE PERCENT OF MEXICANS RETARDED IN ALL-MEXICAN SCHOOLS IN COMPARISON TO MEXICANS IN OTHER SCHOOLS

School	Percentage
Segregated	75.9
Non-Segregated	63.3

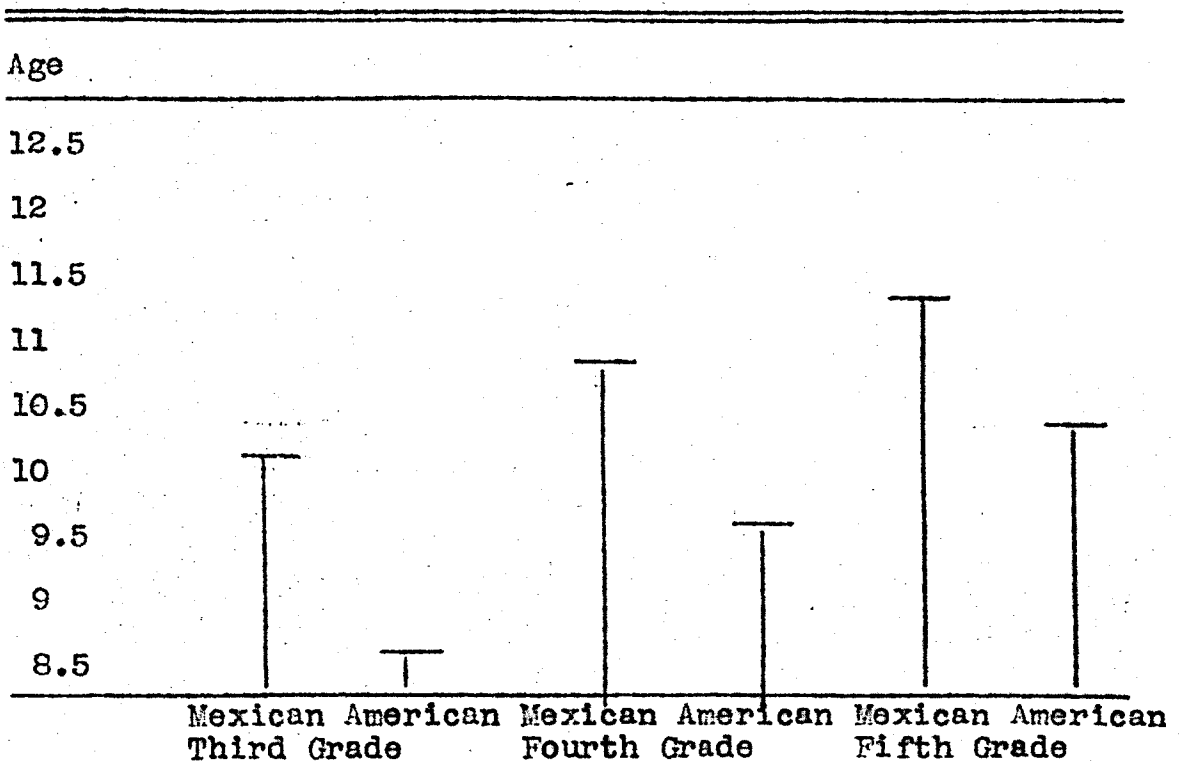
Summary

The retardation in all schools having any Mexican enrollment ranges from fifty per cent to eighty-six per cent of the total Mexican enrollment. The retardation among Mexicans in the high school is about the same as that in the elementary schools. Acceleration in the grades with the exception of the first is negligible. The same variation applies to the normal group. In the third, fourth, fifth, and sixth grades is found the highest rate of retardation. Boys in all grades are more retarded than the girls. The first grade contributes the greatest number to the total retardation. Pupils in all-Mexican schools exceed other Mexican pupils in retardation by about twelve percent. The degree of retardation exceeds two years in only fifteen percent of the cases.

Merryweather⁶ took 150 Mexicans and 150 white children and compared them after giving them the Stanford Achievement Test and the Otis Intelligence Test. Worthy of note, also, are the comparisons of age and grade.

TABLE X

AVERAGE CHRONOLOGICAL AGE OF MEXICAN
AND AMERICAN CHILDREN OF SAME GRADE



6. Merryweather, Rose. "A Study of the Comparative Ability of the Mexican and American Children in the Upper Elementary Grades," (unpublished Master's thesis, University of Southern California, Los Angeles, 1933).

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TABLE XI

AVERAGE STANDARDIZED EDUCATIONAL GRADE OF MEXICAN AND AMERICAN CHILDREN OF THE SAME SCHOOL GRADE

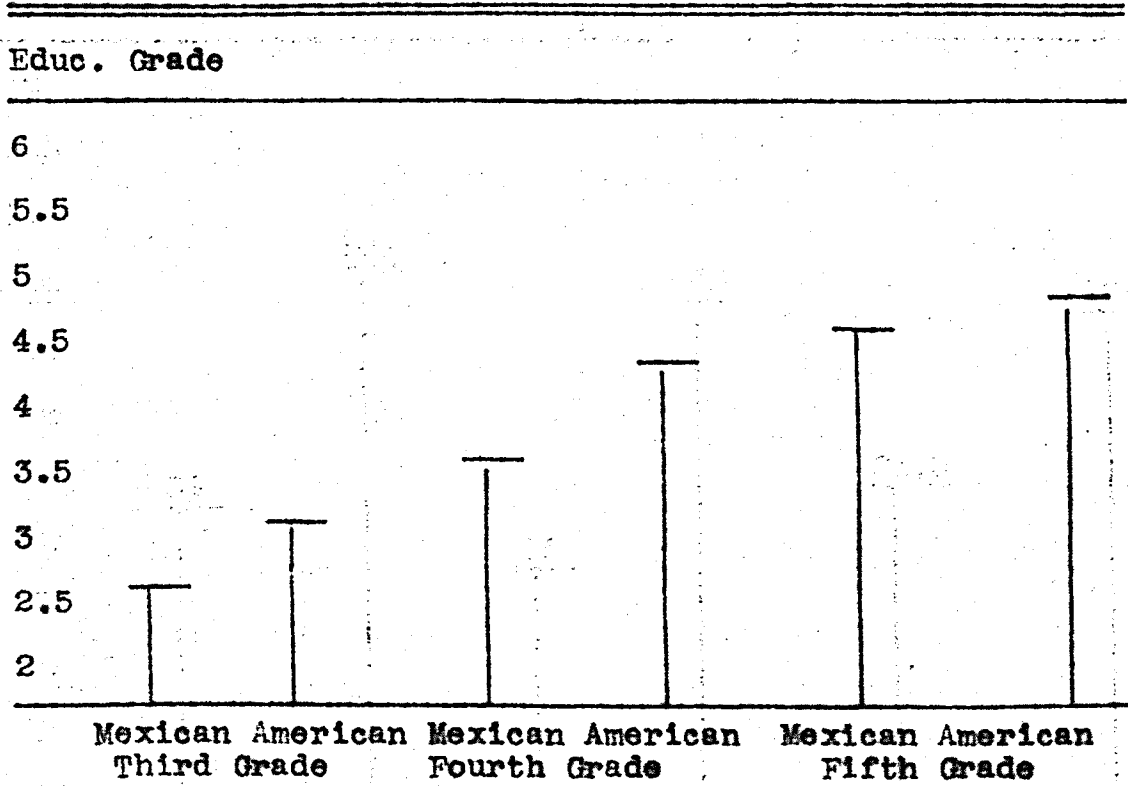
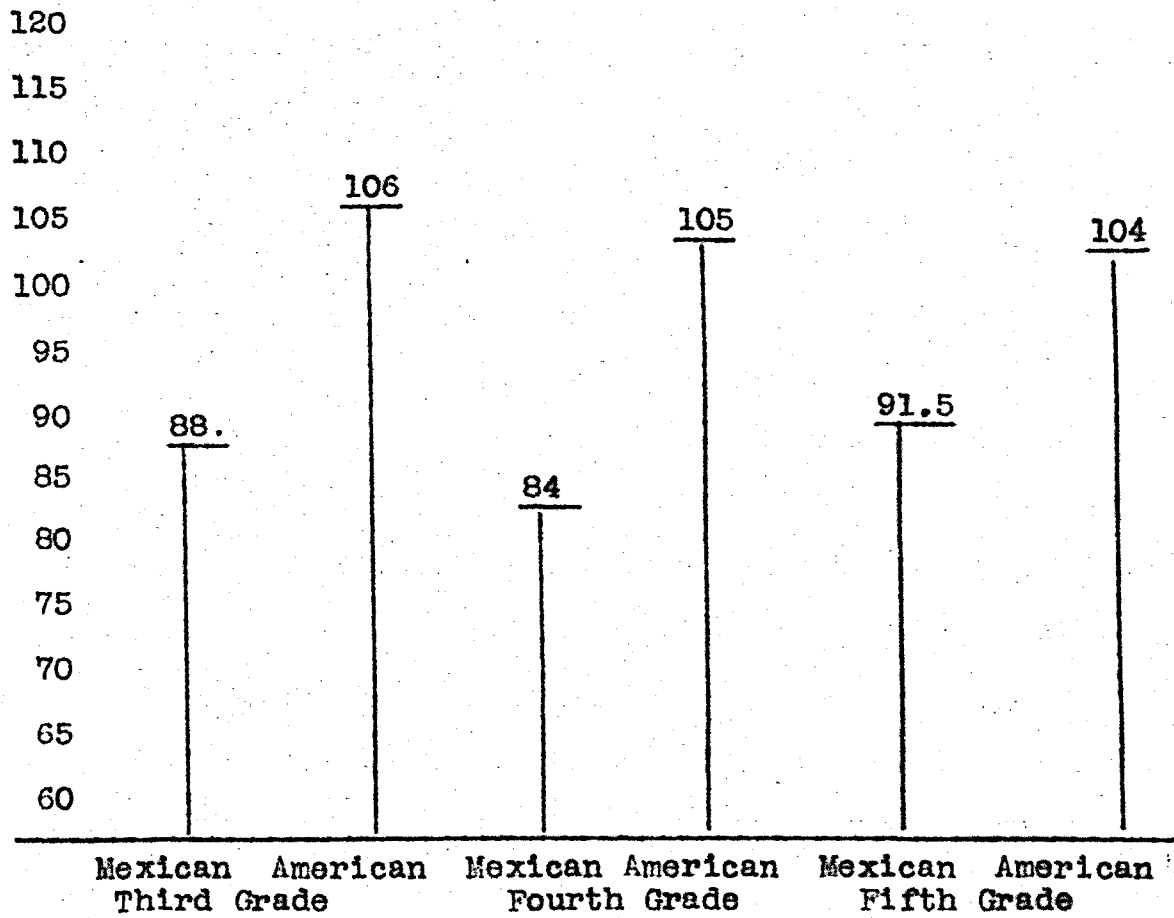


TABLE XII
 AVERAGE I.Q. OF MEXICAN AND AMERICAN
 CHILDREN OF THE SAME GRADE

Intelligence Quotients



The results from the three hundred children tested seemed to indicate a closer correlation between the Mexican children and American children in school achievement as they advance in their school grades. This is probably due to increased knowledge of the English language, and a better social adjustment as the school exerts more influence over the child. The results from the Otis Intelligence Scale showed a higher correlation between the Mexican and American children than did the results from the Stanford Achievement tests. In fact, the majority of children in both groups had a higher average rating from the intelligence tests than from the achievement tests.

Comparison of the Mexican group as a whole with the American group showed a lower school achievement for the former group, but showed a lessening of this difference as the children advance from the third to the fifth grade. It is a significant fact, however, that the Mexican children tested were in the majority of cases below normal in intelligence according to the Otis Group Intelligence Tests. Comparison with results from the school children given both the Stanford and Otis tests showed that the Mexicans were considerably retarded in age-grade status, and that eighty percent of the Mexican children were over-age more than were the American children for the same grade.

The score on the Stanford Achievement Test is, in the majority of cases, nine to ten points higher in the American group than in the Mexican group. There is a higher correlation between results in the intelligence tests and achievement tests among the American group than among the Mexican group.

As the Mexican children advance in their school grades there is a gradual lessening of the difference in school achievement between the American and Mexican children. There is an age difference of from two to three years in the majority of cases between the Mexican and American groups, the former group being the older.

Finally, it is clear that the Mexican children are laboring under a considerable handicap due to the fact that for the most part they neither hear nor speak English in their homes.

The group of Mexican children is not characterized by any particular status in intelligence or school achievement that is peculiar to them and different from the status of the American children with whom they were compared, but comparison of ages revealed that the majority of Mexican children are decidedly below average in age-grade status. A far greater number of Mexican children are inferior, as shown by their test results, than are American children.

The children of superior intelligence in both the Mexican and American groups are above the average in age-grade status, and there are relatively as many superior children among the Mexicans as among the Americans.

Delmet⁷ studied the Mexicans of a school that had been given the Stanford Achievement Test. The following table showing acceleration and retardation is interesting:

7. Delmet, Don T. "A Study of Mental and Scholastic Abilities of Mexican Children in the Elementary School," (unpublished Master's thesis, University of Southern California, Los Angeles, 1928).

TABLE XIII

NUMBER OF PUPILS ACCELERATED, NORMAL AND RETARDED

Grade	No. of Pupils	Accel-erated	Normal Age	3 yrs. & over	2-3 yrs.	1-2 yrs.	Less than one year
L 1	59	0	24	3	3	17	12
H 1	48	0	6	0	9	22	10
L 2	26	0	1	4	9	10	2
H 2	5	0	0	0	0	3	2
L 3	35	0	1	10	9	10	5
H 3	2	0	0	0	0	1	1
L 4	23	0	2	12	5	2	1
H 4	1	0	0	0	1	0	0
L 5	18	0	0	7	5	6	0
H 5	1	0	0	1	0	0	0
L 6	23	0	3	10	9	1	0
H 6	0	0	0	0	0	0	0
L 7	14	0	0	6	5	2	1
H 7	0	0	0	0	0	0	0
L 8	10	0	0	4	2	4	0
H 8	0	0	0	0	0	0	0
Total	265	0	37	57	57	79	34

From Table XIII it appears that only 37 pupils are of normal age and that 229 are over-age or retarded. There is not a single pupil who is accelerated.

The scores made by all the grades on the Stanford Achievement tests tend to show that there are slight grade accelerations in a few of the subjects included in the tests, but that as a whole there is an age retardation on all of the subjects included in the tests. The slight grade accelerations in a few cases is due to the fact that many of the pupils are over-age for the grade and this tends to make the grade placement somewhat higher. On the whole the scores made by grades 3 to 8 inclusive on the Stanford Achievement Test show age retardations from about two years two months to four years four months.

As a group, when considered from the standpoint of both mental and scholastic abilities, the mean of the Mexican children studied is lower than the norms established for the white children.

There were 123 families studied and out of the 123 families studied only 3.3 percent were American citizens. Only seventeen parents out of the group studied were tax payers. There were 116 mothers and 120 fathers who were born in Mexico, with only five mothers and three fathers born in the United States. The length of residence in the United States varied from six months to 56 years. The average wage earned was about \$3.50 per day, and the average family numbered 4.06 children. Of the pupils about 29 percent were born in Mexico. Out of 371 pupils there were 29 who attended school in Mexico.

The records showed that the Mexican children of this school were not very regular in attendance, probably due to the seasonal occupations of the fathers and a lack of sympathy with and understanding of American schools. The records showed that the parents of the Mexican children were very migratory. About 86 percent of the pupils were over-age for their grades.

Leis⁸ conducted a survey over the southwest. Some interesting facts found by him are included in his study. He discovered that while the percent of Mexican children varies widely in the various systems considered, it is much more uniform when taken by states, and is approximately one-fourth of the school population. Of the 31 systems reporting from four states, twenty-one, or two-thirds of them separate the Mexican children entirely or in part from the whites for educational purposes. In two-thirds of the cases segregation ends in the fourth, fifth, or sixth grade, because the language handicap has practically disappeared and social adaptation has fitted the Mexican child to go into the grades with the white children. Excessive dropping out at these levels is a large factor in discontinuing segregation.

8. Leis, Ward William. "The Status of Education for Mexican Children in the Border States," (unpublished Master's thesis, University of Southern California, Los Angeles, 1931).

In 77 percent of the cases in California and 87½ percent of the cases in Texas the Mexican children are generally over-age on entering school, and as such may be considered a definite educational problem in those states.

The need for segregation as revealed by its practice in two-thirds of the districts indicates that factors contributing to this need are generally found. Among these are language handicap, lack of social adjustment, itinerancy, and perhaps a difference in mentality. Over-ageness of Mexican beginners is quite a problem in California and Texas. Itinerancy and labor conditions are loosely tied up with this factor. The need for special courses of study and special tests fitted to the needs of the Mexicans, recognized in 87 percent of the cases, show this to be an important factor.

Helmke⁹ in his study of fourth, fifth, and sixth grade Spanish-American students finds that for his group of Mexican children a serious language handicap extends undiminished through the first six grades. Helmke bases this assumption on the fact that the Mexican children did consistently better on the Pintner non-language test than on the Illinois General Scale Intelligence Test, the mean

9. Helmke, Willard R. "The Effect of the English Language Handicap on the Intelligence Quotients of Spanish-American Children," (unpublished Master's thesis, University of Colorado, Boulder, Colo., 1937).

differences in intelligence quotients being:

Fourth grade	9.97
Fifth grade	14.16
Sixth grade	11.84

and all of which were in favor of the non-language test.

Now to add the mean differences in intelligence quotients found by Mitchell,¹⁰ we shall have a picture of the first six grades:

First grade	13.13
Second grade	11.77
Third grade	15.99
Fourth grade	9.97
Fifth grade	14.16
Sixth grade	11.84

This seems to indicate that the language handicap is not only serious but, at least through the first six grades, a persistent problem as well.

Pratt¹¹ says that many progressive educators believe that intelligence quotients change with improved conditions accruing from educational, social, and cultural opportunities. It is believed that the lower intelligence quotient

10. Mitchell, A. J. op. cit. p. 3.

11. Pratt, Phillip Shirley. "A Comparison of the School Achievement and Socio-Economic Background of Mexican and White Children in a Delta, Colorado, Elementary School," (unpublished Master's thesis, University of Southern California, Los Angeles, 1938).

of the Mexican has been due in a large measure to a language handicap and has resulted in retardation and over-ageness of the Mexican pupil. This handicap is greatly pronounced at the time he enters school. At that age most Mexicans are having trouble mastering their own language, and the struggle to learn a new tongue at the same time naturally results in failure to keep up with others who have had only one language with which to cope. Due to this handicap the child becomes retarded and over-age for his grade and this retardation continues from year to year, until many Mexicans drop out of school before obtaining sufficient education to make them enlightened citizens of this country.

Holliday¹² finds that Miguel Hidalgo School is unusual in that 95 percent of its students are Mexicans and 90 percent live within ten blocks of the school. During the wet season the school has to declare holidays because less than half the students voluntarily come to school. Other notable facts include the findings that 38 percent of the students are in the first grade and only 2.61 percent of a total of 1557 are in the eighth grade. Holliday finds that 60 percent are retarded more than six months.

12. Holliday, Jay Newton. "A Study of Non-Attendance in Miguel Hidalgo School of Brawley, California," (unpublished Master's thesis, University of Southern California, Los Angeles, 1935).

Hogan¹³ finds that the Mexican children are handicapped in the lower grades on account of the language difficulty but that the Mexican children who are still in school in the seventh grade have nearly caught up in English and in other work so that they progress almost as fast as the American group.

Scott¹⁴ finds very little pertaining to the Mexican. Her chief findings are that the Mexican children make lower scores on intelligence tests than American white children; that children from professional and town groups make better scores on intelligence tests than do children of laboring and rural groups; that Mexican children do better on arithmetic tests in both age and grade comparisons than on reading tests.

Hoffman¹⁵ made up a group of questions to be answered by his subjects concerning the language habits and practices of themselves and all their relatives. From his question-

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13. Hogan, Milo Arthur Van Norman. "A Study of the School Progress of Mexican Children in Imperial County," (unpublished Master's thesis, University of Southern California, Los Angeles, 1935).
14. Scott, Adeliem White. A Comparative Study of Responses of Children of Different Nationalities and Environments on Intelligence and Achievement Tests (Columbia Contributions to Education. New York:1929)
15. Hoffman, Moses N. H. The Measurement of Bilingual Background (Columbia Contributions to Education. New York:1934)

naire he concludes that bilingual background is not associated with chronological age nor with grade status for ages ten to fourteen and grades five to eight. In other words, there is no tendency for older children to have either higher or lower bilingual scores than younger children. According to his findings, there is no sex difference with regard to either size or variability of bilingual scores. The extent of bilingual background is associated with achievement on verbal material, but not with performance on material of the non-language type.

Young¹⁶ believes that the alleged language handicap does not in fact exist in the case of the children of south European descent to the great extent imagined, but that the true difficulty is one of mental capacity, or general intelligence, which makes the Latins unable to compete with the children of north European ancestry in the mastering of the traditional American public school curriculum. He states further that it is denied that language difficulties play no part whatever in the problem of the immigrant child, but it is a minimal matter compared to that of native endowment.

16. Young, Kimbal. Mental Differences in Certain Immigrant Groups (Eugene: University of Oregon Press, 1922)

Barrows¹⁷ says that there is a very decided language handicap for one from a non-English speaking home who takes a test in English even though he may speak English fairly well. He finds that there is no indication that the Spanish children in this section (Tucson, Arizona) of the country are at all inferior to English-speaking children, but that the language handicap will be almost as large a factor in retarding progress in school work as it is in producing low scores on the intelligence test.

Peake¹⁸ finds that it can be said that in all subjects and in all grades the English are superior and the Spanish-speaking inferior with one exception, dictation in SA spelling. He finds the language handicap is very evident and furthermore, it can be said that the handicap is of a particular variety, which is lack of silent reading vocabulary, and suggests that native intelligence is a cause of race difference.

Peake tested both the Mexican and American children with the Stanford Achievement test. The following table shows the contingency coefficient of race influence and achievement of the various items of the test.

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17. Barrows, Ranselaer. "Norms for Detroit First Grade Intelligence Test for Spanish Speaking Children," (unpublished Master's thesis, University of Arizona, Tucson, 1925).
18. Peake, George Joseph. "Relative Achievement of English Speaking and Spanish Speaking Children," (unpublished Master's thesis, University of Arizona, Tucson, 1931).

TABLE XIV
RANKING OF SUBJECT ACCORDING TO RACE INFLUENCE

Rank	Subject	Correlation Interpreted from Contingency
1	Word Meaning	.360
2	Paragraph Meaning	.353
3	History Civics	.346
4	Arithmetic Reasoning	.344
5	Physiology and Hygiene	.330
6	Literature	.309
7	Geography	.300
8	Language Usage	.283
9	Arithmetic Computation	.255
10	Dictation	.181

If the list of subject rankings is viewed as a whole it will be noted that at the top of the list and in the middle of the list are found those subjects which depend upon reading ability or breadth of reading vocabulary; while at the foot of the list are those subjects which are not dependent on a broad knowledge of words used in silent reading. Hence one dominant cause for difference in race achievement stands out: that is the handicap which the Spanish-speaking children suffer in the use of the English language. Until this language handicap is removed or at least properly controlled when tests that

involve the use of language are employed, it is impossible, in the opinion of the investigator, to measure with any degree of accuracy differences in native intelligence between the two races, if it can be said that such differences do exist. Peake attributes the difficulty of the Mexican to the lack of sufficient silent reading vocabulary and states that this is definitely the cause of Mexican inferiority in achievement.

Walters¹⁹ concludes that there is a general language handicap of from six to eight months of mental age on the test for children thirteen years old coming from foreign language speaking homes. This study has no reference to the Mexican in particular but merely in general.

Garretson²⁰ surveyed a small system containing 197 Americans and 117 Mexicans. He tested his subjects with the National Intelligence Test, Scale B, and the Pintner-Cunningham Primary Mental Test and the Meyers Pantomime Group Intelligence Test. Garretson found that the children in grades three, four, and five had higher I Q's on the non-verbal test than on the verbal test; that the Mexican pupil of this system is retarded by most liberal accounting 10.53 months more than his American classmate; that the

19. Walters, Fred C. "Language Handicap and the Stanford Revision of the Binet-Simon Tests," Journal of Educational Psychology, 15:276-284.

20. Garretson, O. K. op. cit. p. 3.

factor of language difficulty operates to the disadvantage of the Mexican in grades one and two but is in this group apparently of less importance in grades three to eight; and that probably the principal factor governing retardation of the Mexican child is his mental ability as measured by the group test.

Haught²¹ tested the children in four schools where ages were from seven to nineteen, distributed in grades from one to twelve. He says that teachers have found that Spanish-Americans do school work that is very much inferior to that done by Anglo-Americans. When the teachers are asked why this condition exists, they usually attribute it to an inability to use and understand the English language. When intelligence tests are administered to both groups, the children of Spanish descent fall considerably below the standards obtained by those of Anglo descent. There is an inclination to assume that this does not mean inferiority, but a language difficulty encountered in taking the tests.

Intelligence quotients of Spanish-speaking children as revealed in this study do not increase with chronological age, but there is a tendency for them to decrease. This conclusion assumes that no selective factor is

21. Haught, B. F. "The Language Difficulty of Spanish-American Children," Journal of Applied Psychology, 15:92-95, 1931.

involved and it is likely that selection would operate to increase rather than decrease the intelligence quotients. According to this study, there is a sudden drop in intelligence quotients at about ten years of age.

Since the older children are handicapped as much as the younger, there seems to be no justification for assigning the difficulty to inability to use or understand English. Until the existence of a language handicap on the part of Spanish-speaking children is demonstrated by properly controlled experiments, it seems safe to avoid using the concept as an explanatory principle in educational problems.

The average Spanish-speaking child has an intelligence quotient of 79 as compared with 100 for the average Anglo child. There are, however, some Spanish children as bright as the very superior Anglo children.

Sanches²² reviewed the problem of group differences and Spanish-speaking children, stating that the inferiority of bilinguals to monoglots shown in the majority of studies have been analyzed in various investigations. These studies indicate that a foreign home language is a serious handicap which involves not only an inability to use with efficiency the school language, but in some instances it has

22. Sanches, George T. "Group Differences and Spanish-Speaking Children: A Critical Review," Journal of Applied Psychology, 16:549-58, 1932.

E.

been suggested also that bilingualism is responsible for a mental confusion which hinders the expression of possible innate ability.

Stated briefly and separated arbitrarily, the three explanations offered to account for group differences are:

1. Innate capacity is differentiated racially, and intelligence tests measure such differentiation.

2. Environment (in its broadest sense) is largely responsible for intelligence as measured by tests. It at least conditions innate ability, and intelligence tests are in part measures of environmental effects.

3. Bilingualism, over and above its environmental attributes, is a handicap acting not only upon language expression and language understanding, but upon the more intricate psychological processes. At the very least it presents an extra obstacle in the learning process of foreign language children. The handicap may still exist and might become even greater because of the progressively greater amount of language required in each succeeding grade or stage.

Garth²³ tested 455 Mexican children in grades four to eight with the Otis Classification and Pintner non-Language tests. He concludes that age for age and grade

23. Garth, Thomas R. and Elson, Thomas H. and Morton, Margaret M. "The Administration of Non-Language Intelligence Tests to Mexicans," Journal of Abnormal and Social Psychology, 31:53-58.

for grade, the Mexican children are inferior to American whites in verbal test results. But in the non-language test results, the Mexicans are practically equal in performance to the American whites. I Q's derived from the non-language tests are on the whole about equal to the American white I Q's though the verbal list I Q is, for the total group of Mexicans 79.5. This last figure has often before been obtained for Mexicans.

This study points to the possibility that verbal tests are unfair to Mexican children if we grant that both tests really test intelligence.

Mexicans are chronologically older than the whites with respect to grade placement, the range of difference being from one to two years.

While the I Q results from the verbal test are such as have been often found for Mexicans in the United States, the results from the non-language test are rather startling. The average I Q on the non-verbal test was 100.8. Such results suggest that the Mexican children in the United States are handicapped when they are tested with a verbal intelligence test. Age is a significant factor influencing the non-language performance.

In another study by Garth,²⁴ 683 Mexican children, of

24. Garth, Thomas R. and Johnson, Harper D. "The Intelligence and Achievement of Mexican Children in the United States," Journal of Abnormal and Social Psychology, 29:222-9.

whom 440 were from El Paso Public Schools and 243 from rural New Mexico, were given the Otis Classification Test. The white norms were taken from the Otis manual. These data show the Mexican children to be more like the white Americans at the early ages, but less like them as they grow older in both achievement and intelligence as measured. The chronological age for a grade is high and the educational retardation is high, being 68.8 percent.

The mental and educational ages for a grade are below the American white norms, but the educational age is slightly above the mental age for a grade. The Otis and Terman group I Q's are for the total group respectively 83.02 and 79.6. The median E Q is higher than the median I Q.

In their study of intelligence tests of foreign children, Pintner and Keller²⁵ conclude that children who hear a foreign language at home test lower as a rule when given the revision of the Binet tests than when given tests which require a minimum knowledge of English. When classified according to mental age, those children who hear a foreign language in their homes may suffer a

25. Pintner, Rudolph and Keller, Ruther, "Intelligence Tests of Foreign Children," Journal of Educational Psychology, 13:1214-222.

serious handicap when tested only by the revision of the Binet test.

Manuel²⁶ states that it is probable that the low I Q and low school achievement are in part at least the result of common causes.

Davenport²⁷ says that low social status, lack of normal opportunity to learn, language handicaps and cultural differences are among the factors which make interpretation of test scores difficult.

In a study by Garth²⁸ 1004 Mexican children in the several grades were tested with the National Intelligence Test and compared with the norms established for white children and with those found for the Mexican children. This study of Mexicans with the National Intelligence Test indicates that the median National Intelligence Test I Q for a large group taken at random is 78.1 with considerable variability. The National Intelligence Test I Q increases with school grade but not in regular steps. The median score for each school grade increases with the

26. Manuel, H. T. "The Educational Problem Presented by the Spanish-Speaking Child of the Southwest," School and Society, 40:692-5.

27. Davenport, E. Lee. "The Intelligence Quotients of Mexican and Non-Mexican Siblings," School and Society, 36:304-6.

28. Garth, Thomas R. "The Intelligence of Mexican School Children," School and Society, 27:791-4.

grade and the mental age equivalent of the same indicates that these Mexican children are on the average 1.1 years mentally younger than the white for the corresponding school grade.

The retardation of the Mexican children is very high, 80.5 percent on the average, being higher in the lower grades than in the upper grades, the boys being on the average more retarded than the girls.

William H. Sheldon states²⁹ that the average Mexican child was found to be fourteen months below the normal mental development for white children of the same age and school environment. Expressed in percentage, the Mexicans as a group possessed about 85 percent of the intelligence of a similar group of white children (or 89. as compared with 104.8). As chronological age increases, these results show that the proportionate difference in mental age between Mexican and white children becomes greater.

Manuel and Wright state³⁰ that children from foreign language homes have in the beginning a serious language handicap which is generally recognized. It is obvious that a child who knows none of a language upon entering

29. Sheldon, William H. "The Intelligence of Mexican Children," School and Society, 19:139-142.

30. Manuel, H. T. and Wright, Carrie E. "The Language Difficulty of Mexican Children," Pedagogical Seminary and Journal of Genetic Psychology, 36:458-466.

school presents a very different problem from that presented by a child who already understands and uses the language orally. In mastering the tools of education, he has to learn both the oral and the written language of the school. This is the first handicap--that of having more to learn. In addition to this he has for a considerable time much less ability to respond to the language of the school as an instrument of instruction.

Pintner³¹ says that any language handicap that is influencing the intelligence test scores will also be present in the child's school achievement.

The results of a study by Mitchell³² indicate that bilingual children work under a serious handicap, especially in their earlier years, in American schools. The mean difference in the intelligence quotients obtained as a result of testing in the child's native language and testing in English was 9.28 in favor of the Spanish translation--a finding which indicates that there is a difficulty worthy of consideration. Again, the mean of the differences between the intelligence quotients secured from the Spanish and the English testings for all grades was found to be 13.22 points with a range of 44 points. At the very least this difference indicates an

31. Pintner, Rudolph. "The Influence of Language Background on Intelligence Tests," Journal of Social Psychology, 3:235-240.

32. Mitchell, A. J. op. cit., p. 3.

extra obstacle in the learning process for a foreign language-speaking child.

It is apparent that in the education of Spanish-speaking children there is a combination of practically all the factors which impair the value of test results.

Herriman³³ finds that the language handicap varies in importance, depending on inherent mental capacity. She found that with some individuals language handicap is overcome rapidly because of superior inherent mentality, but with some others it continues to be a handicap because their inherent mental ability is inferior.

33. Herriman, Grace Wheeler. "An Investigation Concerning the Effect of the Language Handicap on Mental Development and Educational Progress," (unpublished Master's thesis, University of Southern California, Los Angeles, 1932).

Summary

Hanson finds the median I Q of Mexican children to be 79.3. He finds that mental maturity rather than knowledge of English is the primary factor in first grade success.

Schneider finds the American group much superior and that the unsegregated Mexican is superior to the segregated one. The average retardation Schneider found to be two years.

Swalestuen finds Mexican and Anglo American ninth grade algebra students quite comparable.

Drake finds that approximately the same degree of correlation exists between the intelligence and achievement taken as a group for Mexican children as exists for white children. He assumes a racial difference in mentality. The language handicap is of but small importance when the child has completed the sixth grade. The Mexican problem is not due to speaking a foreign language but to lower mentality.

Treff contributes the findings that Mexican retardation in any school ranges from 50 to 86 percent. Retardation in high school is the same as for elementary school. The first grade contributes the greatest number to the total retardation, but the rate is greater in grades three, four, five, and six. The degree of retardation exceeds two years in only 15 percent of cases.

Merryweather finds a higher correlation between intelligence and achievement for the American group than for the Mexican group, but states that the Mexican group gains in grades three to five. The Mexican group is from two to three years older in the majority of cases than is the white child. The Mexican child is not characterized by any particular status in intelligence or school achievement.

Delmet found the mean of the mental and scholastic abilities of Mexicans to be lower than for whites. He reports 86 percent are over-age for their grade.

Leis reports that the language handicap has practically disappeared by the time the child reaches the sixth grade, that 79 percent in California and 87½ percent in Texas are over-age upon entering school.

Helmke finds the language handicap a persistent problem that remains equally bad through the sixth grade.

Pratt blames the non-ability to speak English at the beginning of school for the over-ageness and attributed it to language handicap.

Holliday finds 60 percent of Mexican children retarded more than six months.

Hogan finds that the language handicap does not affect progress after grade six.

Scott finds the mean intelligence of Mexicans lower than that of Anglo Americans and that Mexicans do better in arithmetic than in reading.

Hoffman finds that there is no tendency for older children to have either higher or lower bilingual scores than younger children; and that the bilingual score is associated with achievement on verbal but not on non-verbal material.

Young finds the true difficulty with Latins to be inferior mental capacity, and that language handicap is minimal to native endowment in being the source of trouble.

Barrows finds that the Spanish are not inferior to the English but that language handicap is as large a factor in retarding progress as it is in producing low scores on intelligence tests.

Peake says the Spanish are inferior in every subject except SA spelling and that the language handicap is due to lack of silent reading vocabulary.

Garretson finds that Mexicans do better on non-language tests than on language tests, and that the retardation is 10.53 months. He reports the language handicap is minimal after the second grade.

Haught attributes the Mexican difficulty to low I Q.

Sanches suggests the language handicap has been the cause of mental confusion which gives rise to the low I Q, and that the language handicap might become greater because of the progressively greater amount of language required for each succeeding grade.

Garth finds that the Mexicans are from one to two years over-age for their grades. He also finds that the Mexican child makes 79.5 on a verbal test and 100.8 on a non-verbal test.

Garth and Johnson report that the median Educational Quotient is higher than the median Intelligence Quotient; that retardation is high and that the Mexican child is more like the white child at the early ages, but less like him as they grow older in both achievement and intelligence as measured.

Mitchell finds the language handicap to be worthy of consideration in grades one, two, and three, but points out that in testing the Spanish-speaking children they found practically all the factors which impair test results.

Pintner points out that a language handicap that is influencing the intelligence test scores will also be present in the child's school achievement.

Garth in this study finds the I Q to be 78.1 and the retardation to be very high, 80.5 percent, with the larger percent in the lower grades.

Sheldon finds the Mexican child to possess on the average 85 percent of the intelligence of the white child.

CHAPTER IV

CONCLUSIONS

The problem of this study is to determine the concurrence of findings of experimental research on the language handicap and to find the effect of the language handicap on the intelligence quotient and achievement.

As for the concurrence of findings of the majority of the research, it is pointed out that the Mexican child is inferior in mental capacity, his average I Q being in the neighborhood of 80. It will be noted that some investigators agree that the language handicap is in some degree responsible for this score while others attribute the score to a racial inferiority.

The Mexican child was found to be over-age for his grade on the average of one to two years in the majority of studies. This over-ageness was attributed to the language handicap and to mental inferiority in about an equal number of studies.

The investigators agreed that more research upon the problem of language handicap would be necessary before definite conclusions could be drawn concerning it.

The various writers brought out many interesting facts and made many interesting statements, each, of course, in their own realm of thought; but there is

practically no agreement between the various studies except in the three characteristics mentioned.

That the language handicap affects the intelligence quotients is presented through the difference in scores between the verbal and non-verbal tests, but the investigators seemed to indicate a distinct disagreement upon the validity of the tests. They agreed, however, that many factors which might be as vital as the language handicap were not controlled and therefore would serve to invalidate any oral results.

No evidence was presented which would allow any measurement or show any degree as to the effect of the language handicap on the intelligence quotient.

That the language handicap affects achievement is presented in the fact that Mexicans are generally retarded, but again it is impossible to say to what extent, because the investigators do not agree that the language handicap is totally responsible but figure that other factors may be vitally involved.

In view of the wide diversity of material this study finds only that

1. Mexican children when measured by Intelligence tests now available have lower I Q's than Anglo American children. //

2. Mexican children are considerably retarded in age grade status.

3. The language handicap is recognized as a problem. 111

4. The language handicap affects intelligence quotients and achievement, but that none of the studies reviewed have given definite evidence of its quantitative determination.

5. It is probable that a definite conclusion as to the quantitative effect of the language handicap upon the intelligence quotient and achievement must await a different attack and the use of some measure which does not rest upon the assumption of a common background of development for the two races concerned.

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