

**THE FEASIBILITY OF USING THE GATES-MACGINITIE READING TEST
FOR DETERMINING ABILITY GROUPS FOR SEVENTH GRADE
READING CLASSES IN JUNCTION CITY**

by 6791

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B.S.E., K.S.T.C. Emporia, 1963

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

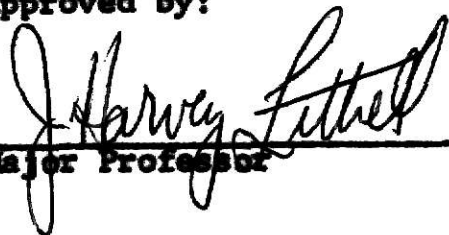
MASTER OF SCIENCE

College of Education

**KANSAS STATE UNIVERSITY
Manhattan, Kansas**

1971

Approved by:


Major Professor

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ACKNOWLEDGMENTS

The author wishes to express her sincere gratitude to Dr. J. Harvey Littrell, Professor of Curriculum and Instruction, for his interest and guidance in the preparation of this report.

To Dr. John T. Roscoe, Head of the Department of Administration and Foundations, she expresses deepest appreciation for his expert advice and for his patience with a novice concerning the treatment of data.

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INTRODUCTION

Developmental reading as a practical approach to teaching reading remains in current practice. Perhaps this is true because a more effective approach has not yet appeared on the educational scene. Developmental reading was introduced into the Junction City Junior High School seven years ago. It has run the gamut from a single classroom with two teachers who taught simultaneously, to three classrooms with individual teachers. It was also offered in the beginning as a one-semester course but is now a two-semester course. The students are divided into three ability groups: high, average, and low with the exceptionally low being taught in Special Education classes. The procedures used in grouping over three hundred students as they come from the six local elementary schools and from other schools, both American and foreign, have not proved to be without inexactness. The school system also has a high turnover in personnel as well as in student population.

For these reasons, a single index for student placement was desired. The Gates-MacGinitie Reading Test was used for two years as a primary basis for grouping. The seventh grade counselor, who formed the reading groups, and the researcher were in agreement that this test appeared reliable for our school population, but a verification through statistical findings was desired. Therefore, to evaluate this procedure

was the instigating factor for this report.

Teachers of reading realize that using a combination of factors such as an intelligence quotient, reading test scores, and teachers' grades constitute a most reliable index for grouping. With over three hundred students to place, a mobile population, and incomplete or unavailable records in some instances, compiling these data were virtually impossible. The feasibility of using a single reading test from which scores could be attained seemed to be a practical basis for grouping.

Statement of the Problem

The purpose of this study was to test the soundness of the practice of using a single reading test as a basis for ability grouping by determining the correlations between the Gates-MacGinitie Reading Test and three other instruments of measure--an intelligence test, an achievement test, and a sixth-grade teacher's grade.

Procedures Used in the Study

Data were collected from pupils' elementary school cumulative records and from transcripts. Tests were given and scores tabulated by counselor and researcher. The data were compiled for computer processing, and by using the tool of factor analysis a correlation matrix yielded coefficients

between the variables.

Definition of Terms

Developmental Reading. Early (4) stated that the label "developmental" is used to distinguish reading instruction designed for all students, at every level of achievement, from instruction which is offered only to those who are not reading at expected levels. Weisse (12) considered it as one of three programs in Special Reading, the other two being remedial and corrective. According to Hedges (5 p. 4):

Developmental reading activities are those in which the main purpose of the teacher is to bring about an improvement in reading skills--activities in which learning to read is the main goal.

Ability Groups. In the Junction City Junior High there were three groups or levels of reading--high, average, and low. These groups were formed by scores from the Gates-MacGinitie Reading Test. Those students scoring above the 60th percentile were placed in the high ability group. The average group consisted of those who ranked from the 20th to 59th percentile and the low group comprised those who fell below the 20th percentile. The number falling into each of the three groups was also a factor in determining the limits of the percentiles. The high group would constitute the largest number; the low group would have the smallest number as it was felt that the teacher of the low group should have

no more than fifteen students per class period. The percentile scores listed as the extremes of the groups were by no means stable as they fluctuate from year to year as well as within the year due to reasons such as schedule conflicts, class enrollment numbers, and other factors. The sixth-grade teacher's term grade was influential in cases of very high and very low abilities.

REVIEW OF RELATED LITERATURE AND RESEARCH

Pelsue (8, p. 15) asserted that "Education research has shown several good reasons for carrying formal reading instruction into the secondary levels." The most valid reason probably is that students have reached an age of maturity where an intensive course in developmental reading helps utilize already-present skills. He also stated that not only underachievers but also those who were achieving at or above grade level should be included. Early (4) attested to the opinion that intensive practice was desirable and that special reading classes needed a laboratory setting and the skills of trained teachers.

McCormick and others (7, p. 268) took a careful look at the overall seventh grade reading programs in their schools and reached the conclusion ". . . that students needed to be carefully grouped in order to meet the individual needs at various levels of achievement."

Most authorities were in agreement that the determining of students' proficiency or deficiency in reading should be based upon standardized methods and that information obtained would be valuable to prognosticate work in ability groups. Although such grouping would be somewhat crude, it was evident that students progressed faster within such groups rather than in non-grouping situations.

Grouping students for the teaching of reading was in evidence in the research from various areas throughout the United States. Pescosolide (9, p. 41) reported that findings in six New England states during the 1967-68 school year showed ". . . when seventh grade pupils receive developmental reading instruction, it most often occurs in separate reading classes . . ." Smith (11) reported that although modern teaching of reading falls short of sophistication, reputable studies show that rate of improvement is high in group work. He stressed the need to be practical about reading. In a developmental program there is much overlapping of levels within groups. Sex is not a relevant factor at this age as no distinct differences among boys and girls were in evidence. Briscoe (2) reported that in California the Gates Reading Survey Test (an earlier form of the Gates-MacGinitie Test) was used as a basis for dividing students into ability groups. Ames (1) stated that data from a skills test and an intelligence test were analyzed to determine strengths and

weaknesses in seventh grade students for grouping in reading.

It would be noted that the Metropolitan Test, one of the variables in this research, might favor the population because the majority, perhaps eighty per cent, of the students were white. Eagle and Harris (3, p. 133) found ". . . that white upper elementary children are 'favored' by the Metropolitan Test, whereas Negro children are 'favored' by the Iowa Test when the results of the two tests are contrasted." Karlin (6) related that vocabulary development and reading comprehension are closely related in the Metropolitan Test. This is verified in the statistical findings of this research by the correlation coefficient of .84 between the two parts as shown in the correlation matrix page 21.

Powell (10) compared the Gates-MacGinitie Reading Test with other general reading tests and stated that it would provide usable data on achievement in comprehension, vocabulary and speed. He said that it would be of limited value if information about reading sub-skills were needed. The Gates-MacGinitie Reading Tests replaced the Gates Reading Survey Tests. Powell noted that the newer tests make no claims for diagnostic features as did the earlier Gates' tests. The new norm data were obtained from a sample of approximately 40,000 pupils from thirty-eight communities selected on the basis of size, location, educational level,

and average family income. One would feel that this sampling would identify with the Junction City population. Powell cited the fact that no mention of validity was indicated in the manual. Content validity was not discussed. Construct validity was suggested through correlation between score of pupils on test and the Lorge-Thorndike Intelligence Test. Powell makes a criticism of the test in that the test manual did not indicate proper interpretation of obtained scores into classroom practice. The implication was given that the grade score obtained by the student was his instructional reading level. This implication was not supported by evidence. Powell did feel that the test ". . . will enjoy widespread use which was established by earlier editions."

RESEARCH PROCEDURES

Subjects

The subjects for this study were the sixth-grade students from the six Junction City elementary schools. They numbered slightly over 300 but due to lack of data on the twelve variables only 224 were used in the final analysis. There were slightly fewer males than females. The IQ range was from 68 to 131. The mean age was 152.9 months or about 12 years and 9 months old. The IQ mean was 99.78.

Population and School

Junction City is a mid-western first class city with a somewhat mobile population since Fort Riley, a military post, is located nearby. It would be considered a cosmopolitan city. After District #475, Junction City, was unified three years ago the rural students who are in the sixth grade in the county attend centers within the city. Thus, the population for the research consisted of students from backgrounds classed as civilian and military as well as urban and rural. The students used in the study were from various social, racial, and economic groups.

The Junction City Junior High School had an enrollment of over 900 students at the time of the research and the staff numbered about fifty. The test administrator and the researcher both had over twenty years of teaching experience.

Testing Procedures

All students in the report were given the Metropolitan Achievement Test in October, 1968, in their respective classrooms by the classroom teacher. In May, 1969, the seventh-grade counselor from the junior high went into the various classrooms and administered Form 1M of the Gates-MacGinitie Reading Test for the purpose of using data from it to help in formulating ability groups for the fall term of school. In October, 1969, all seventh grade students took the

Otis-Lennon Mental Ability Test in a group setting in the school auditorium, the test being administered by the same counselor. In December, 1969, the counselor went into the three reading classes and administered Form 2M of the Gates-MacGinitie Reading Test.

Description of Measurements

Metropolitan Achievement Test--Intermediate Battery-Complete. Scores from only the first two parts of this test were included in the study. The first part, Word Knowledge, consisted of a 55-item vocabulary test. The second part, Reading, consisted of a series of reading selections (44 items), each followed by questions measuring such aspects as comprehension, relationships, and inferences. The selections were graduated in difficulty. Percentile rank scores were used in the correlation matrix. Table I in Appendix B shows the reliability coefficients of the test. Values reported were ranges and medians of four independent estimates of corrected split-half coefficients. Each estimate was based on a random sample of one hundred grade 6.1 pupils from four school systems. These pupils typified high, low, and average performance on the test.

Gates-MacGinitie Reading Test--Survey E--Forms 1M and 2M. These tests are part of a new series-1965. The Vocabulary Test consisted of 50 items, each consisting of a test

word followed by five other words, one of which was similar in meaning to the test word. The Comprehension Test contained 21 passages in which a total of 52 blank spaces were introduced. The test measured student's ability to read complete prose passages with understanding. Passages were progressively difficult. Vocabulary and comprehension tests were not basically speed tests but timing was precise. The authors suggested using the average score on two or more comparable tests rather than the score on one test. Alternate-form and split-half reliability coefficients were given. Split-half reliability coefficients are shown in Table II in Appendix B.

Otis-Lennon Mental Ability Test--Intermediate Level--Form J. The Otis group intelligence test was administered to all seventh grade students in September. I.Q. scores for the research project were obtained from results of this testing. Reliability coefficients were determined on basis of corrected split-half correlations and the Kuder-Richardson and alternate-form procedures. Table III in Appendix B shows these reliability coefficients.

Compilation of Data

Individual student information was attained from elementary school cumulative records, junior high test records, and from student enrollment cards. Metropolitan

Test scores were taken from sixth grade records. The Otis-Lennon Mental Ability Test and the second form, Form 2M, of the Gates-MacGinitie Reading Test were given during the period of the research in order that relevant and current data could be secured.

Information was placed on hand data cards while being compiled. A sample of a hand data card can be found in Appendix A. After this information was gathered, if all twelve variables were complete, the information was transferred to Fortran and then to IBM punch cards. Dr. John T. Roscoe, Head of the Department of Administration and Foundations, Kansas State University, programmed the research material for analysis by electronic data processing.

Research Design

The investigator desired to study the correlation between a reading test and other measurements used to place students into ability groups. Because of the number of variables on each student, a correlation matrix was chosen as the research design. Correlation coefficients were easily identified from the matrix.

INTERPRETATION OF RESEARCH

Significant Findings

The major purpose of this research was to determine by a statistical method the soundness of relying on a single reading test as a primary basis to form initial ability groups for reading instruction. As scientific research is the systematic study of relationships between variables, this soundness could best be tested by the calculation of the correlations between various instruments measuring reading ability. Correlation coefficients as indices of these relationships between variables could be achieved most effectively by using a correlation matrix. Thus, a matrix was formulated and the results herein evaluated. Twelve variables were secured for each student but only six were used in the report: the Gates-MacGinitie Reading Test score at the end of the sixth grade and mid-term of the seventh grade, two scores from an achievement test, sixth-grade teacher's grade, and an I.Q. score.

Coefficients are not interpreted in terms of original score units. Percentile ranks, intelligence quotients, and letter grade values were all used in the correlation matrix in calculating the correlation coefficients.

Two significant findings were evidenced by the research. (See Correlation Matrix in Appendix C) As the

correlations fell within a range of .64 to .85, it would indicate that the correlations among the tests would have meaning for group or for individual prediction. It also shows evidence that the traits under study were extremely stable as the testing periods extended from October, 1968, to December, 1969. From this matrix, it can be seen that the correlation coefficients between the Gates-MacGinitie test which was administered in May, 1969, and the teacher's grade given in May, 1969, at the close of the sixth grade, would suggest that whatever teachers use for grading and whatever the measure is testing are closely related as there is a coefficient of .67 between the test and the teacher's grade.

The correlations between the two administrations of the Gates-MacGinitie Reading tests were on the order of .87. This would closely parallel what would be anticipated for a reliability test over a two-week period. The fact that it held up over a period of several months suggest the fact that Form A and Form B are equivalent and that the instrument itself has great reliability.

The correlation between the Gates-MacGinitie Test given at the end of the sixth grade and the word part of the Metropolitan Achievement Test showed a correlation of .83. A correlation of .82 was in evidence between the Gates test and the comprehension section of the Metropolitan test.

These correlations are extremely high and would indicate reliability between the two forms of reading measurements.

Correlation coefficients of .64 and .65 were indicated between the Otis-Lennon Mental Ability Test and the two administrations of the Gates-MacGinitie Test.

SUMMARY AND CONCLUSIONS

Summary

Statistical evidence was desired to substantiate the practice of using a single reading test as a main factor in determining the formation of reading ability groups at the seventh grade level.

Student data were collected and processed. From these data, a correlation matrix yielded coefficients which could be evaluated to determine the practicability of such a procedure.

It was found that all correlation coefficients among the various tests were quite high. The correlation coefficients between the two forms of the Gates-MacGinitie Reading Tests and the teacher's grade were .67 and .709 respectively. The coefficients between the two parts of the Metropolitan Achievement Test and Form A of the Gates-MacGinitie Reading Test were .829 and .82. The two forms of the Gates-MacGinitie showed high reliability with a coefficient of .87.

Conclusions

One can see the limitations of a single test being used as the principal basis for placement. It would seem more feasible to use a combination of factors but if there is insufficient time for individual data to be compiled or if the data are not available, the use of a test such as the Gates-MacGinitie Reading Test is recommended. The high reliability of the test is in evidence and it would appear that a student could be placed at an approximation of his ability with a high degree of certainty.

It would seem that the two parts of the Metropolitan Achievement Test show high reliability and have high correlation with other tests evaluated in the project. This would indicate that this test would also be of value in the formulation of ability groups.

A most important conclusion reached was that personal data cards for the individual students be made as early as possible in the term and be used to help refine the initial grouping. When one can see all pertinent data on one student, discrepancies can be more easily detected and changes can be made. The data cards should be kept up-to-date with the latest information concerning observations, test data, progress notes, and mastery of study skills.

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APPENDIX

APPENDIX A

Sample of Hand Data Card

Name	
ID	MAT
BD	TG
Sex	GM (A)
FO	GM (B)
MO	IQ
Sch	
P	

Key

ID Pupil's identification number
 BD Pupil's date of birth: first two digits give month, second two year. Age is calculated in months. (Ex. 0556, May, 1956, 164 months)
 Sex 1--Boy 2--Girl
 FO Father's Occupation: 0--Deceased, 1--Army, 2--Other 3--Professional
 MO Mother's Occupation: 0--Deceased, 1--Housewife, 2--Other, 3--Professional
 Sch School: 1--Departmental, 2--Franklin, 3--Lincoln, 4--Sheridan, 5--Washington, 6--Westwood, 7--Other
 P Number of parents with whom pupil was living 0--Other than own
 MAT Metropolitan Achievement Test Intermediate Battery October, 1968
 TG Teacher's Grade (Sixth Grade, May, 1969)
 GM (A) Gates-MacGinitie Reading Test Form 1M May, 1969
 GM (B) Gates-MacGinitie Reading Test Form 2M December, 1969
 IQ Otis-Lennon Mental Ability Test Form J October, 1969

APPENDIX B

TABLES OF RELIABILITY OF TESTS

TABLE I

METROPOLITAN ACHIEVEMENT TEST
 RELIABILITY COEFFICIENTS FOR SUBTESTS

Test	Range	Mdn.
1. Word Knowledge	.88-.95	.94
2. Reading	.89-.92	.90

TABLE II

GATES-MACGINITIE READING TESTS
 RELIABILITY COEFFICIENTS
 SURVEY E

Form	Subtest	Split-Half Reliability
1M	Vocabulary	.88
	Comprehension	.94
2M	Vocabulary	.89
	Comprehension	.93

TABLE III
OTIS-LENNON MENTAL ABILITY TEST
SPLIT-HALF AND KUDER-RICHARDSON RELIABILITY
BY TYPICAL AGES WITHIN LEVEL
FORM (J)

Level	Years of Age	N	Number of Items	Correlations	
				Split-Half	K-R #20
Intermediate	12	10,489	80	.94	.94
Intermediate	13	12,618	80	.95	.95
Intermediate	14	14,029	80	.96	.96