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Educational Achievement of Seventh & Eighth Grade Pupils in Warren County Kentucky

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Matthews,

Edward Howard

1948

EDUCATIONAL ACHIEVEMENT OF SEVENTH AND EIGHTH GRADE PUPILS IN WARREN COUNTY KENTUCKY

6040

BY

EDWARD HOWARD MATTHEWS

A THESIS

SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

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Approved:-

Major Professor _____

Department of Education _____

Graduate Committee _____

67905

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CHAPTER I

INTRODUCTION

1. Purpose of the study.

The purpose of this study is to make a comparison of the achievement in reading and arithmetic of seventh and eighth grade pupils in the one, two, and three-room schools and in the consolidated schools of Warren County, Kentucky.

2. Scope.

This study included 244 seventh grade pupils and 237 eighth grade pupils enrolled in fourteen one, two, and three-room schools and nine consolidated schools of Warren County, Kentucky. Table I on page 6 shows the names and types of schools studied and the number of pupils tested at each school.

3. Procedure.

The Stanford Achievement Test, Form D, was administered to the pupils during December, 1947, and the first week in January, 1948. Tests were given personally by the writer in strict accordance with the instructions furnished with the tests. In most cases pupils were tested in their own classrooms, but in some instances it was possible to collect pupils from one or more nearby schools at a convenient center. The tests were given at sixteen different places over the period of one month. About one hour and forty-five minutes was required to administer the tests and it was customary to allow a five to ten-minute rest period between the arithmetic test, which was given first, and the reading test.

The papers were scored by the writer and checked by the writer and his wife.

The closest cooperation was given by the county superintendent of

schools (who furnished the tests), and the principals and teachers of all the schools used in this study.

4. The Tests.

The subjects of reading and arithmetic were selected for study because of their importance as tool subjects, their uniform presence in the curricula of all elementary and junior high schools and the existence of highly reliable instruments for measurement of achievement in these subject matter fields.

The Stanford Achievement Test is an instrument of proven value. It is economical of time and capable of being administered with a small amount of training. The reading and arithmetic tests of Form D were used.

5. Summary of Related Studies.

Several similar or related studies were discovered and most of these were secured and read:

Everett,[1] in making a study of the Mayslick Consolidated School in 1919 used standardized tests to measure the efficiency of service rendered by teachers. It might be pointed out in connection with this study that standardized tests were in their infancy at this time and were slowly and with difficulty replacing the "periodical written examination which, as a method of school supervision was as poor and wasteful a plan as could be devised. School men are beginning to recognize its futility and its place is being taken by the standard test which has been used with sufficiently large numbers of pupils to provide norms of a reasonable degree of accuracy."[2]

Everett concluded: Standard tests reveal the fact that the school compared favorably with other consolidated schools in composition and spelling,

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1 George Edmond Everett, A Survey of the Mayslick Consolidated School, Masters' thesis, George Peabody College for Teachers, Nashville, Tennessee, 1919.

2 Everett, George E., op. cit., p. 112.

but it makes a poor record in arithmetic. However, some grades are far below standard in all three subjects. These tests show that the pupils are widely different in standing in these three subjects.

Coers,[3] in Corpus Christi, Texas, investigated the relative achievement of two groups of 97 white and 97 Mexican children in grades six, seven, and eight equated as nearly as possible on the basis of mental age. He found that:

1. The Mexican groups in all three grades achieved in greater ratio to mental ability than the white groups on all parts of the achievement test except language usage.

2. The relative achievement of the Mexican groups was greatest on the arithmetic computation test, followed closely by the relative achievement on the spelling test.

3. The Mexican groups in all three grades showed higher and more consistent correlation coefficients than the white groups between ability to score on the intelligence test and ability to score on the achievement test.

4. The sixth grade Mexican group showed most consistent and definite relationships on all parts of the achievement test.

5. On the whole, the inferior pupils according to their tested mental ability of both white and Mexican groups in each grade were working more up to their capacity than were the superior pupils.

6. There was no appreciable difference in efficiency of individual achievement between the white and Mexican groups.

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[3] Walter C. Coers, Comparative Achievement of White and Mexican Junior High School Pupils. Masters' thesis, George Peabody College for Teachers, Nashville, Tennessee, 1933.

In 1940 Lester[4] compared the educational achievement of groups of students from six elementary schools in Ponca City and one group from outside the community over a three-year period. He secured intelligence test scores and scholastic marks from the office of the Junior High School. Groups were numbered to prevent identification with a particular school. These data showed:

1. Elementary groups in the Ponca City system do not show sufficient differences in scholastic achievement over the three-year period (of the study) to conclude that any appreciable differences exist. However, over yearly periods certain significant differences are conclusive. Group 4 ranks consistently higher than all other groups during 1936-37. Group 5 ranks consistently higher than all other groups during 1938-39. Group 7 ranks lowest during 1936-37 and 1937-38, while group 3 holds the lowest rank for 1938-39.

2. Elementary school groups in the Ponca City System rank higher in grade point averages than the elementary school groups from other towns.

3. All elementary school groups rank higher in scholastic achievement in special subjects than in academic subjects.

In a study somewhat similar to this one Stephens[5] concluded that:

1. The one-teacher school is the least efficient in educational achievement.

2. The two-teacher school is achieving more than the one-teacher school.

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[4] Ralph Lester, A Comparison of Scholastic Achievements of Elementary School Groups in Ponca City Junior High School. Masters' thesis, Oklahoma A and M College, Stillwater, Oklahoma, 1940.

[5] Paul Bramlette Stephens, Educational Achievement of Eighth Grade Students of Bedford County, Tennessee. Masters' thesis, George Peabody College for Teachers, Nashville, Tennessee, 1936.

3. The three-or-more teacher school stands highest in achievement.

4. The one-teacher schools are found to be below the three-or-more teacher schools in eight subjects of the eleven measured, by reliable median differences.

5. Reading appears to be the most poorly taught subject in schools of all types.

6. There are no mathematically reliable differences between the mental ability of the pupils of the one, two and three-or-more teacher schools; however, there is a high trend toward mental superiority among the pupils of the three-or-more teacher schools.

7. The most satisfactory achievement of the city systems seems to be associated with the junior high school organization.

8. The achievement quotient of the various types of schools shows that pupils of one-teacher schools and city school number three are doing work below their ability; those of the two-teacher schools and city school number two are doing the work that is expected of them; those in the three-or-more teacher schools and city school number one are doing work above their ability.

9. The achievement of the three-or-more teacher schools and the city schools ranges above the state median.

10. The achievement of the one-teacher and the two-teacher schools ranges below the state median.

CHAPTER III

THE SCHOOLS STUDIED

The Stanford Achievement Tests in reading and arithmetic were administered to four one-room, eight two-room, one three-room, and nine consolidated schools having four or more teachers.

In Table IA is a list of the consolidated schools, and the number of teachers in each. In Table IB are found the schools with fewer than four teachers.

In order to avoid possible embarrassment to any individual or group because of the results of the tests, identification of the consolidated schools is made by an arbitrarily assigned number. The consolidated schools are numbered from one to nine inclusive; the one, two, and three-room schools are designated as Group 10, and the total of all pupils is called Group 11.

TABLE IA
CONSOLIDATED SCHOOLS - Four or More Teachers

Name of School	Number of Teachers
Alvaton	7
Bristow	12
Delafield	5
Hadley	4
North Warren	13
Oakland	4
Richardsville	15
Richpond	6
Woodburn	5

TABLE IB
ONE, TWO, AND THREE-ROOM SCHOOLS

Name of School	Number of Teachers	Number of Pupils Tested
Barren River	2	9
Bays Fork	1	6
Boyce	2	6
Browning	2	12
Ford Springs	1	3
Green Hill	2	9
Greenwood	3	19
Martinsville	1	3
Mount Victor	2	10
Quarry Union	2	5
Rocky Springs	2	9
Stevens Chapel	1	5
Three Forks	2	2

CHAPTER III

THE TESTS USED

Any effort to compare the effectiveness of schools with regard to their educational program presupposes an instrument of measurement which will determine with a reasonable degree of accuracy the qualities which are being compared. In this instance the ability to read understandingly, to recognize the meanings of words, to think through arithmetic problems, and to manipulate numbers in a variety of situations were the characteristics which it seemed desirable to compare.

The measuring should be done with a test of proven reliability so that it might normally be expected that a retest of the same group would produce substantially the same results. Further advantage in a study of this type is to be gained by use of a test whose norms are worked out with large representative samples of the population. This standardization procedure permits comparison of all groups with the standardizing group—a very valuable addition to an analysis of a local school system.

Finally, since an evaluation which is based to any great extent upon the opinion of the investigator may be questioned on the grounds of bias, incomplete or inaccurate judgement, and over-emphasis upon trivial and inconsequential details, the test must be objective.

There are many good achievement tests which would satisfy these requirements. The Stanford Achievement Tests were selected as having these qualities, as having the additional virtues of being quickly and easily administered, and as having been in use in the Western Kentucky State College Training School for many years.

The two achievement tests were given on the same day to each group

excepting the Bristow group which was given the reading tests on one day, followed two days later by the arithmetic tests. An eighty-minute working period was required. Instructions and preparations lengthened the testing period to approximately one hundred five minutes.

In order to avoid tiring the students, a five to ten-minute rest period was permitted between the arithmetic section of the battery and the reading section.

It was considered highly desirable to accompany the achievement test with a mental test to determine the degree of equality of ability in the groups tested. This was, however, not suitable to the authorities of the county school system for purely administrative reasons. There is little reason to suppose that varying mental ability among the groups will affect strongly the results of the study although in small groups such variance is likely to occur to a greater degree than in larger groups.

CHAPTER IV

ANALYSIS OF TEST RESULTS

This chapter will present the results of testing the seventh and eighth grade pupils of Warren County by giving the Stanford Achievement Tests for reading and arithmetic.

Table II shows the distribution of equated scores in reading and arithmetic for grades seven and eight of Group 1. The range of eighteen pupils tested in grade seven reading was twenty-five points with a median of forty-nine, and in arithmetic the range was twenty-one points with a median of forty-nine and five tenths. Group 1 contained ten pupils in grade eight reading whose range of scores was thirty-one points with a median of fifty-four and five tenths and nine pupils in arithmetic whose range was twenty-three points with a median of fifty-four.

The equated scores in reading and arithmetic for grades seven and eight of Group 2 may be seen in Table III. The range of scores earned by eleven seventh grade pupils in reading was twenty-three points with a median of fifty-six, and in arithmetic the range was seventeen points with a median of fifty-three. Group 2 had twelve eighth grade pupils whose scores in reading varied nineteen points and whose median was fifty-five and five tenths. In arithmetic the range was twenty-seven points and the median was fifty-eight and five tenths.

It may be learned from Table IV concerning Group 3 that the range of scores of seventeen in seventh grade reading was nineteen points with a median of fifty-four and in seventh grade arithmetic there is a variation of nineteen points with a median of fifty-five. Eleven pupils in grade eight varied twenty-nine points in reading and seventeen points in arithmetic with medians of sixty-three and sixty-one, respectively, in the two subjects.

TABLE II

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 1

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	2		1	
46-47	3	6		1
48-49	5	3	3	1
50-51		2		1
52-53	4	2		
54-55		2	2	2
56-57		1		1
58-59	2		1	2
60-61		1		
62-63			1	
64-65	1		1	
66-67		1		
68-69	1			1
70-71				
72-73				
74-75			1	
76-77				
78-79				
80-81				
82-83				
84-85				
Total	18	18	10	9
Median	49	49.5	54.5	54

TABLE III

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 2

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	1			
46-47		1	1	
48-49	1		1	1
50-51	2	2	1	
52-53	1	3	1	2
54-55		2	2	1
56-57	2		3	2
58-59		1		
60-61		1		2
62-63		1	1	1
64-65	3		2	
66-67	1			2
68-69				
70-71				
72-73				
74-75				1
76-77				
78-79				
80-81				
82-83				
84-85				
Total Median	11 56	11 53	12 55.5	12 58.5

TABLE IV

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 3

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45				
46-47		1	1	
48-49				
50-51	3	3	1	1
52-53	5	3		2
54-55	3	2	3	1
56-57		2		
58-59	2	3		1
60-61	1	1		2
62-63		1	2	1
64-65	1	1	1	2
66-67			1	1
68-69	2			
70-71				
72-73			1	
74-75			1	
76-77				
78-79				
80-81				
82-83				
84-85				
Total Median	17 54	17 55	11 63	11 61

Five seventh grade pupils of Group 4 varied twenty-nine points in reading with a median of sixty-five as may be discovered from a study of Table V. These same pupils also varied seventeen points in arithmetic with a median of fifty-six. Fourteen eighth grade pupils earned scores which varied twenty-seven points in reading and twenty-five points in arithmetic, the median in the first being sixty-five and in the latter being sixty-one and five tenths.

It may be found by studying Table VI that forty-six seventh grade pupils in Group 5 earned scores which varied thirty-three points in reading with a median of fifty-two and seventeen points in arithmetic with a median of fifty-two. Forty-eight eighth grade pupils varied forty-one points in reading with a median of fifty-six and five tenths and twenty-five points in arithmetic with a median of fifty-four and five tenths.

Table VII is a distribution of scores of Group 6. Twenty seventh grade pupils ranged twenty-one points in reading with a median of fifty-three and five tenths while nineteen of the same pupils earned scores in arithmetic which ranged seventeen points from lowest to highest with a median score of fifty-six. Seventeen eighth grade pupils ranged twenty-seven points in reading with a median of fifty-seven and twenty-five points in arithmetic with a median of sixty-three.

In Table VIII may be discovered the equated scores of Group 7. Thirty-two in grade seven reading varied twenty-three points from lowest to highest with a median of fifty-two and in arithmetic fifteen points with a median of fifty-six. Thirty pupils in grade eight reading ranged twenty-one points with a median of fifty-five, and twenty-nine of the same pupils varied twenty-one points with a median of fifty-seven.

Table IX for Group 8 shows the variation of thirty-four seventh grade pupils in reading to be thirty-seven points and in arithmetic to be twenty-one

TABLE V

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 4

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	1			
46-47		1		
48-49				
50-51		1		3
52-53			1	1
54-55			1	
56-57		2		1
58-59	1		1	1
60-61			2	1
62-63		1	1	2
64-65	1		1	1
66-67			3	2
68-69	2			1
70-71			2	
72-73			1	
74-75				1
76-77				
78-79			1	
80-81				
82-83				
84-85				
Total Median	5 65	5 56	14 65	14 61.5

TABLE VI

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 5

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43	3			
44-45	1		2	
46-47	5	2	2	4
48-49	4	10	5	6
50-51	11	11	7	1
52-53	8	7	4	8
54-55	2	6	2	6
56-57	2	1	3	3
58-59	2	3	4	6
60-61	1	4	4	2
62-63	3	2	5	2
64-65			2	5
66-67			2	1
68-69	2		2	3
70-71			1	1
72-73				
74-75	2		1	
76-77				
78-79				
80-81				
82-83			1	
84-85			1	
Total Median	46 52	46 52	48 56.5	48 54.5

TABLE VII

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 6

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45				
46-47	3		1	
48-49	2	2		
50-51	2	3	1	1
52-53	3	1	1	
54-55	1	3	3	1
56-57	5	2	3	1
58-59	2	3	1	2
60-61		3	2	2
62-63	1	1	1	2
64-65		1	1	3
66-67	1		1	3
68-69				1
70-71			1	
72-73			1	
74-75				1
76-77				
78-79				
80-81				
82-83				
84-85				
Total Median	20 53.5	19 56	17 57	17 63

TABLE VIII

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 7

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	2			
46-47	1	1	1	
48-49	4	2	2	
50-51	8	1	4	2
52-53	5	4	4	6
54-55	2	7	5	1
56-57	3	8	2	6
58-59	3	5	3	4
60-61	1	4	5	1
62-63	1		1	3
64-65			2	4
66-67	2		1	1
68-69				
70-71				1
72-73				
74-75				
76-77				
78-79				
80-81				
82-83				
84-85				
Total Median	32 52	32 56	30 55	29 57

TABLE IX

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 8

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	1			
46-47	1		1	
48-49	2	3	2	1
50-51	1	3	1	3
52-53	5	2	1	5
54-55	8	7	6	2
56-57	3	5	4	4
58-59	2	4	1	2
60-61	2	3	2	2
62-63	2	1		1
64-65	1	3	2	
66-67			1	2
68-69	1	3		
70-71	2		3	2
72-73	1			
74-75	1		1	1
76-77				
78-79				
80-81	1			
82-83				
84-85				
Total Median	34 55	34 56.5	25 56	25 56

points with median scores of fifty-five and fifty-six and five tenths, respectively. Grade eight pupils show a difference from highest to lowest of thirty-nine points in reading and thirty-seven points in arithmetic with a median of fifty-six in each subject.

By consulting Table X one may learn that ten seventh grade pupils in Group 9 varied twenty-nine points in reading with a median of fifty-six and five tenths and fifteen points in arithmetic with a median of fifty-seven. Thirteen Group 9 eighth grade pupils earned scores in reading which varied thirty-one points from lowest to highest and in arithmetic twenty-three points with median scores of fifty-six and fifty-seven, respectively.

The one, two, and three-room schools were all grouped together in one distribution for comparison purposes because there were several of the schools each generally with a small number of pupils. This group was designated as Group 10 and is represented on Table XI. The fifty-one seventh grade pupils tested in reading ranged twenty-seven points with a median of fifty-one and in arithmetic ranged seventeen points with a median of fifty-two. Fifty-seven eighth grade pupils in reading ranged thirty-one points with a median of fifty-five, while the same group varied thirty-five points in arithmetic and had a median score of fifty-seven.

In order to compare each school with the county as a whole, all the scores were tabulated together in Group 11 shown on Table XII. The two hundred forty-four seventh grade pupils tested in reading varied thirty-nine points and had a median score of fifty-three. Two hundred and forty-three seventh grade pupils tested in arithmetic ranged twenty-nine points with a median of fifty-four. In grade eight two hundred thirty-seven were given the test in reading and varied forty-one points with a median of fifty-six. The arithmetic test was taken by two hundred thirty-five eighth grade pupils

TABLE X

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 9

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43				
44-45	1			
46-47		1		
48-49	1			
50-51	2		2	1
52-53	1	1	3	
54-55		2	1	3
56-57		1	2	3
58-59		2	1	3
60-61	2	3	2	
62-63	2			1
64-65				
66-67				1
68-69				
70-71				
72-73	1		1	1
74-75				
76-77				
78-79				
80-81			1	
82-83				
84-85				
Total Median	10 56.5	10 57	13 56	13 57

TABLE XI

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 10

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43	3			
44-45	2			
46-47	8	3	4	1
48-49	6	4	8	1
50-51	7	11	5	6
52-53	7	10	6	9
54-55	4	10	6	7
56-57	1	5	4	8
58-59	2	5	4	8
60-61	2	2	6	2
62-63	1	1	5	7
64-65	1		1	1
66-67	2		2	4
68-69	5		2	
70-71			1	1
72-73				
74-75			2	
76-77			1	1
78-79				
80-81				1
82-83				
84-85				
Total	51	51	57	57
Median	51	52	55	57

TABLE XII

EQUATED SCORES IN READING AND ARITHMETIC MADE ON STANFORD ACHIEVEMENT TEST BY GRADES SEVEN AND EIGHT OF GROUP 11

Score	Reading 7	Arithmetic 7	Reading 8	Arithmetic 8
42-43	6			
44-45	11		3	
46-47	21	16	11	6
48-49	25	24	21	10
50-51	36	37	22	19
52-53	39	33	21	33
54-55	20	41	31	24
56-57	16	27	21	29
58-59	16	26	16	29
60-61	9	22	23	14
62-63	10	8	17	20
64-65	8	5	13	16
66-67	6	1	11	17
68-69	13	3	4	6
70-71	2		8	5
72-73	2		4	1
74-75	3		6	4
76-77			1	1
78-79			1	
80-81	1		1	1
82-83			1	
84-85			1	
Total	244	243	237	235
Median	53	54	56	57

whose median score was fifty-seven.

Table XIII lists the medians of each group for grade seven along with the probable error of the median and the number of pupils tested. Group 4 has the highest median for reading with sixty-five, followed by Group 9 which has a median of fifty-six and five tenths and Group 2 whose median score is fifty-six. It should be pointed out that the highest score is statistically unreliable because of the very high probable error. The low score is that of Group 1 (forty-nine) followed by Group 10 which has a median of fifty-one.

In arithmetic Group 9 scores highest with a median of fifty-seven followed by Group 8 which scores fifty-six and five tenths. Three other schools, Groups 4, 6, and 7, have each a median of fifty-six. The lowest median again is recorded for Group 1, forty-nine and five tenths, and Groups 10 and 5 have each fifty-two, the next lowest median.

Data for grade eight are summarized in Table XIV. Here it may be seen that Group 4 again leads in reading with a median score of sixty-five, while Group 3 is second with a median of sixty-three. In this case the probable error for Group 4 indicates that the score is entirely reliable. The lowest median, fifty-four and five tenths, is found to apply to Group 1, and Group 10 is tied with Group 7 for second lowest median.

The arithmetic data for grade eight place Group 6 as highest with a median of sixty-three, Group 4 second with sixty-one and five tenths, followed closely by Group 3 with a median of sixty-one. The lowest median (fifty-four) is that of Group 1. Group 5 has second lowest with fifty-four and five tenths.

A general overview of Tables XIII and XIV seems to indicate: (1) that Group 4 is highest in two of the four scores, second in one score, and ties

TABLE XIII
MEDIAN EQUATED SCORE FOR GRADE SEVEN OF EACH GROUP IN READING AND ARITHMETIC WITH THE PROBABLE ERROR OF THE MEDIAN

GROUP	READING			ARITHMETIC		
	Median	Probable Error	Number Tested	Median	Probable Error	Number Tested
1	49	1.29	18	49.5	1.10	18
2	56	1.81	11	53	1.10	11
3	54	1.16	17	55	1.00	17
4	65	3.20	5	56	1.99	5
5	52	.94	46	52	.54	46
6	53.5	.99	20	56	.88	19
7	52	.82	32	56	.52	32
8	55	1.21	34	56.5	.81	34
9	56.5	2.17	10	57	1.09	10
10	51	.91	51	52	.43	51
11	53	.41	244	54	.25	243

TABLE XIV
MEDIAN EQUATED SCORE FOR GRADE EIGHT OF EACH GROUP IN READING AND ARITHMETIC WITH THE PROBABLE ERROR OF THE MEDIAN

GROUP	READING			ARITHMETIC		
	Median	Probable Error	Number Tested	Median	Probable Error	Number Tested
1	54.5	2.37	10	54	1.36	9
2	55.5	1.35	12	58.5	1.74	12
3	63	2.30	11	61	1.46	11
4	65	1.60	14	61.5	1.66	14
5	56.5	1.10	48	54.5	.81	48
6	57	1.39	17	63	1.15	17
7	55	.83	30	57	.81	29
8	56	1.25	25	56	1.17	25
9	56	2.10	13	57	1.29	13
10	55	.79	57	57	.74	57
11	56	.43	237	57	.37	235

with two other groups for third place in the fourth score; (2) that Group 9 is highest on one of the four scores, second on another, and falls to a lower place on the other two scores; (3) that Group 6 is highest on one score, third on another, ties for third place with two other groups on one score, and drops to a lower place on the fourth; (4) that the lowest median in each case was recorded for Group 1; (5) that Group 10 was second lowest on one score and tied with one other group in each of two other scores for second place.

The groups ranking highest are shown in Table XV and those ranking lowest in Table XVI.

TABLE XV

RANKING OF HIGHEST GROUP MEDIANS IN SEVENTH AND EIGHTH GRADE READING AND ARITHMETIC.

Ranking	Seventh		Eighth	
	Reading	Arithmetic	Reading	Arithmetic
1st	Group 4	Group 9	Group 4	Group 6
2nd	Group 9	Group 8	Group 3	Group 4
3rd	Group 2	Groups 4,6,7	Group 6	Group 3

TABLE XVI

RANKING OF LOWEST GROUP MEDIANS IN SEVENTH AND EIGHTH GRADE READING AND ARITHMETIC

Ranking	Seventh		Eighth	
	Reading	Arithmetic	Reading	Arithmetic
11th	Group 1	Group 1	Group 1	Group 1
10th	Group 10	Groups 5,10	Groups 7,10	Group 5
9th	Groups 5,7	Group 2	Group 2	Group 8

The norm for the Stanford Achievement Test is an equated score of fifty-eight at grade seven and sixty-four at grade eight.

A comparison of the norm with the medians secured in this study for grade seven reading shows only Group 4 above the norm, Groups 9 and 2 approaching it within one and one-half and two points, respectively. The low median of Group 1 falls nine points below the norm and corresponds to a grade equivalent of five and six tenths.

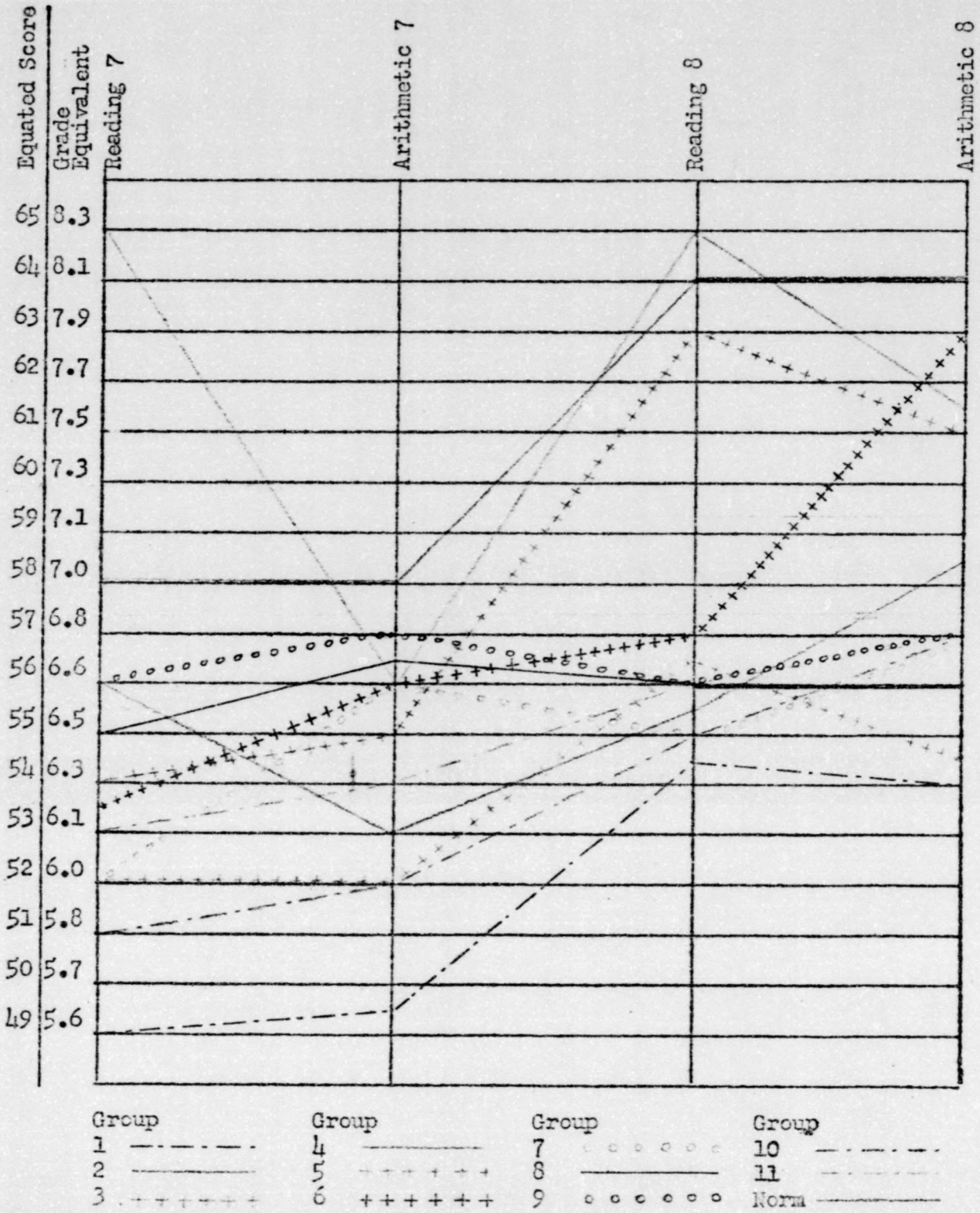
The table of medians for grade seven arithmetic reveals the highest median—that earned by Group 9—to be one point below the norm while the lowest lacks eight and five tenths points coming up to the test norm.

Group 4 rises one point above and Group 3 is one point less than the norm in eighth grade reading. The low median, Group 1, is nine and one-half points less than the norm and corresponds to a grade equivalent of six and four tenths.

A comparison of the medians of scores in grade eight arithmetic with the test norm shows that the highest median, sixty-three, is one point below the norm. The low median is that of Group 1, fifty-four, ten points lower than the median and is equivalent to a grade level of six and three tenths.

Figure I is a graph showing in a more visual manner the comparison of the medians of each group and of the norms for the test. Groups numbered 1 through 9 represent the nine consolidated schools, Group 10 stands for the one, two, and three-room schools taken together, and Group 11 represents all the students tested in Warren County.

FIGURE I.-
GRAPH OF MEDIANS OF EACH GROUP AND TEST NORMS



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study is to compare the achievement of seventh and eighth grade pupils in the one, two, and three-room schools and in the consolidated schools of Warren County, Kentucky.

The Stanford Achievement Tests in Arithmetic and Reading were given to a total of two hundred forty-four pupils in grade seven and two hundred thirty-seven pupils in grade eight enrolled in nine consolidated schools and fourteen schools of one, two, and three teachers each.

Data were summarized in Tables II to XII and medians were recapitulated in Tables XIII and XIV. Comparisons between the medians were made and rankings of highest and lowest scores were tabulated. These rankings are shown in Tables XV and XVI. Figure I shows graphically the relationship among the various groups as well as their relationships to the county average and to the test norm.

The following conclusions are based upon the data presented in Chapter IV:

1. Group 4 is superior to all other groups, having the highest median in two subjects and second highest in one subject.

2. Group 9 is first in one subject and second in another.

3. Group 6 is highest in one subject and third in another.

4. Group 1 has the lowest median in each subject.

5. Group 10, which contains pupils from the one, two, and three-room schools, is second lowest in three subjects.

In view of these findings the following recommendations are submitted for the Warren County school system:

1. A comprehensive achievement testing program should be instituted through the ninth grade in order that the adequacy of instruction may be evaluated. The achievement tests should be administered at the beginning of the school year and repeated near the close of the year for greatest effectiveness.

2. Achievement tests should be supplemented by an intelligence test since achievement is relative to mental capacity.

3. A full time supervisor should be employed to direct the testing program and, by giving helpful suggestions and constructive criticisms of their teaching, to assist the teachers in the schools not served by a supervising principal.

4. The movement of seventh and eighth grade pupils into the larger schools should be continued and extended. This recommendation is made in view of the fact that the position of the group of pupils from one, two, and three-room schools is next to the lowest group of the ten studied.

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THE STATUS OF INDUSTRIAL ARTS IN MISSISSIPPI

BY

FRANCIS NEWTON MATTHEWS

A THESIS

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MASTER OF ARTS

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