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A COMPARISON OF THE ACHIEVEMENTS OF TRANSFER AND NON-TRANSFER PUPILS

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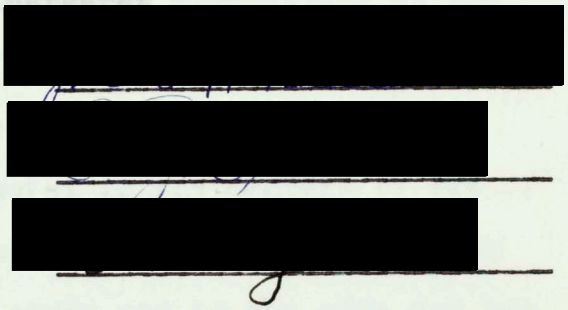
BY



DEDICATION

To

My wife and our daughter,

Mary Margaret

ACKNOWLEDGEMENTS

The author wishes to express his thanks to Dr. John Frederick Bender, Professor of School Administration, for his helpful suggestions on the methods of procedure, for his constructive criticism, and for the use of literature from his office.

He is also grateful to the members of the Maud High School faculty for their help in scoring the tests used in this study and to his wife for her help and suggestions.

Dan H. Davis

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CHAPTER I

INTRODUCTION

From its modest beginning, not so many years ago, the transfer and transportation of pupils from non-high school to high school districts has increased so greatly in Oklahoma that there is scarcely a child in the state who does not have a high school available. With better roads, better busses and aid from the state, both for transfer fees and for transportation, transfer students have been, and still are, pouring into the high schools of the state from one, two, three and four room rural schools. Coupled with the availability of the school has been the natural increase in high school enrollment due to the economic condition of the country, where students come to high school because there are no positions open for them in the economic scheme of things.

For the past seventeen years the author has been connected with schools which had transfer pupils coming in from the rural districts surrounding the school. The last seven years has been spent in a school where from one-fourth to one-half of the high school students are transfer students.

During the time mentioned above the author, the teaching principal of the high school, has had rather close

contact with the transfer pupils, as well as the non-transfer pupils. This contact has been through having the pupils in classes, supervision of teachers who had transfer pupils in their classes, conferences with teachers regarding the grades, preparation, etc. of transfer pupils and taking care of the office records involving the transfer pupils. Many times, and from many sources, the question has arisen as to the comparison of the transfer and non-transfer students with regard to preparation, achievement and general success in school.

With this question in mind it was decided to carry out a comparison between the two groups based on as many factors as could be obtained. The comparisons used will be taken up later in the chapter.

The one hundred fifty-one transfer and one hundred seventy-eight non-transfer students of the Maud High School were used as the basis for this study. This school is located at Maud, Oklahoma and is a joint district, located in the western part of Seminole and the eastern part of Pottawatomie County. The transfer students come from ten rural districts surrounding Maud. One of these districts, a five teacher school, furnished almost one-half of the students used in the study. Two of the schools furnishing students have three teachers, four have two teachers and three have one teacher. The occupations of the parents of the transfer students is about equally divided between all phases of oil

field work and farming.

In this study an attempt will be made to answer the following questions:

(1) How do transfer and non-transfer pupils compare in mental and chronological age?

(2) How do the transfer and non-transfer pupils compare in subject matter achievement?

(3) How do transfer and non-transfer pupils compare in retardation, and over-promotion?

(4) How do transfer and non-transfer pupils compare in attendance, quitting school, and graduation from high school?

(5) How do transfer and non-transfer pupils compare in such things as participation in extra-curricular activities, voluntary reading, citizenship, initiative and resourcefulness.

Definition of the Problem

The problem involved in this study is to attempt to determine the relative achievements, chronological and mental age, intelligence quotient, attendance, voluntary reading, citizenship, initiative and resourcefulness and extra-curricular activities of both the transfer and non-transfer students and to compare the two groups.

Limitation of the Problem

This study is limited by the following facts:

(1) The study was made for one year only.

(2) The students studied consisted of only one hundred fifty-one transfer and one hundred seventy-eight non-transfer students.

(3) The study was made in one school only.

Justification

This study is justifiable in that it will furnish some data either to justify the many-district system practiced in Oklahoma or furnish facts that can be used as argument for greater centralization and elimination of the district system. It is also justifiable in that it will furnish information to the administration and faculty members of the Maud High School regarding the achievements of the pupils of the school. With the achievements of all the pupils measured by standardized tests, a better knowledge of the pupils can be obtained and a better program of educational guidance set up. Any deficiency in the school program can be found by the study and remedial units set up to help remedy the situation. The mental capacity of the pupils can be understood by the teachers so that they will know something of the work they can expect from the students.

If the transfer pupils are found to be behind the non-transfer students in preparation for high school the study is justifiable as an argument for the consolidation of the rural schools around Maud.

Sources of Data

Some of the data, such as age, attendance, extra-

curricular activities, those quitting school, citizenship and those graduating were all ready in existance on the enrollment cards and permanent records of the school. The voluntary reading data were partially on record in the school and partially had to be created by conference with the pupil. The ratings on initiative and resourcefulness had to be created and were obtained through the composite judgment of the high school faculty and secretary.

The rest of the primary data were obtained by the administrating of a group of standardized tests. The tests given to the entire high school were as follows:

(1) Otis Group Intelligence Scale, Form A.

(2) The New Stone Reasoning Test in Arithmetic.

(3) Spelling Words from the Buckingham Extension of the Ayres Spelling Scale.

(4) Thorndike-McCall Reading Scale.

(5) English Composition, graded by the Nassau County Supplement of the Hillegas Composition Scale.

(6) Thorndike Test of Word Knowledge.

(7) Handwriting, scored by the Thorndike Handwriting Scale.

The tests given to the classes taking the subject tested in only were as follows:

(1) The Columbia Research Bureau Algebra Test.

(2) Campbell's Oklahoma History Test, Form 4.

(3) The Columbia Research Bureau American History Test.

(4) The Ruch-Popenoe General Science Test.

(5) The Ruch-Cossmann Biology Test.

(6) A Composite Mathematics test made by the two teachers of the subject.

Accuracy of the Data

All the data taken from existing school records were carefully checked. At the beginning of school all enrollment cards were carefully filled out and ages and other information used were double-checked with the student and existing similar records.

In the testing, only standardized tests recommended by the advisor were used, with the exception of the composite mathematics test. The majority of the tests given were given by the author and only after a careful study of the test and all instructions that accompanied the test. In all tests, in which there was a time limit, a stop-watch was used for the timing. All tests were kept locked in the school vault until they were ready to be administered and all tests were given without any previous warning. All the tests were graded carefully, either by the author, his wife, or members of the high school faculty and were scored according to the scoring directions that accompanied the test.

Every precaution possible was taken to see that nothing but actual facts were used in this study. All sta-

tistical data were compiled on adding and calculating machines and carefully checked for accuracy.

CHAPTER II

WHAT OTHER STUDIES REVEAL ON THE ACHIEVEMENT AND INTELLIGENCE OF RURAL AND URBAN PUPILS

In the past few decades there has been a great number of scientific investigations made in the field of education and many noteworthy contributations to the advancement of education have been made. Some of the important investigations have been in the field of rural education, the achievements of rural and urban children, and other problems of a like nature.

In this study of transfer and non-transfer students it is essentially a study of rural and urban children. The transfer students come from the rural schools surrounding Maud and the non-transfer students are, for the most part, from the elementary schools of the city of Maud or from the elementary schools of some other city. For that reason the literature pertaining to the farm and non-farm students was used in this study, as well as the available literature on previous studies made in which the two distinct groups compared were transfer and non-transfer students.

In previous studies made concerning rural and urban

children and transfer and non-transfer children there has been an attempt to find out the relative abilities, achievement and preparation of the two types of students. In the studies made on rural schools the general trend of the studies have been to show the shortcomings of the school and how, if possible, these shortcomings can be helped. The major portion of the studies reveal that the rural schools are lagging far behind the city and town schools and that the best method of providing the equal opportunity for education that is the heirtage of every American boy and girl, is for the annexation and consolidation of the rural schools with the more-progressive town and city schools.

Rural Schools

As early as July, 1895 the recommendation for consolidation and annexation of the rural schools was made. At a meeting of the National Council of Education held at Denver, Colorado in 1895 a committee of twelve leading educators of the time were appointed to make a study of, and recommendations for, the improvement of the rural schools of the country. One of the most important recommendations made by this Committee of Twelve on Rural Schools[1] was that consolidation of the rural schools should take place and that transportation of pupils should be provided to make the consolidation possible. The arguments for consolidation made by the committee

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[1] Report of the Committee of Twelve on Rural Schools, p. 136.

were as follows:

1. It permits better grading of the schools and classification of the pupils.
2. It affords an opportunity for thorough work in special branches.
3. It opens the doors for more weeks of schooling and to schools of a higher grade.
4. It insures the employment and retention of better teachers.
5. It makes the work of the specialist and supervisor more effective.
6. It adds the stimulating influences of larger classes.
7. It affords broader companionship and culture that come from association.
8. It results in better attendance of pupils.
9. It leads to better building, better equipment, a larger supply of books, charts, maps and apparatus.
10. And, again, it quickens interest in the schools.

It is shown from this quotation of the report that even as far back as forty-four years ago the fight for larger units in the school system was going on and that some of the most modern arguments for consolidation and transportation were used.

That the work of the rural schools is unsatisfactory is shown by Foght.[2] He lists eight reasons why he considers the rural schools of America as unsatisfactory. They are:

1. Poor unit organization and indifferent adminis-

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[2]Harold Waldstein Foght, The American Rural School, pp. 70 and 303.

tration.

2. Insufficent school support.

3. Insufficent supervision.

4. Indifferent professional preparation of teacher.

5. Low salary.

6. Unsatisfactory tenure of office.

7. Short terms and irregular attendance.

8. Low educational ideals and lack of appreciation of the importance of the teachers' work.

The underlying theme of Foght's book is that, "ultimate solution must be sought through consolidation." That the children of rural districts are not getting a fair chance in education is shown by another quotation from Foght. He says:

> The system of free schools stands intact; but conditions have so changed with time that it no longer subserves its original purpose. In order to reestablish this educational equality it becomes necessary to give the twelve million boys and girls living in rural communities just as thorough preparation in school for their life's work as we are now offering city children.

Another author who points out the inequalities of the education of rural and urban children is Cubberley.[3] In referring to the typical rural school he says:

> Such schools lack interest, and impulses of action and usually have poor attendance and a short term. For such schools the financial support is usually small and moral support weak. The frequent changes in teachers; the inadequate supervision;

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[3]Ellwood P. Cubberley, Rural Life and Education, p. 166.

> the lack of proper direction; and the poor and too often run down school building make the school almost wholly lacking in the elements which are necessary to make it an important factor in the lives of country children.

Koos[4] also thinks that education is not reaching the farm children as it should and that the more agricultural a community is the greater discrepency in educational opportunity. He states:

> Farm children are not reached by the secondary schools to the extent that urban children are reached. Certain states have succeded in reaching farm children to as great an extent as city children, but the states that are primarily agricultural are far from reaching this aim. Apparently the more purely agricultural a state is the greater the discrepency in the spread of secondary education to the farm and non-farm children.

People are always more interested in the things that are happening in their own state and community and when reading of the inefficiency of rural school over the nation or in some particular state far removed from their own are prone to think that the situation exists there, but never at home. A state wide survey of public education in Oklahoma which was made in 1923 brings out the fact that rural education in Oklahoma is just as badly neglected here as it is elsewhere. This survey[5] found that in rural schools the attendance was poor, the buildings were poorly erected and poorly lighted.

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[4]Leonard V. Koos, The American Secondary School, p. 271.

[5]Public Education in Oklahoma. Department of Interior Bulletin, 1923, No. 14. pp. 54-63.

The teachers lack both preparation and experience and the quality of instruction was poor. They also found that there was much need for supervision, the organization of the schools were faulty and in general, rural education in Oklahoma was neglected. They recommended in the survey greater centralization and higher valuations for the rural schools.

Thus it can be seen that in all the studies on the problem of rural schools the authorities agree that the rural schools are inefficient, especially when compared with the city schools. This is not so much the fault of any one thing in particular but of the system as a whole. If any one particular but of the system as a whole. If any one particular fault could be blamed for the whole thing it would be the matter of the finances of the rural school.

Foght[6] found that in 1910 sixty-seven and three-tenths of the children of the United States enrolled in schools were in rural schools; that the annual amount for schools the city spent fifty-four and four-tenths of the amount; that in the amount invested for schools the city spent sixty-seven and six-tenths and the per capita cost for the rural child was $12.52 while the per capita cost in the city schools was $30.78. In other words almost three times as much was spent on the education of city children as was being spent on rural children. Yet we pride ourselves on our democracy and say a free and equal

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[6]Harold Waldstein Foght, op. cit., p. 105.

education for all.

Intelligence Tests

One of the most used methods of comparing rural and urban children has been the use of intelligence tests and several studies have been made on the subject.

There has been, and will probably always be, a question as to how much the knowledge a child has influences his score on the intelligence test. On the majority of the tests used, especially in the upper grades of school, a child must be able to read understandingly to comprehend what is desired in answering the question. If his achievement in reading and comprehension is low, his I. Q. will also show lower than it should be. On some test there are thought problems in arithmetic to work. If the child's knowledge of arithmetic is poor he is likely to show a poor score on that part of the test.

Almack[7] has the following to say on the subject:

> The states with the better schools rank the highest in intelligence. It is the opinion of one authority that formal schooling contributes 56 per cent to intelligence scores, every-day life 11 per cent and inborn capacity 33 per cent.

Thus it can be seen that at least half of an intelligence score depends on the formal schooling of the person tested. This being the case a low or a high intelligence quotient depends to a great extent on the achievement of the child making the score. In a majority of the studies made where a com-

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[7]John C. Almack, The School Board Member, p. 253.

parison of the intelligence of the rural and urban children was made it was found that the urban children, on the whole, had a higher I. Q. than the rural children.

Hinds[8] found in his comparison of the brightness of country and city high school children that the median score of the Otis Indices of Brightness was 100.5 for 164 cases of city high school children; 98.0 for 290 cases of affiliated town schools; 84.4 for 59 cases in the small town school and in 68 cases in the rural school, 77.0. In his conclusion he says:

> These tests represent as nearly average group of students as was possible to obtain. This being the case, the conclusion seems to be justified that the country child is lower in general mentality, as measured by the group mental tests, than the city child.

From this study it can be seen that the Indices of Brightness of the rural child is twenty-three and five-tenths below that of the city child.

Findings similar to these were made by Koos.[9] He found that in a survey made by the State Department of Education in Connecticut in which three hundred-eleven farm children and two hundred thirty-two non-farm children were tested, the median I. Q. for the farm group was 99 and for the non-farm group 103.

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[8]James H. Hinds, A Comparison of the Brightness of Country and City High-School Children. Journal of Educational Research, February 1922, pp. 122-123.

[9]Leonard V. Koos, op. cit., p. 277.

Grigsby[10] in his comparison of the transfer and non-transfer pupils of the Spiro, Oklahoma schools made the following conclusion regarding the intelligence scores made in his school:

> The non-transfer pupils have a higher native capacity than the transfer pupils. Eleven and one-tenth per cent of the transfer pupils were below normal in mental ability compared with two and five-tenths per cent of the non-transfer pupils.

Oakes[11] in a similar study of the schools of Paden, Oklahoma states, "The intelligence quotients of non-transfer pupils are higher than those of transfer pupils."

In a comparative study of the children of the elementary grades of the city of Newkirk, Oklahoma with the same grades of selected rural schools of Kay County, Strozier[12] arrived at the following conclusion regarding the intelligence of the two groups:

> The average intelligence quotients, mental ages, and letter ratings of the children of the city schools in the fifth grade are markedly higher than those of the rural school children of the same grade. The average intelligence quotient, mental ages, and letter ratings of city school children in the sixth grade are much higher than those of the rural school children of the same grade. The average intelligence quotients, mental ages, and letter ratings of the city school children of the seventh grade are much higher than those of rural school children of the same grade.

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[10] Lloyd W. Grigsby, A Comparison of the Transfer and Non-Transfer Children in the High School of Spiro, Oklahoma, pp. 94-95.

[11] Cecil Everett Oakes, The Relative Achievements of Transfer and Non-Transfer Pupils, p. 100.

[12] Clifford Andrew Strozier, A Comparative Study of City School Children and Rural School Children, pp. 108-109.

> The average intelligence quotients, mental ages and letter ratings of the city school children of the eighth grade are much higher than those of the rural children in the same grade. . . . In general, the native abilities of the city school children in the elementary grades are higher than those of rural school children of the same grades.

In a survey of the Wanette, Oklahoma schools in 1937 Gibbs[13] found that the pupils who lived in the town of Wanette scored higher on intelligence tests than those who lived in the country surrounding the town and attended the Wanette school. He states,

> The average intelligence quotient of the pupils of Wanette is 103 compared with 95 for the pupils of the rural schools.

Comparative Achievements

A number of studies, some of them fairly recent, have been made on the comparative achievements of rural and urban children and their equivalent, transfer and non-transfer children. A very comprehensive study of this kind was made by Frost[14] in 1921. In this study he made a comparison of the achievement, measured by standard tests, of the children of the six months and nine months schools of Madison County, Kentucky with the children of the same grades in some of the representative cities. These cities included Louisville, Kentucky, Paterson, New Jersey, St. Paul, Minnesota, Arkansas

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[13]Lester Allen Gibbs, Comparative Achievements of Pupils in Schools of Different Types, p. 184.

[14]Norman Frost, A Comparative Study of Achievement in Country and Town Schools, p. 39.

City and Salina, Kansas, Hibbing, Minnesota and Amsterdam, New York.

In the achievement in addition as measured by the Courtis Arithmetic Test, Frost gives the following table:

TABLE 1. YEARLY GAINS FOR SPECIFIED AGES IN ABILITY IN ADDITION

School Systems	Yearly Gains		
	10 to 11	11 to 12	12 to 13
Hibbing	1.44	2.41	2.22
Louisville	1.85	1.11	.73
Salina	1.08	1.10	1.19
Arkansas City	.70	1.00	1.23
Louisana	.96	1.12	.33
Madison County, 9 months school	.18	1.02	.54
Madison County, 6 months school	.23	.13	.71

In addition to the Courtis Arithmetic test Frost used the Trabue Language Scales and the Thorndike Test of Silent Reading. On all the tests he found the six months rural schools at the bottom of the list and the nine months rural school, in general, falling below the city schools studied. In regard to sentence completion his conclusion is:

> The children of the Madison County 9-month schools show reasonable improvement during the three-year period from 10 to 13 inclusive, but the ability of the 13-year-old children to complete sentences is less than the like ability of 13-year-old children in any of the systems studied except the six months school of the same county.[15]

[15]Norman Frost, op. cit., pp. 31-32.

In comparing the results on the Courtis Arithmetic Tests Frost arrived at the conclusion that, "The results in the 6-month schools of Madison County, Kentucky, are uniformly poorer than any of the other systems studied."[16]

The conclusion reached in reading ability is:

> The results in the Madison County 6-month schools are much poorer than any other system studied. The results in the Madison County 9-month schools compare more favorably with the other school systems studied.[17]

As the final conclusion of the whole study he says, "The Madison County 6-month schools compare unfavorably with all the other schools studied. The Madison County 9-month schools compare more favorably."[18]

A similar study was made in 1929 by Van Wagenen[19] who made a comparison of the achievements of the pupils of the 8-month rural schools, the 9-month rural schools, the very small village schools, the small village schools, the small city schools and the larger city schools of the state of Minnesota. Since the 9-month rural schools compare with the transfer children and the small city school compare with the non-transfer children, only these two groups were considered in this study.

In reading comprehension[20] he found that the seventh grade city boys were three points better and the girls two

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[16]Norman Frost, op. cit., pp. 54-55.

[17]Ibid., p. 60. [18]Ibid., p. 67.

[19]M. J. Van Wagenen, Comparative Achievement in Rural, Town and City Schools.

[20]Ibid., p. 15.

points better than the students in the 9-month rural schools. In the eight grade the boys were two points and the girls four points better in the urban group than in the rural group.

In reading interpretation[21] the urban boys were two points better than the rural boys and the urban girls were the same as the rural girls in the seventh grade. In the eighth grade the urban boys were a half point better than the rural boys and the urban girls were one and one-half points better.

On the American History tests[22] the rural boys were two points and the rural girls three points better in the seventh grade than the urban seventh graders. In the eighth grade the urban boys were one and three-fourth points better than the rural boys and the two groups of girls were exactly even.

In geography information[23] the urban boys were one and one-fourth and the girls two points better than the rural children in the seventh grade. In the eight grade the rural children had the advantage as the boys were one-half point better and the girls three and one-fourth points better.

In geography thought[24] the seventh grade urban boys were two and three-fourth points better and the girls were

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[21] M. J. Van Wagenen, op. cit., p. 21.

[22] Ibid., p. 28.

[23] Ibid., p. 41.

[24] Ibid., p. 47.

the same. In the eighth grade the urban boys were one and three-fourth and the girls one point better than the rural eight grade boys and girls.

In the fundemental operations in arithmetic[25] the urban boys and girls of both grades surpassed the rural children. In the seventh grade the advantage was four for the boys and three for the girls. In the eighth grade it was two for the boys and two and one-half for the girls.

In the solving of arithmetic problems[26] both groups were equal in the seventh grade but in the eighth grade the urban boys had an advantage of one point and the urban girls one and one-half points.

On the spelling test[27] the urban pupils in both grades were higher than the rural pupils. In the seventh grade the boys had a two point advantage and the girls one-half of a point advantage. In the eighth grade the boys were better by one point and the girls by one and one-half points.

Thus it can be seen from the results of the tests given by Van Wagenen that in the majority of the cases that he tested the urban children had not achieved as much as the rural children. Only in a few scattered cases did the rural children have the advantage over the city children.

Strozier[28] in his study in 1931 of the comparison of

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[25]M. J. Van Wagenen, op. cit., p. 54.

[26]Ibid., p. 60. [27]Ibid., p. 66.

[28]Clifford Andrew Strozier, op. cit., pp. 109-110.

the achievements of the rural schools of his county with the same grades in the city school system which he was connected made the following conclusion regarding the achievement and average educational age of the pupils studied:

> The composite achievements in all the elementary subjects and the average educational ages of the city school children in the fifth grade are greater than those of the rural school children in the same grade. The composite achievements and the average educational ages of the city school children of the seventh grade are greater than those of the rural school children of the same grade. The total composite achievements and the total average educational ages of all the school children in the fifth, sixth, seventh, and eighth grades of the city are greater than all the rural school children of the same grades. In general, the city school children have achieved more in elementary school subjects than have the rural school children of the same grades. (Mr. Strozier omitted the sixth grade from his conclusions.)

It can readily be seen from his conclusions that the rural school children of all grades were behind those of the city school system. Yet these are the very same type of pupils that the urban schools of the state accept into the first year of high school on the assumption that, because they have finished the elementary work, they are ready for high school on the same basis as the elementary graduates of their own school.

An interesting study was made by Covert[29] who ran a testing program for the one-room rural schools and the larger consolidated and city elementary schools. Covered by the

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[29]Timon Covert, Educational Achievement of One-Teacher and Larger Rural Schools, Bulletin U. S. Department of Interior, No. 15, 1928.

tests were 13,088 rural school children from several states and 12,040 children from the larger schools of the same states. The subjects included in the tests were the three conventional subjects of reading, arithmetic and spelling. When a comparison was made of the two groups it was found that, in every subject, the grades and scores of the pupils from the larger schools by far exceeded those made by the small rural schools.

Another bulletin of the Department of Interior on the same subject is the Utah Survey of Education.[30] In this survey a comparison of the rural school children was made with the children of the Salt Lake City schools. Some of the findings are as follows:

> The Thorndike-McCall Reading Scale results showed that the high school pupils in the rural schools were below the norm, and that the pupils of the same classification in Salt Lake City showed above the norm.
>
> The percentage of pupils of low order of learning ability found in the rural schools are unusually high.
>
> In the rural schools, grades 7, 8, and 9 are progressively retarded educationally, while the same grades in Salt Lake City are educationally accelerated.

Gibbs,[31] in his survey of the Wanette schools in which achievement tests were given to all pupils arrives at

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[30] United States Department of Interior, Bulletin No. 18, 1926, pp. 117-210.

[31] Lester Allen Gibbs, op. cit., p. 191.

the following conclusions regarding rural elementary pupils and the transfer and non-transfer pupils in the Wanette system:

> The pupils of the elementary grades of the Wanette school outranked the pupils of the rural elementary schools in each grade on every test.
>
> The non-transferred pupils of the Wanette High School achieve better than the transferred pupils of the Wanette High School.
>
> The greatest difference in the achievements of the non-transferred and transferred pupils appears in the ninth grade, becoming smaller in the tenth, and being very slight in the eleventh and twelfth.
>
> It is noted throughout that the transferred pupils make greater comparative progress than do the non-transferred pupils.

Thus it can be seen from Mr. Gibb's findings that it is not because the pupil lives in the country that he is retarded but because he attends a rural school in the country.

In his study of the achievements of the transfer and non-transfer pupils of the Spiro school Grigsby[32] made the following conclusion:

> The result of a battery of ten tests given under identical conditions show that the non-transfer pupils rank higher in achievement on every test than the transfer pupils. The following shows the average amount of achievement of the non-transfer pupils over the transfer pupils in each subject tested: T-scores in reading, 3.4 points; reading quotient 10 points; composition one point; principles of grammar, 1.5 points; sentence structure, 1 point; spelling of easy words, 7.3 points; spelling of hard words, 15.2 points; word knowledge, 8.6 points; quality of handwriting, .9 of a point; rate of handwriting 14.8 points; arithmetic, .6 of a point; algebra, 1.1 points; general science, 5.3 points;

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[32]Lloyd W. Grigsby, op. cit., p. 95.

and American History, 9.6 points.

> The final conclusion is that the rural school is less efficient than the town and city school.

In a similar study made the same year, 1937, Oakes[33] made practically the same conclusions as did Grigsby. He found that the non-transfer pupils excelled the transfer pupils in English composition, reading, spelling, word knowledge, algebra, general science and American History. The transfer pupils did better in quality and rate of handwriting and the arithmetic scores were about the same. He makes the following conclusion:

> The transfer pupils, in various tests included in this study, show an inferiority in the ability to achieve in school subjects.

Another study of the comparison of transfer and non-transfer students was made in 1937 by Garrett[34] who compared the transfer and non-transfer pupils of the schools of Hammon, Oklahoma. In this study he took sixty-five of the ninety-one transfer pupils and paired them with the same number of non-transfer students in his school and compared the test scores of the two groups. His findings were different from any previous study in that he found that if there was any difference at all, it was in favor of the transfer pupils.

Some of his conclusions are as follows:

> There is a slight superiority in the native

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[33]Cecil Everett Oakes, op. cit., pp. 100-101.

[34]Charles Walter Garrett, Comparative Achievements of Transferred and Non-Transferred Pupils in High School, pp. 90-91.

ability of the transferred high school pupils over that of the non-transferred high school pupils.

The transferred high school pupils achieved only a small fraction less than the non-transfers.

There is more progressive improvement in achievement in the majority of subjects throughout every year of high school in transferred pupils than is shown by the non-transfer group.

The slight inferiority in intelligence of the non-transferred group is probably influenced by the low socio-economic status of a great number of the non-transferred pupils who are members of W. P. A. families.

One of the most recent studies on the subject of the achievement of transfer and non-transfer pupils is the survey made by Brown[35] of the schools of Earlsboro, Oklahoma, for the year 1938-39. In this study he included a comparison of the transfer and non-transfer high school students attending his school. He found that:

The transfer children of the school have an I. Q. three points higher than the non-transfer children but in practically all the achievement tests given, the non-transfer students were considerably ahead of the transfer students.

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[35]Alton Earl Brown, Improving Schools of Earlsboro, Oklahoma, p. 134.

Summary

1. As early as 1895 the inefficiency of rural schools was recognized and arguments for consolidation and annexation were put forth by the Committee of Twelve of the National Council of Education.

2. Foght states that the children of rural districts are not getting a fair chance in education and that the ultimate solution must be sought through consolidation.

3. Cubberley also stresses the inequality of educational opportunity of the children of the rural schools.

4. That education is not reaching the farm children as it should and that the more agricultural a community is, the more discrepency there is in education is the opinion of Koos.

5. The educational survey for the state of Oklahoma published by the Department of Education shows that the rural schools of Oklahoma are just as badly neglected in Oklahoma as elsewhere, and more so than in some of the states.

6. That nearly three times as much money is spent on the education of the urban school child as is spent on the education of the rural child is another of Foght's findings.

7. Almack says that 56 per cent of the score made on the average intelligence test is contributed by the formal schooling of the person being tested.

8. Hinds finds that the brightness of school children drops as the size of the school that they are attending de-

creases in size.

9. Koos found in Connecticut that on testing farm and non-farm children the median of the non-farm children was higher than that of the farm children.

10. Grigsby found that the transfer children in his school had lower mental capacities than the non-transfer children.

11. In a comparison of the two groups in the Paden, Oklahoma schools, Oakes found that the intelligence quotient of the non-transfer pupils was higher than that of the transfer pupils.

12. Strozier found the average intelligence quotients and mental ages of the children of the elementary schools of Kay County to be lower than those of the city schools of Newkirk, Oklahoma.

13. In the survey of the Wanette schools Gibbs found the intelligence quotients of the pupils of rural schools to be eight points lower than those in the Wanette schools.

14. Frost in his comparative study of rural school children and city school children found that the city school children achieved the most in all subjects tested.

15. Van Wagenen in a comparison of children of schools of all sizes found that the children of the rural schools, as a whole, did not achieve as much as the children of larger schools.

16. In his study Strozier found that the achievement

of the rural school elementary children was far below that of the city school elementary children.

17. Covert, who included over twenty-five thousand children in his study of achievement in reading, arithmetic and spelling, found that the children in the larger schools did better work in every subject than did the children of the one-teacher rural schools.

18. In the Utah survey the pupils in the rural schools around Salt Lake City were far behind the pupils in Salt Lake City.

19. Gibbs found the transfer pupils inferior in achievement to the non-transfer pupils but found that the difference grew smaller as the pupils advanced in high school.

20. In his study on the subject of transfer and non-transfer pupils Grigsby stated that the non-transfer pupils were superior in every test given.

21. Oakes in a similar study made practically the same conclusions.

22. In a study of sixty-five transfer and sixty-five non-transfer students Garrett found a slight superiority in achievement on the part of the non-transfer students.

23. Brown found the transfer pupils better in intelligence, but surpassed in achievement by the non-transfer pupils.

CHAPTER III

A COMPARISON OF THE CAPACITY AND ACHIEVEMENT OF TRANSFER AND NON-TRANSFER PUPILS

Everything that goes on in the school should be for the promotion of the achievement of the pupils and for pupil guidance in the conditions in life that the pupil will have to face. For this reason an emphasis should be placed on achievement. Before such an emphasis can be placed, the school must know the capacity and the ability of each pupil and the progress that is being made in each subject. In order to determine the capacity, ability and progress of each pupil we have, in the form of standardized tests, mental and educational measures that can be used with better than a fair degree of accuracy.

In a study of this kind in which a comparison is being made between two distinct groups, transferred and non-transferred pupils, it is necessary that standardized tests be given to all the pupils in each group. Tests of this kind were given to all the pupils, both transfer and non-transfer, in the Maud High School. This included grades nine to twelve inclusive. The main purpose of giving the tests was to see

how the scores made by the transfer pupils compared with the scores made by the non-transfer pupils and how much achievement each group had made in the subjects for which the tests were given.

Another purpose for administering these tests was to see how one group compared with the other in chronological age, mental age, and intelligence quotient. The third purpose was to determine, as nearly as possible, any weakness that the pupils might have, either mental or in subject matter. With the knowledge of these weaknesses the teachers of these pupils will be able to lay better plans for their program of work and have a better understanding of the pupils they have in their charge.

This chapter includes data that show the results of the tests given to the transfer and non-transfer pupils and also data taken from the records on file in the high school office. For each group, where ever possible, there is a separate table and a summary table showing the results of these tests and of the original data on file.

Age and Grade Distribution of the Pupils

The making of an age-grade table is one of the most effective ways of calling attention to the exact condition of the acceleration and retardation of the pupils in the school and will give the superintendent and principal something definite to go by in working toward a remedy for the situation.

The age-grade distribution tables of the transfer and non-transfer pupils were made according to Strayer and Engelhardt,[1] and the results for the 151 transfer pupils are shown in Table 2. The range in the chronological ages is from twelve years and six months to twenty-three years. The widest extreme in ages is in the ninth grade where the range is from twelve years and six months to twenty-one years. The class with the largest percentage of pupils of normal age is the junior class with forty percent of the pupils being of normal age. The sophomore class has the smallest percentage of pupils of normal age with twenty-eight percent of the members of the class being classified as normal. The senior class has the greatest percentage of pupils that are under age with thirty-eight percent being thus classified. Fifteen of the freshmen should be in the sophomore class, thirteen should be in the junior class, six should be in the senior class and three should be high school graduates. In the sophomore class five of the members should be juniors, four should be seniors and four should be post graduates. Nine of the juniors should be seniors and four of them should be post graduates. Eight of the seniors should have all ready graduated, one of the eight being old enough to be a college graduate. As a group the transfer pupils were thirty-five percent normal, forty-seven percent over age

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[1] Strayer-Engelhardt Forms 129 and 136. Published by C. F. Williams and Son, Inc., Albany, New York.

TABLE 2. CHRONOLOGICAL AGE-GRADE DISTRIBUTION OF TRANSFER PUPILS OF GRADES 9 TO 12 INCLUSIVE OF MAUD, OKLAHOMA

Years of Age	Freshmen	Sophomore	Junior	Senior	Total
	Ages as of Sept. 1, 1938				
12½	1				1
13	3				3
13½	3				3
14	8	1			9
14½	18	4			22
15	10	3			13
15½	5	4	5	1	15
16	9	3	3	1	16
16½	4	2	9	8	23
17	2	3	3	6	14
17½	4	1	6	2	13
18	1		2	3	6
18½		4	2	3	9
19	1			1	2
19½					
20					
20½					
21	1				1
Over 21				1	1
Total	70	25	30	26	151
Number under age	7	5	5	10	27
Number normal	26	7	12	8	53
Number over age	37	13	13	8	71
% Under age	10	20	17	38	18
% Normal	37	28	40	31	35
% Over age	53	52	43	31	47

and eighteen percent under age.

Table 3 shows the chronological age-grade distribution of the 178 non-transfer pupils used in the study. The range in the ages is from twelve years and six months to twenty-two years. The widest extreme in ages is in the sophomore class where the range is from thirteen years and six months to twenty-two years. The class with the largest percentage of pupils of normal age is the junior class with forty-three percent normal. This is the same class that had the largest percentage of normal age among transfer pupils. The freshman class with only twenty-two percent of the pupils being of normal age. The sophomore class has the greatest percentage of pupils who are under age with twenty-five percent of the class being under age. Seventeen of the freshmen should be sophomores, six should be juniors, two should be seniors and four should be high school graduates. Nine of the sophomores should be juniors, seven should be seniors and three should be post graduates. Eight of the juniors should be seniors and ten of them should be graduates. Nineteen of the seniors are over age. As a group the non-transfer pupils were thirty-three percent normal, forty-seven percent were over age and twenty percent were under age.

Distribution of Pupils According to Their Mental Age

In order that the school may know the quality of work to expect from the students under its supervision it is necessary for the teachers to know the mental age and mental

TABLE 3. CHRONOLOGICAL AGE-GRADE DISTRIBUTION OF NON-TRANSFER PUPILS OF GRADES 9 TO 12 INCLUSIVE OF MAUD, OKLAHOMA

Years of Age	Ages as of Sept. 1, 1938				
	Freshmen	Sophomore	Junior	Senior	Total
12½	1				1
13	4				4
13½	5	1			6
14	5	2			7
14½	6	8			14
15	5	5	2		12
15½	12	10	5		27
16	3	5	15	1	24
16½	3	4	4	6	17
17	1	6	5	5	17
17½	1	1	3	8	13
18	2		4	6	12
18½	1		3	5	9
19		1	1	2	4
19½	1	1	1	5	8
20					
20½					
21			1		1
Over 21		1		1	2
Total	50	45	44	39	178
Number under age	10	11	7	7	35
Number normal	11	15	19	13	58
Number over age	29	19	18	19	85
% Under age	20	25	16	18	20
% Normal	22	33	43	33	33
% Over age	58	42	41	49	47

capacity of each of the students. With a knowledge of this they may know just what to expect of the pupils and to know if a pupil's failure is due to lack of mental capacity or some other factor.

The mental ages shown in Table 4 and Table 5 were determined according to the directions given in the Otis Group Intelligence Scale.[2]

The mental age-grade distribution of the transfer pupils is found in Table 4. The widest range in mental ages was found to be in the freshman class where the ages ranged from eleven years to nineteen years of age; a total range of eight years. The least range in mental ages was in the senior class, which ranged from fourteen to nineteen years of age; a total of five years. In the freshman class there are two pupils who should be in the sixth grade, three who should be in the seventh, five who should be in the eighth, eleven properly placed, and forty who are retarded. By retarded it is meant those pupils who have mental ages higher than the standard age for their classification in school. They should be classified higher in school but for some reason are below their standard grade. In the sophomore class there is one pupil who should be in the sixth grade, four who should be freshmen, only one properly placed and sixteen retarded. The junior class has four pupils who should be freshmen, four who

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[2] Otis Group Intelligence Scale. Manual of Directions. World Book Co., New York.

should be sophomores, eight properly placed and eleven retarded. In the senior class one of the pupils should be a freshman, four should be sophomores, four should be juniors, nine are properly placed and seven are retarded.

The transfer students as a group have 21.5 per cent normal, 54.8 per cent retarded and 23.7 per cent accelerated. The accelerated pupils advance in percentage as the grade advances, with the freshmen having sixteen and five-tenths percent of acceleration, the sophomores twenty-two and seven-tenths, the juniors thirty and the seniors thirty-six. The percentage of retarded pupils is greatest in the sophomore class with 72.8 per cent. It is least in the senior class with 28.0 per cent.

Table 5 shows the mental age-grade distribution of the non-transfer pupils. The widest range of mental ages is in the freshman class with the ages ranging from eight years and six months to eighteen years of mental age. The shortest range is in the senior class with a range of from fourteen years and six months to eighteen years of mental age. In the freshman class there is one pupil who should be in the third grade in school, one who should be in the fifth grade, one who should be in the seventh grade, four who should be in the eighth, five properly placed and thirty one retarded. In the sophomore class one of the pupils should be in the sixth grade, one who should be in the seventh, one who should be in the eighth, two who should be in the ninth, nine properly

TABLE 4. MENTAL AGE-GRADE DISTRIBUTION OF TRANSFER STUDENTS

Mental Age in Years	Ages as of Oct. 30, 1938 Freshmen	Sophomore	Junior	Senior	Total
11	1	1			2
11½	1				1
12					
12½	3				3
13					
13½	5				5
14	6	2	3		11
14½	5	2	1	1	9
15	12	1		1	14
15½	5		4	3	12
16	6	6		2	14
16½	3	1	8	2	14
17	7	5		4	16
17½	3	2	4	5	14
18	2	2	5	2	11
18½			2	3	5
19	2			2	4
Total	61	22	27	25	135
Number accelerated	10	5	8	9	32
Number normal	11	1	8	9	29
Number retarded	40	16	11	7	74
% Accelerated	16.5	22.7	30.0	36.0	23.7
% Normal	18.0	4.5	30.0	36.0	21.5
% Retarded	65.5	72.8	40.0	28.0	54.8

placed and twenty-five retarded. The junior class has one who should be a freshman, six who should be sophomores, five properly placed and twenty-seven retarded. In the senior class one pupil should be in the freshman class, four should be sophomores, six should be juniors, thirteen properly placed and twelve retarded.

Taken as a group the non-transfer pupils have 20.4 per cent normal, 60.5 per cent retarded and 19.1 per cent accelerated. The accelerated pupils advance in this order: sophomore, freshman, junior, senior. The percentage of retarded pupils is largest in the freshman class, with 72.1 per cent retarded and smallest in the senior class with 33.5 per cent.

By acceleration it is meant those pupils whose mental ages are lower than they should be for their classification in school and the retarded pupils are those whose mental ages are higher than their classification in school.

In a comparison of the two tables of mental ages it is apparent that the non-transfer pupils, in spite of the fact that the range in mental ages is farther apart than in the transfer pupils, have a slight advantage over the transfer pupils. The non-transfer pupils have 60.5 per cent of their number retarded, or have a mental capacity beyond their grade, and have 19.1 per cent accelerated, or have a mental capacity below their grade. The transfer pupils have 54.8 per cent retardation, or 5.7 per cent below the non-transfer

TABLE 5. MENTAL AGE-GRADE DISTRIBUTION OF NON-TRANSFER STUDENTS

Mental Age in Years	Ages as of Oct. 30, 1938				
	Freshmen	Sophomore	Junior	Senior	Total
8½	1				1
9					
9½					
10					
10½	1				1
11		1			1
11½					
12					
12½	1	1			2
13	2				2
13½	2	1			3
14	2	2	1		5
14½	3			1	4
15	6	3	3	2	14
15½	7	6	3	2	18
16	4	2	2	1	9
16½	3	4	3	5	15
17	3	10	3	4	20
17½	4	4	11	9	28
18	4	3	9	6	22
18½		2	3	6	11
19			1		1
Total	43	39	39	36	157
Number accelerated	7	5	7	11	30
Number normal	5	9	5	13	32
Number retarded	31	25	27	12	95
% Accelerated	16.3	13.0	18.0	30.5	19.1
% Normal	11.6	23.0	13.0	36.0	20.4
% Retarded	72.1	64.0	69.0	33.5	60.5

group, and 23.7 per cent acceleration, or 4.6 per cent below the non-transfer pupils. In other words, the non-transfer pupils are, as a whole, slightly more able to do the advanced work in the upper grades than the transfer pupils.

Native Capacities of the Transfer and Non-Transfer Pupils

In order to know something of the results that can be obtained from teaching a group, the teacher should know something of the mental capacity of the different pupils of the group. In order to make a comparison between the transfer and non-transfer group and to find the native ability of each student in high school, the Otis Group Intelligence Scale, Form A, was given in the last part of the second month of school and scored carefully according to the directions given with the test material.

The I. Q. and mental age of a child differs in that the mental age of the child is his intelligence, and does not take into consideration the chronological age of the child. The intelligence quotient is the result obtained by dividing the mental age of the child by the chronological age.

The range of native capacity as measured by the intelligence quotient is shown for the transfer pupils in Table 6. None of the pupils have an I. Q. of 130 or over, but five, or three and seven-tenths percent of the total, have an I. Q. of 120-129. With normal considered as being between 90-110, five pupils are below normal. Four of the

below normal pupils are in the ninth grade and the other is in the tenth. The median for each class is normal. The class with the lowest class median is the freshmen class with a median I. Q. of 102. The sophomores and seniors are tied for the highest median with a median I. Q. of 105.

TABLE 6. NATIVE CAPACITIES OF TRANSFER PUPILS

Intervals of I. Q.	Freshmen	Sophomore	Junior	Senior	Total	Percentage Each Group is of Total
Below 70						
70 - 97						
80 - 89	4	1			5	3.7
90 - 99	19	5	8	7	39	28.9
100-109	22	10	9	10	51	37.8
110-119	13	5	10	7	35	25.9
120-129	3	1		1	5	3.7
130 and over						
Total	61	22	27	25	135	100.0
Median	102	105	104	105		
% Normal 90-109 inclusive	67.2	68.1	63.0	68.0	66.7	
% Above 110	26.2	27.2	37.0	32.0	29.6	
% Below 90	6.6	4.7			3.7	

Taken as a group, the transfer pupils have 66.7 per cent normal pupils, 29.6 above normal, and 3.7 below normal.

Table 7 shows the range of native capacity as measured by the I. Q. of the pupils of the non-transfer group. As is the case of the transfer pupils, no pupil's I. Q.

reached the 130 mark, but four are in the interval between 120 and 129. There are a total of 58 in the above normal group between 110 and 119 and five in the below normal group. One pupil is in the below 70 group, two are in the 70-79 group and two are in the 80-89 group. The median for each class is normal. The class with the lowest class median is the freshmen class with a class median of 104. The junior class is the highest of any class in either group with a class median of 110. The seniors are next high with a class median of 108.5 and the sophomores have a class median of 108.

TABLE 7. NATIVE CAPACITIES OF NON-TRANSFER PUPILS

Intervals of I. Q.	Freshmen	Sophomore	Junior	Senior	Total	Percentage Each Group is of Total
Below 70	1				1	.6
70 - 79	1	1			2	1.3
80 - 89	1	1			2	1.3
90 - 99	9	11	5	6	31	19.7
100-109	18	12	14	15	59	37.5
110-119	12	12	19	15	58	37.0
120-129	1	2	1		4	2.6
130 or over						
Total	43	39	39	36	157	100.0
Median	104	108	110	108.5		
% Normal 90-109	64.2	59.0	48.7	58.3	57.3	
% Above 110	30.2	35.9	51.3	41.7	39.5	
% Below 90	5.6	5.1			3.2	

Taken as a group, the non-transfer pupils have 57.3 per cent normal, 39.5 are above normal and 3.2 per cent are below normal.

A comparison of the two tables will show a slight advantage in the mental capacities of the non-transfer group over the transfer group. While the transfer students have a higher percentage of normal students, the non-transfer students have a total of ten percent more in the above average group. The class median in every case is higher for the non-transfer group than for the transfer group. In the freshmen class the transfer median is 102, the non-transfer 104. In the sophomore class the transfer median is 105, the non-transfer 108. In the junior class the transfer median is 104 and the non-transfer 110. In the senior class it is 105 for the transfers and 108.5 for the non-transfers.

Achievements in Arithmetic of Transfer and Non-Transfer Pupils

In order to find the difference in achievements in arithmetic of the transfer and non-transfer students and to allow the school to know just how much achievement in arithmetic has been made by the students, the New Stone Arithmetic Reasoning Test[3] was given on March 21, 1939 to all the students in the high school. This test is a reason-

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[3] New Stone Reasoning Tests in Arithmetic, Bureau of Publications, Teachers College, Columbia University, New York City.

ing test which contains twenty-one problems. No time limit is used but the students were not permitted to dawdle or waste time.

The scores made by the transfer students on the arithmetic test are shown in Table 8. None of the classes has a mean that is equal to the standard mean, with the exception of the sophomore class which is .4 of one per cent above the standard mean. There is no progress shown by either the junior or senior class as the sophomores exceed each group. The freshmen mean is .5 of one per cent below the standard mean, the junior class is 2.6 below standard and the senior class is 2.7 below the standard. The mean for the whole group is 11.4.

There is a great deal of individual difference among the students shown on the test. The junior class has the greatest degree of variation with one student working eighteen problems and another student in the same class working only three. In the freshmen class, eighteen of the students are above normal, five are normal, and twenty-six are below normal. In the sophomore class eight are above normal, four are normal, and five are below normal. The juniors have four above normal, three normal, and seventeen below normal. In the senior class, four are above normal, three are normal, and sixteen are below normal.

Table 9 shows the scores made by the non-transfer group in arithmetic achievement. None of the classes has a

TABLE 8. SCORES OF TRANSFER PUPILS ON NEW STONE ARITHMETIC REASONING TEST

Score	Freshmen	Sophomore	Junior	Senior	Total
18			1		1
17	1	1		1	3
16	1	3	1	3	8
15	2	3	2	3	10
14	3	1	3	4	11
13	5	4	1	4	14
12	6	1	4		11
11	5	2	3	2	12
10	7		1	2	10
9	8	1	2	2	13
8	4	1	2		7
7	3		1	2	6
6	2		1		3
5	2		1		3
4					
3			1		1
Total	49	17	24	23	113
Mean	10.5	13.4	11.4	12.3	11.4
Standard Mean	11	13	14	15	

mean that is standard; although the freshman and sophomore class only lack .3 of being standard. The junior mean is 1.9 below standard and the senior mean is 2.6 below standard. The mean for the whole group is 11.95.

As is the case of the transfer students, there is a great deal of individual difference in the arithmetic scores for the non-transfer group. The freshmen class has the greatest range with one student working eighteen problems and two working only four problems. In the freshmen class, eighteen

are above normal, three are normal and eighteen are below normal. In the sophomore class, nineteen are above normal, two are normal and nineteen are below normal. The juniors have seven above normal, six normal, and twenty-five below

TABLE 9. SCORES OF NON-TRANSFER PUPILS ON NEW STONE ARITHMETIC REASONING TEST

Score	Freshmen	Sophomore	Junior	Senior	Total
18	1		1		2
17	1	4		2	7
16	1	6	4	3	14
15		1	2	3	6
14	3	8	6	6	23
13	6	2	5	6	19
12	6	4	4	4	18
11	3	4	6	2	15
10	5	5	5	2	17
9	3	2		5	10
8	4	3	2		9
7	1				1
6	1	1	3	1	6
5	2			1	3
4	2				2
Total	39	40	38	35	152
Mean	10.7	12.7	12.1	12.4	11.95
Standard Mean	11	13	14	15	

normal. The seniors have five above normal, three normal, and twenty-seven below normal. There is no progress shown as the sophomores exceeded both junior and senior classes.

Table 10 gives a comparison of the mean of each class in both the transfer and non-transfer group. The non-transfer freshmen have a slight advantage over the transfer freshmen. In the sophomore class the transfer group has a higher mean than does the non-transfer group but in the junior and senior classes the non-transfer group in each case has the advantage. The mean of the total of the transfer group is 11.4 and the mean of the total of the non-transfer group is 11.95, which is a slight advantage in favor of the non-transfer students of .55 of one point.

TABLE 10. A COMPARISON OF THE MEANS OF SCORES MADE ON THE NEW STONE ARITHMETIC REASONING TEST

Groups	Freshmen	Sophomore	Junior	Senior	Total
Transfer	10.5	13.4	11.4	12.3	11.4
Non-Transfer	10.7	12.7	12.1	12.4	11.95

A Comparison of the Results in the Spelling Test

One of the common charges brought against the schools is that the pupils, when they leave school, cannot spell correctly. In order to determine how true this charge is and to

find out the comparison between the spelling achievement of the transfer and non-transfer students, a standardized test was given to all the pupils from the ninth to the twelfth grade, inclusive.

The test given was the Buckingham's Extension of the Ayres Spelling Scale.[4] This test contains two lists of twenty words each. The first list is made up of what is called easy words and the second list is made up of words of greater difficulty and called the hard words.

Table 11 shows the results of both lists of words and the scores made by the transfer pupils. Of all the transfer students who took the test, there are thirteen who made a perfect score on the easy words and two who made a perfect score on the hard words. No one missed all the hard words, but four spelled only one of the twenty correctly. None of the classes approach very closely to the standard, although, each class has a few students who are above standard. In the easy words the junior class is the nearest standard and the freshmen class is farthest from the standard. On the hard words the sophomore class is the nearest standard and the senior class is farthest away.

Table 12 shows the results for the non-transfer pupils. Of all the non-transfer students who took the test,

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[4]Buckingham's Extension of the Ayres Spelling Scale. Public School Publishing Company, Bloomington, Illinois.

TABLE 11. SPELLING SCORES FOR EASY AND HARD WORDS OF TRANSFER PUPILS

Scores	Freshmen		Sophomore		Junior		Senior	
	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words
100	1		4	1	5	1	3	
95	2		2		4		5	
90	4		1		5		3	1
85	9	2		1	1	1	1	1
80	7	1			5	4	3	2
75	4		2	2		1	3	1
70	4	3	3	1	1	2		2
65	3	4	2		1	2	1	2
60	1			1		2		1
55	3	4		4	1	1	1	1
50	1	5		1	1	1		
45	2	5	1			1		
40	3	5	1			1		1
35	1					1		4
30		3		2		2		
25		2		1				
20	1	4				2		2
15		2	1					2
10		3		2		2		
5		3		1				
Total	46	46	17	17	24	24	20	20
Standard	90.9	66.0	94.0	73.6	96.0	79.6	97.4	85.0
Class mean	71.5	41.5	74.7	50.3	85.6	55.6	85.8	52.5
% Standard or above	15.2	13.0	35.3	23.5	37.5	24.2	15.0	10.0
% Below standard	84.8	87.0	64.7	76.5	62.5	75.8	85.0	90.0

thirteen made a perfect score on the easy words and two made a perfect score on the hard words. One student missed all the hard words and two students got only one word spelled

TABLE 12. SPELLING SCORES FOR EASY AND HARD WORDS OF NON-TRANSFER PUPILS

Scores	Freshmen		Sophomore		Junior		Senior	
	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words
100	2		3		3	2	5	
95	6		6	2	11		7	2
90	8	4	4	1	1	2	3	2
85	3			1	6	2	6	1
80	3	3	7	1	4	1	1	
75	1	2	3	1	1	2	3	4
70	3	2	6	2	4	3		3
65	3		1	1		3	2	1
60	1	2	5	2	2	3		1
55	3	1		5		1		
50		3		2		2	2	1
45	2			3	1	1	2	3
40	1		2	2		3	1	1
35		5		1				3
30		4	1	3		2		1
25	1	3		3		2		4
20		2		3		1		1
15		2		2		2		3
10		3		2		1		
5				1				1
0		1						
Total	37	37	38	38	33	33	32	32
Standard	90.9	66.0	94.0	73.6	96.0	79.6	97.4	85.0
Class mean	77.0	45.6	76.6	46.3	81.4	53.0	81.7	50.6
% Standard or above	43.2	29.7	23.7	18.4	42.4	21.2	15.6	15.6
% Below standard	56.8	70.3	76.3	81.6	57.6	78.8	84.4	84.4

correctly. None of the classes reach standard but every class has several students that are above standard. In the easy

TABLE 13. A COMPARISON OF THE MEANS OF SCORES MADE ON THE HARD AND EASY WORDS IN THE SPELLING TEST

Groups	Freshmen		Sophomore		Junior		Senior		Total	
	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words	Easy Words	Hard Words
Transfer	71.5	41.5	74.7	50.3	85.6	55.6	85.8	52.5	77.8	48.1
Non-Transfer	77.0	45.6	76.6	46.3	81.4	53.0	81.7	50.6	79.8	48.7

words the freshmen class is the nearest standard and the sophomore class is the farthest from standard. On the hard words the freshmen class is nearest standard and the senior class is farthest from standard.

A comparison of Table 11 and Table 12 shows that on the easy words the non-transfer freshmen, juniors and seniors have a higher percentage of students who are standard or above. The transfer sophomores ranked higher than the non-transfer sophomores. On the hard words the freshmen and seniors of the non-transfer group have the higher percentage of students standard or above than do the transfer freshmen and seniors. In the case of the sophomores and juniors the transfer group has the highest percentage. Out of the eight tests given the non-transfer students have the advantage in five and the transfer in three.

Table 13 shows a comparison of the means of each grade in both the transfer and non-transfer group, and the total for both the easy and hard words. On the easy words the non-transfer freshmen, sophomores and juniors have a higher mean than the transfer freshmen, sophomores and juniors. On the hard words the means of the transfer sophomores, juniors and seniors are higher than the corresponding classes in the non-transfer group. The mean of the total is higher for the non-transfer group in both the easy and the hard words. The non-transfer excell in only five out of ten comparisons.

Achievements in Reading

Without a good working knowledge of reading the high school pupil is very likely to be a failure. Scientific investigations have shown reading to be one of the most important fundamental subjects.

A standardized test that would test the pupils' ability to comprehend what they read was given in grades nine to twelve, inclusive, on April 19, 1939. The test given was the Thorndike-McCall Reading Scale.[5] The reading quotients, G scores, T scores and Age scores were determined by the directions that came with the test. A child's reading quotient is found by comparing his reading ability with his chronological

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[5] The Thorndike-McCall Reading Scale. Bureau of Publications, Teachers College, Columbia University, New York City, N. Y.

age. A reading quotient of 100 is considered as normal.

The reading quotients of the transfer pupils are shown in Table 14. The percentage of pupils with reading quotients equal to, or above, standard range from 26.1 percent in the senior class to 53 percent in the sophomore class. The freshmen class is second highest with 38.8 percent and the juniors are next with 36 percent. The percentage of the whole transfer group is 37.7 percent.

The distribution of the reading quotients of the non-transfer group is found in Table 15. The percentage of pupils with a reading quotient of 100, or over, is much nearer the same in each class than is the case of the transfer students, with the exception of the senior class which has only two pupils who are standard or above. The senior class is lowest with only 5.7 percent above standard and the sophomore class is highest with 42.2 percent. The percentage of the whole group of non-transfer students above standard is 37.5 percent.

A comparison of the two tables shows that, taken as a group, there is very little difference in the percentages of pupils who are normal or above. The transfer group has 37.7 percent of their number who are normal or above and the non-transfer group has 37.5 percent in the normal or above class. This makes the relatively small difference of two-tenths of one percent in favor of the transfer group. The

TABLE 14. DISTRIBUTION OF TRANSFER PUPILS ACCORDING TO READING QUOTIENT

Intervals of Quotients	Freshmen	Sophomore	Junior	Senior	Total
50 - 59	1				1
60 - 69	2				2
70 - 79	3	3	2	3	11
80 - 89	9	3	7	9	28
90 - 99	15	2	7	5	29
100-109	12	6	6	3	27
110-119	4	3	3	3	13
120-129	3				3
Total	49	17	25	23	114
Standard	100	100	100	100	100
% Standard or above	38.8	53.0	36.1	26.1	37.7

range in the transfer group is from one in the 50-59 group to three in the 120-129 group. In the non-transfer group the range is from one in the 60-69 group and one in the 130-139 group. Thus the range of the two groups is the same in the amount of intervals of quotients covered but the transfer pupils have one student who is lowest of both groups and the non-transfer group has the highest pupil of both groups. The range is highest in the freshmen class of both groups.

In Table 16 the grade score, T score, and age norms are shown for the transfer pupils. The class score, grade norm, age norm and standard for each grade in which the reading test was given is also shown. As a basis of comparison

TABLE 15. DISTRIBUTION OF NON-TRANSFER PUPILS ACCORDING TO READING QUOTIENT

Intervals of Quotients	Freshmen	Sophomore	Junior	Senior	Total
60 - 69	1	1	2	1	5
70 - 79	3	3	1	7	14
80 - 89	8	10	13	14	45
90 - 99	11	9	10	11	41
100-109	8	8	7	1	22
110-119	5	8	4	1	18
120-129	2	2	1		5
130-139	1	1			2
Total	39	40	38	35	152
Standard	100	100	100	100	100
% Standard of above	41.0	42.2	31.6	5.7	37.5

the T score is used. None of the grades reached the standard, but a small improvement was made from grade to grade. The ninth grade has a class score of 55.8, a grade norm of 7.4 and an age norm of 13.9. The tenth grade has a class score of 59, a grade score of 8.3, and an age score of 14.6. The eleventh grade has a class score of 61.7, a grade score of 9.6 and an age score of 15.2. The twelfth grade has a class score of 62.2, a grade score of 9.9 and an age score of 15.3. The nearest grade to reach the standard is the eleventh grade.

There is a very wide range of individual differences in each grade of the transfer pupils. The freshmen class has the widest range with one pupil having the reading ability of a

TABLE 16. SCORES MADE ON THE THORNDIKE-McCALL READING SCALE BY TRANSFER PUPILS

Grade Score	T Score	Age Score	Freshmen	Sophomore	Junior	Senior	Total
15.0	80	19.6					
14.7	77	18.8				1	1
14.4	74	18.2		1	5	1	7
13.3	69	16.9	1	1	5	3	10
11.7	65	16.0	6	3	1	3	13
9.2	51	15.1	6	2	3	8	19
8.3	59	14.6	9	5	5	5	24
7.7	57	14.1	5	1	2	1	9
7.2	55	13.7	4		3	1	8
6.8	53	13.2	8	3	1		12
6.5	51	12.7	2	1			3
6.1	49	12.3	3				3
5.8	47	11.8	1				1
5.4	45	11.3	1				1
5.1	43	10.8	2				2
4.7	41	10.3	1				1
Total			49	17	25	23	114
Standard T score			61.5	62.9	64.5	66.8	
Class T score			55.8	59.0	61.7	62.2	
Class grade score			7.4	8.3	9.6	9.9	
Class age score			13.9	14.6	15.2	15.3	

fourth grade pupil and ranging upward one pupil with a reading ability of a college freshman. The sophomore class ranges in ability from sixth graders to college sophomores; the junior class has the same range, only a little higher. The senior class ranges in ability from the seventh grade to the upper part of the sophomore year in college. Seven freshmen, five sophomores ten juniors, and five seniors made scores higher than the standard for their grade.

TABLE 17. SCORES MADE ON THORNDIKE-McCALL READING SCALE BY NON-TRANSFER PUPILS

Grade Score	T Score	Age Score	Freshmen	Sophomore	Junior	Senior	Total
15.0	80	19.6		1	1		2
14.7	77	18.8					
14.4	74	18.2	2	2	6	2	12
13.3	69	16.9	3	5	4	4	16
11.7	65	16.0	4	7	8	12	31
9.2	51	15.1	4	5	7	3	19
8.3	59	14.6	5	8	3	4	20
7.7	57	14.1	6	3	2	7	18
7.2	55	13.7	3	4	2	2	11
6.8	53	13.2	3		2		5
6.5	51	12.7	5	1	2	1	9
6.1	49	12.3	3	2	1		6
5.8	47	11.8	1	1			2
5.4	45	11.3					
5.1	43	10.8		1			1
4.7	41	10.3					
Total			39	40	38	35	152
Standard T score			61.5	62.9	64.5	66.8	
Class T score			57.4	61.1	61.1	60.8	
Class grade score			7.8	9.3	9.3	8.1	
Class age score			14.2	15.2	15.2	15.0	

Table 17 shows similar reading data for the non-transfer pupils. None of the grades reached the standard set for their grade and they did not show improvement progressively. The freshmen class is the lowest, the senior class is next lowest and the sophomores and juniors are tied for the highest. The freshmen have a class score of 57.4, a grade norm of 7.8, and an age score of 14.2. The sophomores have a class score

TABLE 18. A COMPARISON OF THE T SCORES MADE ON THE THORNDIKE-McCALL READING SCALE

Groups	Freshmen	Sophomore	Junior	Senior	Total
Transfer	55.8	59.0	61.7	62.2	58.4
Non-Transfer	57.4	61.1	61.1	60.8	60.1

of 61.1, a grade score of 9.3, and an age score of 15.2. The juniors have exactly the same as the sophomores. The seniors have a class score of 60.8, a grade score of 8.1, and an age score of 15.0. The nearest grade to reach the standard is the sophomore class.

The range of individual differences is not so great as among the transfer students. The sophomore class has the greatest range with one pupil of fifth grade ability and another reaching the level of a college junior. The freshmen range from the upper part of the fifth grade to college sophomores. The junior class ranges from the sixth grade to college juniors and the seniors have the shortest range. They range from the middle of the sixth grade to college sophomores. Nine freshmen, fifteen sophomores, seven juniors and six seniors are above the standard for their grade.

A comparison of the T scores for the transfer and non-transfer pupils is found in Table 18. The non-transfer freshmen class and the non-transfer sophomore class have higher T scores than do the transfer freshmen and sophomores.

In the junior class the transfer students have six-tenths of a point higher T score than do the non-transfer students. The transfer seniors have a higher T score than do the non-transfer seniors. Taken as a whole the non-transfer students have 1.7 higher T score than do the transfer students. The non-transfer students have more of their number who scored higher than the standard than did the transfer students.

Achievement in English Composition

In April of 1939 all the pupils of both the transfer and non-transfer group were asked to write for twenty minutes on the subject, "What I should Like to do Next Saturday." These compositions were rated as to value by the use of the Nassau County Supplement of the Hillegas Composition Scale.[6] Each composition was rated by the three teachers of English in the Maud High School, and a composite score from the three ratings was secured.

Results of the efforts of the transfer students are shown on Table 19. None of the grades in the transfer group rates the standard median for that grade. The median for the senior class is the highest in the transfer group and the freshmen median is the lowest. The greatest range of individual differences occurs in the freshmen class which has one student with a rating of 1.9 and one with a rating of

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[6] Nassau County Supplement to the Hillegas Scale for Measuring The Quality of English Composition. Bureau of Publications, Teachers College, Columbia University, New York City, N. Y.

TABLE 19. SCORES ON HILLEGAS SCALE OF ENGLISH OF COMPOSITION TRANSFER STUDENTS

Hillegas Score	Freshmen	Sophomore	Junior	Senior	Total
1.9	1				1
2.8	1	3	1		5
3.8	12			1	13
4.3	1				1
5.0	14	3	7	5	29
6.0	16	9	7	11	43
6.4	2	1	5	3	11
7.2	3		3	1	7
8.0	1	1	2	1	5
9.0				1	1
Total	51	17	25	23	116
Standard median	6.0	6.5	6.9	7.2	
Class median	5.2	5.8	6.2	6.0	

8.0. The senior class has the least range in ratings with one student rating 3.8 and one rating 9.0, the highest rating possible. The median rating of each class advances in the order of the class in school.

Table 20 shows the results for the non-transfer students. As in the case of the transfer students, none of the class medians reaches the standard and each median advances in the order of the class. The freshmen class comes the nearest of reaching the standard median with a class median of 5.9 as compared with the standard median of 6.0. The senior class is farthest away from the standard median. As in the case of the transfer students, the range of in-

TABLE 20. SCORES ON HILLEGAS SCALE OF ENGLISH COMPOSITION OF NON-TRANSFER STUDENTS

Hillegas Score	Freshmen	Sophomore	Junior	Senior	Total
1.9	1				1
2.8					
3.8	4	10	1	1	16
4.3	2	2	1		5
5.0	9	5	11	7	32
5.8	2			1	3
6.0	14	12	12	8	46
6.4	3		4	5	12
7.2	5	5	6	3	19
8.0	1	1	2	4	8
9.0		4	2	2	8
Total	41	39	39	31	150
Standard median	6.0	6.5	6.9	7.2	
Class median	5.9	5.9	6.2	6.3	

dividual differences is greatest in the freshmen class with one student having a rating of 1.9 and one student having a rating of 8.0. The least range is divided equally between the three upper classes in high school with each class ranging from 3.8 to 9.0.

In comparing the two groups by using Tables 19 and 20 it will be seen that the medians of the non-transfer group in the freshmen, sophomore and senior classes are higher than the freshmen, sophomore and senior classes in the transfer group. In the junior class the median of both the transfer and non-transfer group is the same.

Table 21 shows how the medians for the classes in

TABLE 21. COMPARISON OF MEDIAN SCORES ON HILLEGAS SCALE

Groups	Freshmen	Sophomore	Junior	Senior
Transfer	5.2	5.8	6.2	6.0
Non-Transfer	5.9	5.9	6.2	6.3

each group compare. In the freshmen class the non-transfer group is .7 of a point higher than the transfer freshmen. The non-transfer sophomores have .1 of a point advantage over the transfer sophomores, the median of the junior class of each group is the same, and the non-transfer seniors have .3 of a point advantage over the non-transfer seniors. Thus it is shown by this test that, although both groups need more work in English composition, the non-transfer group has a slight advantage over the transfer group.

Comparison of the Scores in Word Knowledge

Without a good, workable vocabulary a student in high school will be handicapped in the majority of his subjects, as much of the reading difficulties come from a lack of knowledge as to the meanings of words read.

In order to determine the word knowledge of each student in high school and to get a comparison of the relative ability in word knowledge between the transfer and non-transfer students the Thorndike Test of Word Knowledge, Form D,[7] was

[7] The Thorndike Test of Word Knowledge. Bureau of Publications, Teachers College, Columbia University, New York City, N. Y.

TABLE 22. DISTRIBUTION OF SCORES OF TRANSFER PUPILS IN THORNDIKE TEST OF WORD KNOWLEDGE

Score Intervals	Freshmen	Sophomore	Junior	Senior	Total
86 - 90		1		1	2
81 - 85					
76 - 80				3	3
71 - 75	2		2		4
66 - 70	2	2	5	7	16
61 - 65	6	7	6	2	21
65 - 60	5	2	6	4	17
51 - 55	9	3	2	3	17
46 - 50	14		2	3	19
41 - 45	6	1	1		8
36 - 40	3	1			4
31 - 35	1				1
26 - 30					
Total	48	17	24	23	112
Mean	52.37	60	60.6	63.6	57.6

given to the four grades of high school.

Table 22 shows the distribution of scores made by the transfer students on the word knowledge test. The mean of each class advanced in regular order with the freshmen class having the lowest mean and the senior class the highest. No standard mean is given, except for the freshmen class. The standard mean for the freshmen class is 64 and the mean for the transfer freshmen is 52.37, which is quite a bit below the standard mean. There is a large amount of varying ability shown in all the classes with the sophomore class having the greatest variation. In that class one student is in the 86-90 group and one is in the 36-40 group. In the freshmen class

TABLE 23. DISTRIBUTION OF SCORES OF NON-TRANSFER PUPILS IN THORNDIKE TEST OF WORD KNOWLEDGE

Score Intervals	Freshmen	Sophomore	Junior	Senior	Total
86 - 90		1	2		3
81 - 85	1	3	3	2	9
76 - 80	1	2	4	4	11
71 - 75	5	1	6	4	16
66 - 70	2	3	1	7	13
61 - 65	6	3	8	4	21
56 - 60	4	9	4	6	23
51 - 55	8	7	5	5	25
46 - 50	5	5	3		13
41 - 45	3	3			6
36 - 40	1	1			2
31 - 35	3				3
26 - 30			1		1
Total	39	38	37	32	146
Mean	35.2	59.4	65.4	65.5	61.54

there are four students that have a sixth grade knowledge of words and twenty-nine who have a word knowledge below the eighth grade. The mean of the senior class is .4 of a point below the standard mean for the freshmen class.

Table 23 shows the distribution of the scores made by the non-transfer students on the word knowledge test. As in the case of the transfer students, the mean of each class advanced as the grade in school advanced, although the difference between the mean of the seniors and the juniors is only one-tenth of a point. The class with the greatest amount of individual differences is the junior class with one pupil having

TABLE 24. A COMPARISON OF THE MEANS OF THE CLASS IS ON WORD KNOWLEDGE TEST

Groups	Freshmen	Sophomore	Junior	Senior	Total
Transfer	52.4	60	60.6	63.6	57.6
Non-Transfer	55.2	59.4	65.4	65.5	61.54

a score in the 26-30 group and two having scores in the 86-90 group. There are four freshmen, one sophomore and one junior on the sixth grade level of word knowledge. There are twenty-one freshmen, sixteen sophomores, eight juniors, and five seniors on the eighth grade level or below. The mean of both the junior and senior class is above the standard mean for the freshmen class.

Table 24 shows the comparison between the class means and between the total scores of each group. In the freshmen, junior and senior classes the non-transfer group have a higher mean than the corresponding classes in the transfer group. The non-transfer sophomores are .6 of a point below the transfer sophomores. The mean of the total scores of each group show that the non-transfer students have an advantage of four points over the transfer students. This means that, taken on the average, the non-transfer student has a 4 per cent better knowledge of words than does the transfer student.

An interesting side light on this study is that, upon questioning, it was found that the majority of the high scorers in each group had had considerable experience in

working cross-word puzzles. There is little doubt that this was a contributing factor to their scores.

Achievements in Handwriting

Another accusation against the present day schools is that the handwriting of the graduates is not as legible as it should be. In order to find the quality and rate of each pupil in high school and to find the comparison between the transfer and non-transfer students, a handwriting test was given to the students of the ninth to twelfth grades inclusive.

The test was given room at a time. Each teacher had previously advised the students to bring pen and ink to class for that certain period and an extra supply was provided for the forgetful ones. The students were then asked to write the following lines:

> Land of the pilgrim's pride,
> From every mountain side
> Let freedom ring!

The instructions given the students were that they would be graded on both quality and speed and that they were to write in their best and fastest penmanship for a period of exactly three minutes. At the end of three minutes the papers were collected.

The Thorndike Handwriting Scale[8] was used in scoring

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[8] The Thorndike Scale for Handwriting of Children. Bureau of Publications, Teachers College, Columbia University, New York City.

TABLE 25. QUALITY OF HANDWRITING OF TRANSFER PUPILS

Scores	Freshmen	Sophomore	Junior	Senior	Total
18	1				1
17					
16					
15	2	1			3
14	6		2	4	12
13	9	1	4	6	20
12	5	2	6	6	19
11	12	5	5	4	26
10	5	2	4		11
9	8	6	1	1	16
8	1		1	1	3
7				1	1
Total	49	17	23	23	112
% With score of 10 or above	81.7	64.7	91.3	87.0	82.1
% With score below 10	18.3	35.3	8.7	13.0	17.9

the tests. Three of the grade school penmanship teachers rated the papers and a composite score of the three ratings was taken as the final rating on each paper. The rate of speed for each paper was determined by counting all the letters written in the three minutes and dividing this by three.

As the quality of ten is thought by some authorities to be a satisfactory quality, ten was used as a comparative figure and all percentages based on the number of pupils who had a rating of ten or above and those who had a rating below ten.

Table 25 shows the ratings made by the transfer

TABLE 26. QUALITY OF HANDWRITING OF NON-TRANSFER PUPILS

Scores	Freshmen	Sophomore	Junior	Senior	Total
18					
17					
16		1			1
15	1	1	2		4
14	7	2		3	12
13	5	5	7	5	22
12	8	6	5	6	25
11	8	6	10	9	33
10	5	5	3	4	17
9	3	6	4	5	18
8	1	3	3	3	10
7		2			2
Total	38	37	34	35	144
% With score of 10 or above	89.5	70.3	79.4	77.1	79.2
% With score below 10	10.5	29.7	20.6	22.9	20.8

students. All of the classes have a considerable percentage over the satisfactory rating of ten. The junior class has the highest percentage over satisfactory and the sophomores have the lowest percentage. There is a great range of individual difference in each of the classes with the greatest in the freshmen class. In this class there is one student with a rating of eighteen and one with a rating of eight. The score that occurred the most often was eleven.

Table 26 shows the ratings given the non-transfer students. All four of the classes have a considerable percentage of their number who have a rating of ten or above.

TABLE 27. A COMPARISON OF THE QUALITY OF HANDWRITING

Groups	Percentages with 10 or above by grades				
	Freshmen	Sophomore	Junior	Senior	Total
Transfer	81.7	64.7	91.3	87.0	82.1
Non-Transfer	89.5	70.3	79.4	77.1	79.2

The freshmen class has the highest percentage over ten and the sophomore class has the lowest percentage. The range of difference in the scores is the greatest in the sophomore class with two students having a score of seven and one having a score of sixteen. The senior class has the least range with a range of from eight to fourteen. The score which occurred the most often is eleven.

Table 27 shows a comparison between the percentages of students in each class of both the transfer and non-transfer groups who have a rating of ten or over. In both the freshmen and sophomore class the non-transfer students have a higher percentage than the transfer freshmen and sophomores. In the junior and senior classes the transfer students have the advantage over the non-transfer juniors and seniors. Taken as a whole, the transfer students have a total of 82.1 percent of their number who have a score of ten or better and the non-transfer students have 79.2 percent with a score of ten or above.

A comparison of the rate of handwriting is found in

TABLE 28. A COMPARISON OF THE SPEED OF HANDWRITING

Groups	Median No. of Letters Written Per Min. by Grades				
	Freshmen	Sophomore	Junior	Senior	Total
Transfer	77	76	82	84	79.1
Non-Transfer	74	76	82	83	77.8

Table 28. The median of the sophomore and the junior class is the same in both the transfer and non-transfer groups but the transfer students have a higher median in both the freshmen and senior classes. In the median of the total scores of each group the transfer students have the advantage.

Achievements in Composite Mathematics

The test given in composite mathematics was made by the two teachers of that subject in the Maud High School. Both teachers worked together on the test, covering all the material that had been used in their classes up to the date of the test. The test, containing fifty questions of varying difficulty, was made up so that the poorest student could answer some of the questions but it would take the best of mathematics student to answer all fifty correctly. The test was given in May, 1939 to the students of the composite mathematics class which consisted of the majority of the freshmen in school at the time and a few sophomores who were having to repeat the class because of failure in the previous year.

TABLE 29. SCORES BY BOTH GROUPS ON COMPOSITE MATHEMATICS TEST

Score Intervals	Transfer	Non-Transfer
45 - 50		1
40 - 44		2
35 - 39	5	3
30 - 34	6	4
25 - 29	6	6
20 - 24	14	11
15 - 19	10	6
10 - 14		2
5 - 9		1
Total	41	36
Median	22	23.5

The results of the test are shown in Table 29. Three non-transfer students scored higher than the transfer students and three scored lower than the transfer students. In both groups the mode is in the 20 - 24 score interval. The range is greatest with the non-transfer students with one or more students in each score interval. The range of the transfer students included the five middle score intervals. The median score of the non-transfer students is 23.5 and the median for the transfer students is 22.

Achievements in Algebra

In order to compare the achievements in algebra of the transfer and non-transfer students the Columbia Research

TABLE 30. SCORES BY BOTH GROUPS ON COLUMBIA RESEARCH BUREAU ALGEBRA TEST

Score Intervals	Transfer	Non-Transfer
50 - 54	1	3
45 - 49	1	
40 - 44	2	2
35 - 39	1	4
30 - 34	4	1
25 - 29	2	5
20 - 24	1	5
15 - 19	2	3
10 - 14		5
5 - 9		1
Total	14	29
Mean	32.71	26.86

Bureau Algebra Test[9] was given to the forty-three algebra students in the Maud High School. The majority of the students taking the test were sophomores. Form 2A of the test was given which consists of two parts. Part one consists of problems in the mechanics of algebra and part two contains problems that require both a knowledge of the mechanics in algebra and reasoning. One hundred minutes are required for the test.

Table 30 shows the scores made by both the transfer and non-transfer students on the algebra test. The range of

[9] Columbia Research Bureau Algebra Test. World Book Company, New York City.

scores is greatest in the non-transfer group with scores ranging from five to fifty. The transfer group, consisting of fourteen students, ranged from fifty to fifteen. Six of the non-transfer students scored lower than any of the transfer students. The mean of the transfer students is 32.71 and of the non-transfer group, 26.86, which gives a very great advantage to the transfer group.

Achievements in Oklahoma History

At the close of the first semester of the year 1938-39 a comprehensive objective test was given in Oklahoma History to the members of the Oklahoma History classes of the Maud High School. The test given was Oklahoma History, Test No. 4, Form 1,[10] which is an objective test requiring forty minutes of time to administer. The results of one of the classes tested were not used as the teacher had reviewed the questions with the pupils the day before the test. Most of the students taking the test were freshmen, although there were a few sophomores in each group. The highest possible score that could be made on the test is eighty-six.

The scores made by both groups on the Oklahoma History test are shown on Table 31. The range of both groups is the same as both the transfer and non-transfer students

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[10] Comprehensive Objective Tests for High School Subjects. Oklahoma History, Test No. 4, Form 1. Harlow Publishing Corporation, Oklahoma City, Oklahoma.

TABLE 31. SCORES BY BOTH GROUPS ON OKLAHOMA HISTORY TEST

Score Intervals	Transfer	Non-Transfer
80 - 84	1	2
75 - 79	1	7
70 - 74	4	4
65 - 69	4	1
60 - 64	4	3
55 - 59	4	3
50 - 54	6	2
45 - 49	2	1
40 - 44	3	1
35 - 39	1	
30 - 34	2	1
Total	32	25
Mean	56.5	65.9

had members of their group in the highest and lowest score interval. The non-transfer group has thirteen students with seventy or above and the transfer group has six. The transfer students have six of their number with forty or below and the non-transfer students have two. The mean of the non-transfer group is 65.9 and the mean of the transfer group is 56.5.

Achievements in American History

In order to find the achievements of the American History class of the Maud High School and to see how the transfer and non-transfer students compare in this subject a standardized test was given to all the students in the

TABLE 32. SCORES BY BOTH GROUPS ON AMERICAN HISTORY TEST

Score Intervals	Transfer	Non-Transfer	Score	Transfer	Non-Transfer
125-129		1	65-69	2	1
120-124			60-64	3	2
115-119		1	55-59	1	2
110-114			50-54		2
105-109			45-49	3	2
100-104		1	40-44	5	3
95 - 99	1	1	35-39	2	
90 - 94		1	30-34	1	4
85 - 89			25-29		1
80 - 84		1	20-24	1	
75 - 79	1	1	15-19		1
70 - 74	3	2			
Total				23	27
Median				49	56

American History classes. The test used was the Columbia Research Bureau American History Test.[11] This test, which takes ninety minutes to administer, was given the first part of May, 1939. A majority of those taking the test were juniors, with a few seniors and two sophomores in the group.

Table 32 shows the results of the American History test for both groups. There is a very wide variation of scores in both groups. The non-transfer group ranges from one hundred twenty-nine to nineteen and the transfer group

[11] Columbia Research Bureau American History Test, World Book Company, Chicago, Illinois.

TABLE 33. SCORES BY BOTH GROUPS ON THE GENERAL SCIENCE TEST

Score Intervals	Frequency		Percentage of Total	
	Transfer	Non-Transfer	Transfer	Non-Transfer
60 - 64		1		2.7
55 - 59	2	5	4.6	13.5
50 - 54	7	3	16.4	8.1
45 - 49	6	7	14.0	19.0
40 - 44	10	6	23.2	16.2
35 - 39	11	5	25.5	13.5
30 - 34	3	5	7.0	13.5
25 - 29	3	4	7.0	10.8
20 - 24	1	1	2.3	2.7
Total	43	37	100.0	100.0
Median	43	42		
Standard median	35.7	35.7		
% Standard or above			74.4	73.0
% Below standard			25.6	27.0

ranges from ninety-nine to twenty-four. There are six non-transfer and one transfer student with a score of eighty or above. There are only two students in both groups that are above the standard mean of 110.66 and both of these students are non-transfer students. The median for the non-transfer group is fifty-six and the for the transfer group it is forty-nine.

Achievements in General Science

On May 11, 1939 the members of the general science classes of the Maud High School were given the Ruch-Popenoe

General Science Test.[12] This test contains two parts and takes forty minutes to administer. The pupils to take the test were mostly freshmen but there was also a number of sophomores in both groups.

Table 33 shows the results of the general science test for both the transfer and non-transfer students. The non-transfer group has the widest variation with one student having a score of sixty and one a score of twenty-two. The median of both groups is well above the standard median of 35.7. The median of the transfer group is forty-three and of the non-transfer group it is forty-two. Thirty-two, or 74.4 per cent, of the transfer group equal or exceed the standard median and twenty-seven, or 73 per cent, of the non-transfer group are in this classification. The highest individual score was made by a non-transfer student.

Achievements in Biology

The test used to find the achievements in biology was the Ruch-Cossmann Biology Test.[13] This test was given to the members of the biology class on May 3, 1939. The majority of the class were juniors but there were a few seniors and upper class sophomores in the group.

The results of the biology test are shown on Table 34.

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[12] Ruch-Popenoe General Science Test. World Book Company, Chicago, Illinois.

[13] Ruch-Cossmann Biology Test. World Book Company, Chicago, Illinois.

TABLE 34. SCORES BY BOTH GROUPS ON THE BIOLOGY TEST

Score Intervals	Frequency		Percentage of Total	
	Transfer	Non-Transfer	Transfer	Non-Transfer
80 - 89		1		5.9
70 - 79	1	1	9.0	5.9
60 - 69	2		18.2	
50 - 59	2	3	18.2	17.7
40 - 49	3	7	27.4	41.0
30 - 39	2	2	18.2	11.8
20 - 29	1	3	9.0	17.7
Total	11	17	100.0	100.0
Median	46	45		

The highest score made on the test is eighty-one and was made by a non-transfer pupil. The largest percentage of pupils in each group are in the forty to forty-nine score intervals. The median of the transfer group is forty-six and of the non-transfer group it is forty-five.

Pupil Initiative and Resourcefulness

One of the important characteristics that should be developed to as great an extent as possible in high school students is initiative and resourcefulness. In order to measure as accurately as possible this characteristic in the transfer and non-transfer students the twelve high school teachers and the high school secretary of the Maud High school were asked to rate each student. The method of rating

used was the man-to-man method.[14]

On April 24, 1939 a mimeographed sheet containing the names of all the students in grades nine to twelve, inclusive, was given to the twelve teachers and the secretary. At the top of the sheet the instructions for rating the students were given. These instructions asked the teachers to rank the students by grades. They were to pick out the student, in the grade they were rating, who they considered to be the outstanding member of the class in initiative and resourcefulness and give that student a rating of one. Then they were to pick out the poorest student and give this student a rating of five. The average student was to receive a rating of three. If a student was above the average student but not as good as the student rated number one, he was to receive a rating of two. If he was below average but not quite as poor as the number five student he was to receive a rating of four.

The teacher was not to attempt to rate a student unless he, or she, was well enough acquainted with the student to give a conscientious rating. It was particularly stressed that the grades the student made were not to be taken into consideration but only the two traits of initiative and resourcefulness were to be considered. No teacher saw

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[14]Ruggs, H. O., Self-Improvement of Teachers Through Self-Rating: A New Scale for Rating Teachers' Efficiency. Elementary School Journal, XX, May, 1920, pp. 670-684.

TABLE 35. RATINGS ON INITIATIVE AND RESOURCEFULNESS OF TRANSFER PUPILS

Ratings	Freshmen	Sophomore	Junior	Senior	Total
1				3	3
2	7	3	9	6	25
3	28	13	15	11	67
4	18	4	1	4	27
5			1		5
Total	57	20	26	24	127
Mean	3.16	3.05	2.77	2.67	2.961

any other teacher's ratings, as each teacher had a separate sheet, but a majority of the ratings showed surprising similarity.

After the teachers and the secretary had made their ratings the papers were collected and a composite rating of each student was made from the teachers' ratings. While this method may not be scientifically accurate, it is the best measure possible to obtain.

Table 35 shows the results of the ratings for the transfer students. Only three, all of them seniors, made a rating of one and five had the low rating of five. The mean of each class indicates a higher rating as the grade in school increases. The mean for the total rating of the transfer group is 2.961.

Table 36 shows the results of the rating of the non-transfer students. Twelve of these students had an average

TABLE 36. RATINGS ON INITIATIVE AND RESOURCEFULNESS OF NON-TRANSFER PUPILS

Ratings	Freshmen	Sophomore	Junior	Senior	Total
1	5	4	2	1	12
2	5	8	9	14	36
3	17	20	19	13	69
4	12	8	9	9	38
5	4		1	5	10
Total	43	40	40	42	165
Mean	3.12	2.80	2.95	3.07	2.988

rating of one and ten had a rating of five. The freshmen class and the senior class have the lowest average rating with a mean of 3.12 and 3.07, respectively.

A comparison of the two groups shows the transfer students with three in the high ranking group and five in the low ranking group. The non-transfer group has twelve in the high ranking group and ten in the low ranking group. The mode of each group is three.

Table 37 shows a comparison of the means of the classes on initiative and resourcefulness. The non-transfer freshmen have a slightly lower rating, and therefore a better rating than the transfer freshmen. The non-transfer sophomores also have a lower rating than the transfer sophomores. But in the junior and senior class the transfer students have a lower rating than the non-transfer students of the same grades. In the mean for the total the transfer students

TABLE 37. A COMPARISON OF THE MEANS OF THE CLASSES ON INITIATIVE AND RESOURCEFULNESS

Groups	Freshmen	Sophomore	Junior	Senior	Total
Transfer	3.16	3.05	2.77	2.67	2.961
Non-Transfer	3.12	2.80	2.95	3.07	2.988

have a lower rating by .027.

Extra-Curricular Activities of Transfer and Non-Transfer Pupils

Extra-curricular activities are rapidly taking a place of importance in the modern schools and all students should take part in some activity of this kind. The extra-curricular activities used in this study were: band, glee club, debate, football, basketball, track, baseball and both instrumental and vocal solos. In basketball, track and baseball there were junior high divisions but a student could not take part in both the junior high and high school division. Since all of these activities took place during the regular school day the transfer students had an equal opportunity with the non-transfer students to take part in the activities. Some of the extra-curricular activities that came after school, which almost automatically excluded the transfer students who rode the busses, were not used in this study.

Table 38 shows the number of transfer students who took part in extra-curricular activities in the Maud High

TABLE 38. EXTRA-CURRICULAR ACTIVITIES OF TRANSFER PUPILS

Number of Activities	Freshmen	Sophomore	Junior	Senior	Total
5			1	2	3
4	1		1		2
3	6	1	2	1	10
2	6	1	1	3	11
1	14	6	7	8	35
0	43	17	18	12	90
Total	70	25	30	26	141
Mean	.686	.32	.8	1.04	.966

School during the school year 1938-39. The most activities taken part in by any one student is five. In this division there are two seniors and one junior. Ninety out of the total of one hundred forty-one transfer students did not take part in any of the activities used in the study and the majority of them did not take part in any activity at all. Two transfer students participated in four activities, ten participated in three, eleven in two and thirty-five in one activity only. The seniors have the highest mean with each student in the senior class taking part in an average of 1.04 extra-curricular activity. The mean for the whole group of transfer students is less than one activity per student. The exact mean was .966.

Table 39 shows the number of non-transfer students who took part in extra-curricular activities for the school

TABLE 39. EXTRA-CURRICULAR ACTIVITIES OF NON-TRANSFER STUDENTS

Number of Activities	Freshmen	Sophomore	Junior	Senior	Total
5			1	1	2
4	1		1	1	3
3	5	6	5	4	20
2	9	9	7	6	31
1	17	18	6	13	54
0	20	12	24	14	70
Total	52	45	44	39	180
Mean	1.04	1.2	1.00	1.18	1.16

year of 1938-39. As was the case of the transfer students, the highest number of activities for any one student is five. One junior and one senior in the non-transfer participated in five different extra-curricular activities. Seventy out of a total of one hundred and eighty did not take part in any of the activities used in this study. Three non-transfer students participated in four activities, twenty in three activities, thirty-one in two and fifty-four in one activity only. The mean of every class in the non-transfer group is one and over, with the mean of the senior class the highest. The mean of the total group is 1.16.

A comparison of Table 38 with Table 39 shows the non-transfer pupils taking part in more extra-curricular activities in every class. In the freshmen class the transfer mean is .686 and the non-transfer 1.04. In the sophomore class the

transfer mean is .32 and the non-transfer 1.2. The mean for the transfer juniors is .8 and for the non-transfer an even one. In the senior class it is 1.04 for the transfer and 1.16 for the non-transfer. The mean of the whole transfer group is .966 and for the non-transfer group it is 1.16.

Voluntary Reading of Transfer and Non-Transfer Pupils

The love of reading, whether for pleasure or profit, is something every boy and girl should learn in school. It was to find out how well the high school students of Maud had acquired this trait and to compare the amount of voluntary reading done by the transfer with the amount done by the non-transfer students, that this part of the study was made.

The data shown in Tables 40 and 41 were gathered from the library records of the high school library, the Maud Public Library, the book reports turned in to the English department of the high school, and personal interviews with the pupils. From the library records the books checked out by each pupil could be found, but a personal interview with the pupil was necessary to see if he, or she, had read all the book, or had just checked it out and not read it. Also from the personal interview, readings from private libraries, personal books and books from other sources could be obtained. All books reported on in the English classes were stricken from the list, as the study included only books read voluntarily.

Table 40 shows the results of the study for the trans-

TABLE 40. VOLUNTARY READING OF TRANSFER PUPILS

Number of Books Read	Freshmen	Sophomore	Junior	Senior	Total
More than 32					
30 - 32			1		1
27 - 29					
24 - 26					
21 - 23	2				2
18 - 20	1		3	1	5
15 - 17	3	1	1	2	7
12 - 14	4				4
9 - 11	3	2	4	4	11
6 - 8	4	1	2	1	8
3 - 5	10	4	6	7	27
0 - 2	15	9	6	6	36
Total	42	17	23	21	103
Mean	6.55	3.47	7.87	6.09	6.22

TABLE 41. VOLUNTARY READING OF NON-TRANSFER PUPILS

Number of Books Read	Freshmen	Sophomore	Junior	Senior	Total
More than 32		1	1		2
30 - 32				1	1
27 - 29			2	1	3
24 - 26			1		2
21 - 23	1		3	2	6
18 - 20	1		4	1	10
15 - 17	2	3	3	1	4
12 - 14			2	4	12
9 - 11	2	4	3	2	18
6 - 8	8	5	6	7	31
3 - 5	13	5	3	12	38
0 - 2	9	14			
Total	36	32	28	31	127
Mean	5.81	6.65	11.81	6.71	7.57

TABLE 42. COMPARISON OF VOLUNTARY READING OF TRANSFER AND NON-TRANSFER PUPILS

Groups	Average Number of Books Read by Each Class				
	Freshmen	Sophomore	Junior	Senior	Total
Transfer	6.55	3.47	7.87	6.09	6.22
Non-Transfer	5.81	6.665	11.81	6.71	7.57

fer pupils. The range in reading is very great in all classes, but the range in the junior class is the greatest. One pupil in this class has read thirty-one and six pupils have read from none to two books. The junior class read more books, on the average, than any other class in the transfer group, with a mean of 7.87. The sophomores have the least mean with 3.47 and the mean for the whole group is 6.22.

Table 41 shows the results of the study for the non-transfer pupils. One sophomore and one junior read more than thirty-two books during the year and thirty-eight of the total group read from two to no books. As in the transfer group, the junior class averaged the greatest number of books with a mean of 11.81. The freshmen have the lowest average with a mean of 5.81. The mean for the whole group is 7.57, which means that each one of the one hundred and twenty-seven non-transfer pupils read an average of seven and a half books voluntarily during the year.

A comparison of the mean of each class in each group

is shown in Table 42. In all classes, except the freshmen class, the non-transfer students have a higher mean than the transfer students. The average non-transfer sophomore read three more books during the year than the average transfer sophomore. The average non-transfer junior read four more books than did his transfer classmate. The average non-transfer senior read three-fourths of a book more than the transfer senior. The transfer freshman read, on the average, three-fourths of a book more than the non-transfer freshman. The average non-transfer student read, during the year, one and one-fourth more books than did the average transfer student.

Citizenship Grades of Transfer and Non-Transfer Pupils

At the close of each six weeks period each student of the Maud High School is given a grade in citizenship, or conduct. Before the close of the six weeks period each teacher receives a sheet containing the names of all students, listed by classes. On this sheet the teachers put down what they consider to be the citizenship grade for each pupil under their supervision. This will give each student an average of four to five different teacher ratings for each six weeks. The three six weeks periods are averaged together to make the semester grade and the two semester grades were averaged together to get the grade used in this study.

The citizenship grades for the transfer pupils are shown in Table 43. Sixty-three of the one hundred and twenty-

TABLE 43. CITIZENSHIP GRADES GIVEN BY TEACHERS TO TRANSFER PUPILS

Grades	Freshmen	Sophomore	Junior	Senior	Total
A or 1	25	5	15	18	63
B or 2	23	14	8	5	50
C or 3	5	2	2		9
D or 4					
Total	53	21	25	23	122
Mean	1.62	1.86	1.48	1.22	1.31

two made an average of A, fifty made an average of B and nine averaged C. No student went as low as a D in the transfer group. The best average was made by the seniors with a mean of 1.22 and the poorest average was made by the sophomores with a mean of 1.86. The mean for the whole group is 1.31.

Table 44 shows the results for the non-transfer students. Eighty-two of the one hundred and sixty-one made an average of A, sixty-seven made B, eleven made C and one, a freshman, made D. The best average was made by the senior class with a mean of 1.37 and the poorest average was made by the freshmen with a mean of 1.77. The mean for the whole group of non-transfer students is 1.57.

A comparison of Tables 43 and 44 shows that the transfer students made better grades in citizenship than did the non-transfer students. The mean of the transfer freshmen is .15 better. The difference in the mean of the total of each

TABLE 44. CITIZENSHIP GRADES GIVEN BY TEACHERS TO NON-TRANSFER PUPILS

Grades	Freshmen	Sophomore	Junior	Senior	Total
A or 1	18	17	23	24	82
B or 2	18	21	14	14	67
C or 3	6	2	3		11
D or 4	1				1
Total	43	40	40	38	161
Mean	1.77	1.62	1.5	1.37	1.57

group is .26 in favor of the transfer students.

Distribution of Pupils Quitting School

One of the most significant parts of this study is the distribution of the students who quit school. Students in either group who moved to another school were not counted as quitting. One student who was forced to quit school because of bad health was also not counted. The students who were counted were the ones who actually quit school and did not come back to the Maud Schools or attend any other school.

The number of each group who enrolled in school at the beginning of school, or some other time during the year, the number who quit school and the percent of those quitting are shown on Table 45. Of the one hundred and fifty-two transfer students who enrolled in school, twenty-eight quit school before the end of the year. This number is eighteen and four-tenths per cent of the total transfer students. In

TABLE 45. TRANSFER AND NON-TRANSFER PUPILS QUITTING SCHOOL

Groups	Number Enrolled	Number Quitting	Percentage Quitting
Transfer	152	28	18.4
Non-Transfer	181	16	8.8

the non-transfer group, sixteen, or eight and eight-tenths per cent, of the one hundred and eighty-one students who enrolled quit school before the end of the year. A comparison of the two groups shows that more than twice as many transfer students in a hundred quit school as did the non-transfer students. In a check of the reasons why pupils of both groups quit school it was found that the majority of them found the work too difficult and they were not interested in school. The second reason given was that some of the students had to do work at home.

Attendance of Transfer and Non-Transfer Pupils

According to many studies made on the subject it has been found that there is a close correlation between the pupil's progress in school and his attendance in school. For that reason a survey of the attendance of the transfer and non-transfer students of the Maud High School for the school year of 1938-39 was made.

Table 46 shows a summary of the attendance of the transfer and non-transfer pupils. Both groups were about

TABLE 46. ATTENDANCE SUMMARY OF TRANSFER AND NON-TRANSFER PUPILS

Attendance	Transfer Pupils	Non-Transfer Pupils
Perfect attendance	52	63
% Perfect attendance	34.2	34.8
Number missing 5 or less days	34	46
% Missing 5 or less days	22.4	25.4
Number missing 10 or less days	12	18
% Missing 10 or less days	7.9	10.0
Number missing more than 10 days	16	21
% Missing more than 10 days	10.5	11.6

the same on perfect attendance, with 34.2 per cent of the transfer students having a perfect attendance for the year and 34.8 of the non-transfer students in the same classification. In the group who missed five, or less than five days the transfer students had 22.4 per cent of their number and the non-transfer 25.4 per cent. Seven and nine-tenths per cent of the transfer students missed ten or less days and exactly ten per cent of the non-transfer students did the same. Of the students who missed more than ten days, 10.5 per cent were transfer students and 11.6 were non-transfer students. Taken as a whole, the attendance of the transfer students is a little better than the attendance of the non-transfer students.

TABLE 47. TRANSFER AND NON-TRANSFER STUDENTS WHO ENROLLED IN 1935-36 AND GRADUATED IN 1938-39

Groups	Number Enrolled 1935-36	Number Graduated 1938-39	Percentage Graduated
Transfer	65	16	24.6
Non-Transfer	62	27	43.7

Distribution of Students Who Enrolled as Freshmen in 1935-36 and Who Graduated in 1938-39

An important measure of the success of a school is its holding power. In this part of the study the number who enrolled in the Maud High School in 1935-36 and the number graduated from the same school in 1938-39 was used. No attempt was made to follow the students who had moved to another town and, therefore, may have graduated from another school. Only the graduates of the Maud High School were used.

Table 47 shows the distribution of the transfer and non-transfer students who stayed in the same school for four years and graduated. Of the sixty-five transfer students who enrolled in 1935-36 as freshmen, only sixteen, or twenty-four and six-tenths per cent, of the total number finished in 1938-39 in the same school. In the non-transfer group, twenty-seven of the sixty-two who had enrolled four years before graduated in 1938-39. This number is forty-three

and seven-tenths per cent of the total number of their group who enrolled four years before. These figures show that the holding power of the school is almost twice as good with the non-transfer students as it is with the transfer students. Eliminating the factor of attendance in other schools of those who enrolled and did not graduate, which should be equal in both groups, almost twice as many transfer pupils drop from school during the four year period as non-transfer pupils.

Summary

1. In this study one hundred and fifty-one transfer students and one hundred and seventy-eight non-transfer pupils were used.

2. Thirteen different tests and eight other comparisons were used in comparing the transfer and non-transfer students.

3. The transfer and non-transfer pupils have the same percentage of over age pupils and practically the same percentage normal and under age.

4. The non-transfer students have a slightly higher mental age than the transfer students.

5. The median I. Q. for each class of the non-transfer students is higher than the median I. Q. for each class of the transfer students.

6. The non-transfer freshmen, juniors and seniors averaged higher in arithmetic than did the transfer students

of the same classification. The transfer sophomores have a higher mean in arithmetic than the non-transfer sophomores.

7. On both the hard and easy words in spelling the non-transfer students averaged better scores than did the transfer students.

8. The non-transfer students have a slightly higher average reading quotient and a higher T score in reading than the transfer students.

9. In English composition the non-transfer group has the higher median scores.

10. The non-transfer students have a higher average score in word knowledge than the non-transfer students.

11. In both quality and speed of handwriting the transfer students are better than the non-transfer students.

12. The median score of the non-transfer students is higher than the median score of the transfer students in composite mathematics.

13. In algebra the transfer students have a higher mean score than do the non-transfer algebra students.

14. The non-transfer students have a higher average score in Oklahoma History than the transfer students.

15. In American History the average of the non-transfer students is higher than for the transfer students.

16. The transfer students have a higher median in general science than the non-transfer students.

17. The median in the biology test is higher for the transfer students than for the non-transfer students.

18. The rating for initiative and resourcefulness is practically the same for both groups.

19. The non-transfer students take part in more extra-curricular activities than the transfer students.

20. The non-transfer pupil reads more books voluntarily than does the transfer pupil.

21. The citizenship grades averaged slightly higher for the transfer students than for the non-transfer students.

22. More transfer students quit school during the year than did the non-transfer students.

23. The attendance of the transfer students is slightly better than that of the non-transfer students.

24. More of the non-transfer who started school four years ago graduated than did the transfer students.

25. In general, the non-transfer student has achieved more than the transfer student.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The chronological age-grade distribution of the transfer and non-transfer students is practically the same.

2. The mental ages and intelligence quotients are higher for the non-transfer students than for the transfer students.

3. The non-transfer students are fifty-five hundredths of a point higher in arithmetic.

4. The non-transfer students are two points higher on the easy words and six-tenths of a point higher on the hard words of the spelling test.

5. The non-transfer students have a one and seven-tenths higher T score in reading.

6. The non-transfer students have a four-tenths higher average on English Composition.

7. The non-transfer students are four points higher on the test of word knowledge.

8. The transfer students are three points higher in quality of handwriting.

9. The transfer students are one and three-tenths letters per minute higher in speed of handwriting.

10. The non-transfer students are one and one-half points higher in composite mathematics.

11. The transfer students are five points higher in algebra.

12. The non-transfer students are nine and four-tenths points higher in Oklahoma History.

13. The non-transfer students are seven points higher in American History.

14. The transfer students are one point higher in general science.

15. The transfer students are one point higher in biology.

16. The transfer and non-transfer students have practically the same ratings on initiative and resourcefulness.

17. The non-transfer students take part in more extra-curricular activities.

18. The non-transfer students do more voluntary reading.

19. The transfer students make slightly better citizenship grades.

20. The transfer students have a slightly better attendance record.

21. The holding power of the school is much better with the non-transfer students.

22. There is a great amount of individual difference in both groups. Pupils of the same age, grade and mental capacity show a great range of difference in subject matter achievement.

23. The students of the Maud High School ranked lower than they should have in American History, word knowledge, spelling composition, arithmetic and reading.

24. The students of the Maud High School rated high in biology, general science, Oklahoma History, handwriting, and they rated average in composite mathematics and algebra.

25. Twice as many, in a hundred, of the transfer students quit school than do the non-transfer students and could not be used in this study. The majority of the students who dropped out of school were students who were doing failing work at the time and would have brought down the averages of both groups.

26. The transfer students used in this study came from a better class of rural schools. Fully half of them came from a five teacher school and the majority of the rest of them came from two and three teacher schools.

27. In spite of the two above conclusions, the non-transfer students seem to achieve more and be better prepared for high school work than the transfer students, although the difference between the two groups is not very great.

28. The achievements of the transfer students increases with their stay in high school and the difference

between the transfer and non-transfer students grow less as they go from grade to grade in high school work.

Recommendations

1. A program for the orientation and guidance of rural school pupils who are entering city high schools should be set up to help prevent the dropping out of the transfer students.

2. Chronological age-grade tables should be made from year to year so that the distribution of children in the schools can be studied.

3. The mental capacity of each child who enters school should be determined and each teacher should have access to the child's record in order that she may know what to expect of the child.

4. A remedial program should be set up in the Maud schools to attempt to remedy and improve the subjects that the students were proven to be weak in.

5. The weaknesses shown by the transfer students in this study should be made known to the teachers of the rural school from which the transfer students come, in order that they may know in what direction to work to improve their students.

6. The parents of the rural children who showed weakness in preparation for high school should be told of of the condition and the reasons for the condition in order that a stronger public sentiment for larger school units

may be built up.

7. As long as we have one and two room rural schools the standards of such schools should be raised by raising requirements of the teacher, paying better salaries and requiring more and better school equipment.

8. A better system of rural school supervision should be set up.

9. A better and more varied program of extra-curricular activities should be set up in both the Maud schools and the rural schools.

10. The results of this study should be considered carefully by the administration and teachers of the Maud schools in order that all may work together in attempting to fit the school to the student and may help the rural pupils make up any deficiencies in preparation for high school that they may have.

11. The ultimate solution of the problem of making the children coming from the rural schools better prepared for high school lies in the abolition of the small district system in Oklahoma and the substitution of a system of larger school units, such as the strong county unit system. Under such a system the rural schools could be consolidated with the city and town schools of each county and all the children could have the same advantages and preparation. It would be practically as easy to transport all the children of the districts served by the busses as it is at the present to

carry the high school pupils only. Adding to the capacity of the bus, or providing more busses would take care of the situation. In this way the rural children would have the same type of teachers, same school library, same school equipment and all the other advantages of the non-transfer students.

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