AN INVESTIGATION OF THE ENRICHMENT PROGRAM IN THE FIELD OF
ENGLISH AT WINONA SENIOR HIGH SCHOOL, WINONA, MINNESOTA

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by

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To the students involved in this study—without their cooperation, much of the information collected would have been very difficult to attain. To the parents of those involved in the study—they answered many questions that in all good conscience they could have refused to answer.

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

This chapter will describe the purpose of undertaking this study, and describe the recognized limitations of the study.

Introduction

Ability grouping and enrichment within the top ability group has existed in the Winona Public Schools since the school year of 1959 - 1960. Special treatment for talented pupils is found in the four common curricular areas of mathematics, science, English, and social studies, beginning in grade seven in mathematics and science; in grade ten in English and social studies.

The field of English was chosen for study, as it is first grouped at the sophomore level. This gave the investigator an available method of checking pre and post achievement. It was the original intention to include social studies in the study, as it too is grouped at the sophomore level. However, using both subject areas allowed too many variables to operate; finding two matched groups proved to be statistically impossible.
Purpose Of The Study

The purpose of this study is to compare achievement in English of an enriched group and a non-enriched group at Winona Senior High School. Since the inception of ability grouping in Winona, no attempt has been made to do a study of its accomplishments. Its existence for the past six years and its spreading to other fields in the curriculum implies acceptance despite the lack of evidence.

Under study were those students found in enriched English classes during their sophomore, junior, and senior years, from September, 1961, through June of 1964. For purposes of this study, students who are in this group are called the "experimental group." A "control" group, matched in terms of IQ, socioeconomic variables, and past achievement in English was selected from English courses other than the enriched class. The following questions were of special interest to this writer and to the administration of Winona Senior High School:

Was there a significant difference in achievement scores attained by the two groups in the field of English as measured by standardized tests?

Was there a statistically significant difference in the English grades received by the two groups in their first year of college?

The statistical study contained in this paper should not be construed as an inclusive evaluation of ability grouping at Winona Senior High School. This study is merely a comparison of achievement scores and related college grades in English for selected Winona seniors of 1964.
Limitations Of The Study

Students in the enriched group were selected for the enriched class on the basis of standardized IQ and achievement tests results combined with teacher recommendations. If the parents of students who have the potential to do the work in enriched classes objected to having their son or daughter included in such a class, or if the student himself objected, he would not be put in the class against these wishes. It was not unusual to find a student qualified for two or more enriched classes, yet choose to be in only one so as to reduce the work load or to fit in other school related activities. These situations created a climate in which some self-selection was possible, raising questions of motivation and the Hawthorne Effect. If a student entered an enriched class because his parents urged him, would he be more motivated, perhaps extrinsically, to succeed? If a student chose enriched English rather than the enriched social studies course for which he also qualified, would he be more motivated to succeed? Would inclusion in a group which received special or enriched instruction result in increased achievement due to the fact that they regarded themselves as special? These were the most obvious problems that had to be addressed in the study, yet in a manner which may not have assured their control.

Earlier, it was stated that it was of interest to determine whether participation in enriched English classes in high school resulted in better English grades during the first year of college.
To ascertain this, only those members of the 1964 Winona High School graduating class who went on to college were eligible for inclusion in the two groups. Therefore, the total number of students included was quite small. Caution must be exercised in drawing conclusions, especially in those cases where "no difference" was found.

Due to the small number of persons included in the study, it was impossible to classify colleges into categories such as those considered to be "most difficult," those of "median difficulty," or those considered to be "least difficult." It follows that no evaluation of English courses at the college level was made. For the purposes of this study, it must be assumed that no differences existed in the English courses offered by the colleges involved, or in the value of the grades given.

All factors which may affect achievement cannot be measured by two Iowa Tests of Educational Development subtests. It is also possible that enriched English may provide some values, such as enjoyment of literary works, and appreciation of higher forms of culture which cannot be measured by the methods used in this study.

Summary

Attention was called to the fact that ability grouping and enrichment within the top ability group has existed in the Winona Public Schools since September, 1959, and that no study had determined its success. The field of English was chosen for study as it was the only subject area that was first grouped at the sophomore level and continued
through the senior level. All other areas were grouped at the seventh grade level, or became heterogenous at the senior level, seriously limiting pre and post test opportunities.

The purpose of this study was to compare achievement in English of an enriched group and a non-enriched group at Winona Senior High School. It was of interest to determine whether there was a significant difference in achievement scores attained by the two groups in the field of English as measured by standardized tests, and also to determine if a like difference existed in the English grades received by the two groups in their first year of college.

Several limitations of the study were discussed. Among them were: 1) opportunity for self-selection of enriched classes, raising questions of motivation and the Hawthorne Effect; 2) the small number of students included in the study; 3) the classification of colleges into categories according to degree of difficulty; 4) the assumption that no differences existed in the English courses offered by the colleges involved, or in the value of the grades given; and 5) the possibility that all factors which may have affected achievement may not be measured by one standardized test.
CHAPTER II

REVIEW OF THE LITERATURE AND DEFINITION OF TERMS USED

The review of the literature is divided into seven areas. The first will present a history of concern for the gifted. Subsequent areas will deal with: 1) identification of the gifted; 2) programs for the gifted which are in common use -- definition of terms; 3) age and sex as factors affecting achievement; 4) studies concerning educational programs for the gifted; 5) homogeneous vs. heterogeneous grouping; and 6) enrichment for English, is it necessary?

History Of Concern For Talented Pupils

There is currently great concern about the use of talent in our society. Davids and Sidman put it this way:¹

Educators are troubled by the fact that a large proportion of the intellectually able students in secondary schools do not attend college, and officials concerned with the national security and technological advancements of our society are worried about the increasing shortage of scientists being trained by the American educational system.

A more generalized argument for meeting individual differences was expressed by O. A. Nelson:²


There has always been a general agreement among educators that all children in a democracy, regardless of economic status or any other differences, have equal rights to all privileges and opportunities that are available, be that health, happiness, education, or any other.

While these quotations bring to mind a recent concern, perhaps one unique to America, it is not difficult to illustrate an equal concern in times past. Throughout recorded history, mankind has been intrigued by the gifted. The Bible contains passages referring to the wisdom of the prophets, urging man to seek from them the proper interpretation of divine will. The ancient Greeks and medieval Europeans held that genius was a divine gift elevating the person so endowed above ordinary mortals. Another commonly accepted theory was that genius was associated with madness.

During the period between the fall of the Roman Empire and the emergence of the Renaissance, there was little room for the questioning of existing beliefs:

Church tradition taught man that certain realms of inquiry were beyond his comprehension and also dangerous to enter, since the imperfect human mind would only distort truth and lead him to stray from his faith.

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4 Tannenbaum, Ibid., p. 22, citing Deuteronomy 17:11.
5 Ibid., p. 21.
6 Ibid., pp. 22-23.
With the end of the Middle Ages, the human mind was gradually elevated to a point where man became the measure of all things. The conversion of the world from an agrarian to a highly commercial and industrial society have certainly influenced our attitudes toward the talented. "In the urban centers," writes Tannenbaum, "man quickly learned that the rewards in life could be attained through self-enlightment or self-betterment." These occurrences brought on the need for more general education which in turn has contributed the scientific and technological curiosity; the intellectual restlessness which has brought man the standard of living we know today.

Slightly over a century ago, Darwin, influenced by the essays of Thomas Malthus, began his travels which resulted in his controversial work, *On the Origin of Species by Means of Natural Selection.* This writing, and Galton's *Heredity Genius,* which establishes heredity as the prime factor of intellectual ability, had widespread implications in the study of talented persons.

During the nineteenth century, research studies most often concerned the slow-learning child. Studies of the gifted were not yet undertaken. Terman lists four factors which operated to limit research

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7Tbid., p. 23  
on the gifted: 1) superstition; 2) the belief that intellectual pre-
cocity is pathological; 3) vigorous growth of democratic sentiment
which encouraged an unfavorable attitude of appreciating individual
differences; and 4) the tardy birth of biological sciences, particularly
genetics, psychology, and education.

In the early twentieth century, Terman\textsuperscript{11} and Hollingworth\textsuperscript{12}
were interested in research concerning the gifted. Terman seemed most
concerned with the characteristics of the gifted while Hollingworth
concerned herself with differences between gifted children. Both seem
to have been very aware of the adjustive problems faced by gifted
students.

Between the two World Wars, the Commission on Reorganization of
Secondary Education issued its \textit{Cardinal Principles of Secondary
Education}, noting individual differences and deeming it a function of
the high school program to meet these differences.

World War II found the minds of the citizenry of the world
concerned with things other than education. In America, a pamphlet
published in 1950 by the Educational Policies Commission, called
attention to the waste resulting from neglect of the mentally

\begin{itemize}
\item \textsuperscript{10}The American Association for Gifted Children, Paul Witty (ed.),
\item \textsuperscript{11}Tannenbaum, \textit{Op. Cit.}, p. 28, citing Lewis M. Terman, \textit{et. al.},
"Mental and Physical Traits of a Thousand Gifted Children," \textit{Genetic
Studies of Genius}, Vol. I, Stanford University Press, Stanford,
California, 1925.
\item \textsuperscript{12}Tannenbaum, \textit{Ibid.}, citing Leta S. Hollingworth, \textit{Gifted Children:
\end{itemize}
superior. In the following year, the American Association for Gifted Children published a nation-wide survey of special provisions for the gifted found in American high schools, noting the lack of programs for the gifted and the great diversity in those programs that did exist.

Many factors have contributed to the upsurge of interest in the gifted since World War II. Since the end of that great conflict, America has entered an era of scientific and technological leadership. Competition from the communist camp has caused the demand for greater quantities of scientists, researchers, and technical personnel. This type of person must come from our most talented population. Hence, the increased interest in improving the education of gifted pupils.

In summary, Worcester's statement in the American School Board Journal does a remarkable job:

"For a long time schools were, in practice, designed primarily for the gifted or the near gifted - those who were definitely preparing for an intellectual or a professional career. Then came the age of the common man and the need was felt to bring all children to a common standard. In both of these periods it was conventional for all students to pursue the same basic curriculum. Recently many educators have adopted a new slogan, "Education for everyone suited to his needs."
Identification Of The Gifted

There is no one definition of the gifted that is universally acceptable, nor is there any agreement on how to identify talented students. This fact is demonstrable by the wide variety of terms that have been used: "the gifted," "superior students," "talented," "rapid learners," "the capable," "academically talented," "students of superior endowment," and "geniuses." 17

"Bright pupils are more or less arbitrarily defined as that group of about 20 - 25% of the school population at the upper end of the learning range," writes Baker, "most having IQ's in a twenty point range from 110 to 130." 18 Baker goes on to explain that there is nothing sacred about IQ scores, but concludes that those who have capitalized on habits of industry, home backgrounds, or desirable social and personal traits, may also be classified as gifted. 19

In a book by Robert F. DeHaan,20 it is reported that Terman used a Stanford-Binet Intelligence Scale of 140 for selection of the gifted; Hollingworth worked only with very superior students; and in the 1920 - 1930 era, Witty talked of giftedness as including the upper 10% of the

19Ibid.
population in terms of ability and those who possess any talent which showed remarkable promise.

As an additional factor in identification, Terman accepted the idea that the gifted have the ability to handle abstract concepts with unusual facility.\(^\text{21}\) The most general definition of giftedness is given by Havighurst. Identification under his conditions would be very inclusive.\(^\text{22}\)

A successful program of education for gifted children aims at the development of a variety of talents. It is one purpose of a democratic education system to assist in the development of the constructive potentialities of its students, whatever these potentialities may be. A meaningful definition of the gifted child would then not be a narrow one, but might include every child who, in his age group, is superior in some ability which may make him an outstanding contributor to the welfare of, and quality of, living in society.

Despite this lack of agreement on what constitutes a gifted child, there is more agreement on commonly used instruments of identification. Two general methods are available for identification of candidates for special programs:\(^\text{23}\) 1) observation by teacher; 2) objective tests. It is generally recognized that teachers' observations need to be supplemented by data obtained through objective testing. DeHaan


establishes a strong case for the use of standardized tests.  

Group intelligence tests are a major instrument for identifying candidates for accelerated learning programs. They are probably more widely used than any other single identifying device - and rightly so: they are the best single device for measuring intellectual giftedness. General tests of intelligence can be used as an initial screening device. Since these tests are good predictors of academic success, they might well be called tests of academic ability.

The Educational Policies Commission recommends the use of IQ tests in identifying gifted youth, not because they have been demonstrated to measure accurately, but because they have been found to provide data from which the subsequent behavior of an individual can be roughly predicted. This recommendation stems from evidence that 1) the level at which an individual is able to score on an IQ test remains fairly constant throughout later childhood, youth, and probably adult life too; 2) ability to score on an IQ test is related to success in school and college; 3) individuals who make high scores on IQ tests in youth are much more likely than others to attain distinction in adult life.

Two other kinds of tests which have proven practical and

\[\text{24} \text{Ibid., pp. 22-23.}\]


\[\text{26 Idem.}\]
effective for widespread use in identification of academic talent usually consists of two chief components: verbal or linguistic, and quantitative or mathematical. Achievement tests of many varieties are widely used to measure achievement in many subject matter areas. It is not unusual to use achievement tests in selection for grouping. While it is true that no one knows exactly what any of these tests measure, whatever it is seems consistently related to academic achievement.

Special Programs For The Gifted - Definition Of Terms Used

It is common practice to attempt to meet the needs of the gifted by forms of enrichment, grouping, and acceleration. Enrichment usually takes into consideration the traits of the gifted student. Learning, in the case of talented students, needs to be meaningful, with emphasis on transfer of learning. Havighurst, Stievers, and DeHaan go into more detail:

Enrichment is characterised by (1) emphasis upon the creative or the experimental; (2) emphasis on the skill of investigation

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and learning; (3) independent work, stressing initiative and originality; (4) high standards of accomplishment; (5) cooperative planning and activity that provide opportunities for leadership and experience in social adjustment; (6) individual attention given by teacher to student; (7) firsthand experiences; (8) flexibility of organization and procedure; (9) extensive reading, and (10) concern with community responsibility.

Lessinger sees enrichment as dealing with abstractions and concepts as opposed to "how to do" practical courses. The role of the teacher is one of encouraging initiative and self-help, of establishing a climate of creativity and problem solving, of being a model of mistake making. 32

Grouping may include special classes, honor classes, special schools, and combinations of these. The purpose of any kind of homogeneous grouping is usually to provide for enrichment of experiences and to permit students to stimulate one another. 33, 34 Enrichment within some form of ability grouping is the most commonly used form of educational program to challenge the interests and abilities of students. 35

Acceleration is accomplished by permitting students to complete courses or sequences of courses in less than the usual time, making it possible to enter college at an early age or to earn college credit for

work done in high school. Another common form of acceleration is grade skipping. 36

Whatever the form or program used, in a democratic society, the promotion of the general welfare is a central concern. "The maximum welfare of a group is achieved when each member of the group contributes as much as he is able." 37 The development of the individual is the goal of all these programs. It is the duty of society to provide the opportunities for individuals to develop their talents for the good of all in that society.

Age And Sex As Factors Affecting Achievement

It has already been mentioned in the literature that IQ and achievement, as measured by standardized tests, are closely associated with academic success. There are more subtle factors that may affect learning, not the least of which is age. Evidence on the relationship between age and learning shows that learning generally improves as age increases. Studies in this area of learning usually have involved the use of nonsense syllables, 38 and memory span for digits. 39 Thorndike, in experimenting with adult learning, suggests that learning shows a

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rapid rise until reaching a peak in the twenties, then gradually decreases. 40

Most studies, while showing a strong correlation between age and learning, are clouded by the uncontrolled variable of experience and by the thought that things are learned best when they are needed; a motivational factor.

There are data to suggest that sex may be a factor affecting learning. Studies regarding sex have been inconclusive, the advantage going to one sex or the other depending on the measuring instrument used. Kingsley and Garry 41 summarize the issue by indicating that in tests of general intelligence, no sex difference in average intelligence exists. However, on aptitude tests or intelligence tests which consist of sub-tests, sex differences are observed; the girls doing better in word fluency, reasoning, and rote memory while the boys do better on spatial relations and verbal meaning tests. More generally, boys do better on mechanical, scientific and mathematical aptitude tests, while girls do better on clerical aptitude and language skills. The Scottish Mental Surveys have been the most thorough in determining little difference between the sexes in regard to learning. 42, 43

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41 Kingsley and Garry, Ibid., pp. 155 - 159.
Studies Concerning Special Programs For The Gifted

A great deal of research has been done regarding special arrangements to help gifted pupils capitalize on their potential. One study, done by J. A. R. Wilson, attempted to determine whether enrichment resulted in measurable improvement in academic work and leadership roles. Two groups were equated on the basis of IQ, achievement test scores in reading and arithmetic, and seventh and eighth grade academic grades. The groups were compared again as seniors. The results showed no significant difference in academic work or in leadership roles.

Two studies by Justman are contradictory. At the junior high school level where two groups were equated on the basis of the Pinter General Ability Test (IQ), the Iowa Tests of Basic Skills (achievement), and a device to measure creativity, he concluded that grouping by ability was accompanied by superior academic achievement. The results obtained were attributed to the greater amount of course work the experimental group completed plus a greater mastery of reading skills. Also implied was the fact that there may be some advantage in students of superior ability associating together.

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In a similar study conducted at the high school level, Justman matched groups on IQ, school attended, sex, school marks, and regents' examination results. The experimental group was one year younger in chronological age. In this study, Justman concluded that high school marks and results of regents' examinations did not show any difference between the two groups in academic achievement. Perhaps this may be taken as a result favoring the accelerated group in view of the age difference.

Lessinger and Seagoe accepted the general concept of enrichment in geometry to test the hypothesis that it would accomplish for students:
1) an equal or better grasp of second semester plane geometry; 2) a greater understanding of mathematics in general; 3) greater ability to apply principles from geometry to other fields of knowledge; 4) greater ability to assimilate new mathematics material; 5) deeper interest in mathematics; 6) greater creativity and originality.

The results showed the experimental group to be significantly superior in 1) principles and understandings; 2) general ideas; 3) transfer of learning; and 4) creativity - originality. There was not sufficient evidence to support the hypothesis that 1) there was increased ability to learn new material; and 2) there developed a difference in appreciation.

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for and interest in mathematics.

The California State Department of Education recently reported the results of a study of seventeen different types of programs, including special groupings, acceleration, and enrichment in the regular class. Groups were matched on IQ (Revised Stanford-Binet Scale) and evaluated in terms of achievement (Sequential Tests of Educational Progress). All experimental groups reported showed greater average gains in achievement than did the control group.

Locke was not so much interested in the outcome of ability grouping as he was in determining what intellectual abilities, traits of personality, or habits most highly correlated with classroom achievement in science. Administered were thirty-four standardized tests to measure almost as many characteristics. He concluded that vocabulary, self control, and socioeconomic status were significantly related to classroom achievement.

Kanes sought to test the hypothesis that ability grouping may have advantages in that individuals will seek to change their level of performance to agree more with that of the group. Twenty-five under-

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achieving gifted students were placed in homogeneously grouped classes; twenty-three were placed in heterogeneously grouped classes. These in the homogeneous groups had higher academic achievement, and higher creativity factors (fluency, flexibility, and originality). The outcome of this study enabled Kane to conclude that homogeneous grouping may be desirable.

Homogeneous vs. Heterogeneous Grouping

It becomes apparent that research has produced many conflicting results. The results attained apparently are often dependent on the treatment of segregated groups and on the basis of classification. Franseth hits the issue squarely:51

Many studies since the turn of the century and before compare achievement gains of pupils grouped according to ability (mental maturity, IQ, attainment level) with gains made by their counterparts in heterogeneously grouped classrooms. The findings seem to follow no definite pattern. Available evidence indicates that factors other than the particular grouping methods used account for any difference that may show up in achievement tests between children grouped according to ability and those grouped heterogeneously.

Grouping, as yet unproved in existing research, has encountered its share of criticism. In 1931, a critical study of homogeneous grouping was made which opposed any form of special classes.52 In an

article by Wood, criticism seems more poignant: 53

The experts say it is extremely difficult to group students by ability, that even if you can, they don't stay grouped by ability, and that even if they would stay grouped by ability, you would accomplish very little as far as more efficient learning is concerned.

While research is unable to provide an answer, a study of the advantages and disadvantages of grouping may allow one to come to some conclusions on the subject. An article in the Minnesota Journal of Education gives the following selected pro and con arguments: 54

The advantages of grouping: 1) the gifted can work at their own speed and within the range of their own abilities; 2) their abilities and potentialities can be challenged to a greater degree; 3) they are allowed a greater degree of intellectual stimulation without any possible harmful effects over acceleration or development of careless study skills; 4) they can explore new ideas and experiment with various media of expression without sacrificing group acceptance; gifted children tend to support each other as they work together, and 5) their performance acts as a stimulus upon each other as does the much richer curriculum.

The disadvantages of grouping: 1) it promotes snobbery and conceit; 2) it prevents the students from having a rich school life and from participating in many activities with other different students; 3) leadership opportunities are limited; 4) the average students, deprived of the gifted, suffer from the lack of stimulation created by them; 5) present identification limitations make it possible some gifted will be omitted or neglected in the selection, assuming that if all gifted cannot profit, then none should; 6) students may be overworked; and 7) special classes or groupings cost money.


Whether one concludes that grouping is desirable or undesirable is a matter of personal conviction. It is the writer's opinion that the advantages outweigh the disadvantages. Grouping students together is a useful administrative device as it enables teachers to work with a narrower range of abilities, allowing them to truly enrich their curriculum offerings.

Enrichment For English -- Is It Necessary?

A great deal of contemporary literature has been written regarding the relationship between the language arts and success in educational endeavors. The general theme of these writings is the recognition of an existing problem and the need for a serious search for answers.

In the fall of 1962, the Dean Langmuir Foundation provided a grant to the National Education Association for a three to five year study of the question of English composition.\(^5\) The National Education Association publishes the following facts in summary of their concern:\(^6\)

Seventy percent of American colleges and universities are required to offer remedial work in English. In 1960, 150,000 students failed college entrance tests in English.

Project Talent, a survey of 450,000 high school students from all over the country showed that only one percent of those surveyed could write a five minute theme without making mistakes in English.\(^7\) A


\(^{6}\)Ibid.

candid admission comes from the director of the University of Nebraska's Project English Center. "When it comes to composition we simply do not know what we should teach or how we should teach it." Arno Jewitt, Director, English Composition Project of the National Education Association writes, "High school students do not write as clearly, concisely, or correctly as they should." The situation was considered serious enough by our federal government to prompt it to finance and direct "Project English" through the Office of Education, Department of Health, Education, and Welfare. The University of Minnesota also considers the lack of writing skills a serious obstacle, as it initiated English Proficiency Examinations as a requirement for graduation.

Several suggestions have been made to stem this criticism. The College Entrance Examination Board's Commission on English talks about refocusing the English program to correct its weaknesses.

Composition should be neither infrequent nor incidental. It should be a part of each week's work and should be intimately connected with the other parts of that work. Although opportunity for 'creative writing' should be given as a means of enlarging the imagination, sharpening perception and heightening sensitivity in the use of language, most of the teaching of writing should be directed toward exposition and the components of the

---

expository process -- definition, description, analysis, comparison and contrast, influence and judgment. The resulting compositions should be carefully read, often individually discussed with their writers, and frequently rewritten.

The National Education Association's ideal English program places emphasis on reading and writing. The education of the academically talented secondary school pupil in English should contain: 1) challenge and enrichment, not speed; 2) ability grouping; 3) small groups; 4) development of efficient reading skills and a lively, disciplined critical faculty; 5) writing should convey information with an understanding of the topic, rhetoric, usage, history of the language, etymology, and semantics; creative writing deserves a back seat; and 6) a considerable amount of oral work. 62

Both of these suggestions urge the English curriculum to improve. Perhaps the reason that this subject does not lend itself well to dramatic breakthroughs is that enrichment in English is accomplished primarily by relating it to other subjects through supplementary activities, extracurricular activities, and use of community resources. 63 In Winona, the enrichment program for English is an entity in itself. The problem is to determine whether it results in greater achievement.


Summary

While educators are currently troubled about the use of talent in our society, this concern has not always existed. Ancient societies often regarded giftedness as a divine gift, or on the other extreme, associated it with madness. Since the Renaissance, man has become the measure of all things, propelled in this direction by the development of urban, industrialized societies. With the development of democracy, came the age of the common man. The need was felt to bring all children to a common standard. Only since World War II, in America, has the demand for greater quantities of scientists, researchers, and technical personnel, created increased interest in improving the education of the gifted.

There is no one definition of giftedness that is universally acceptable. Some have defined the gifted as those in the upper end of the learning range, usually using percentages to describe this. Others have used IQ scores, while others use an inclusive definition of any ability which makes a person an outstanding contributor to society. Objective tests and observation by others are the two most commonly used methods of identification.

Meeting the needs of the gifted has usually taken the forms of enrichment, grouping, and acceleration. Homogeneous grouping to provide for enrichment of experiences is the most commonly used form of program to challenge the interests and abilities of students.

There is some evidence to support the theory that learning improves with age, up to a point, then gradually decreases. This classical learning
curve has not been completely supported in current studies. There is also data to suggest that sex may affect learning, but most studies must be regarded as inconclusive. Which sex receives the advantage often depends on the measuring instrument used.

Studies on particular programs for the gifted, again must be viewed with caution, as some have shown them to provide advantages, while others have not. Many claims for homogeneous grouping have been made; many claim the disadvantages outweigh the advantages.

A great deal of contemporary literature suggests a relationship between the language arts and success in educational endeavors. Most suggestions for improvement of the English curriculum include an increase in the amount of writing directed toward exposition and the components of the expository process. It has also been suggested that the English curriculum improve on its own, rather than being related to other subjects through supplementary activities.
CHAPTER III

PROCEDURES OF THE STUDY

The purpose of this study was to compare achievement in English of an enriched group and a non-enriched group at Winona Senior High School. This chapter will identify the subjects studied and the bases for matching used. The last section will review the statistical procedure that was applied to the bases for matching.

The Students Studied

The experimental group of students was identified as being those in enriched English classes in grades ten through twelve who also went on to college. The basis for admission to this enriched class was achievement as measured by the Iowa Tests of Educational Development given in grade nine, reading level as measured by the Iowa Silent Reading Test, IQ measured by the Lorge Thorndike Intelligence Tests, grade seven, and teacher recommendations. It was predetermined that only one enriched class should exist. Since classes have code numbers which designate their type, those students found in English 121 as sophomores, 111 as juniors, and 101 as seniors were labeled the experimental group. This group numbered 22 persons.

All students who went on to higher education, other than those in the experimental group, were considered candidates for the statistically matched control group. There were sixty-nine students in
this group, from which twenty-two were chosen.

Those individuals found in the experimental group or selected for
the control group all entered Winona High School as sophomores in September
of 1961, attended the classes of Winona Senior High School, and graduated
in June of 1964.

The Measuring Instrument

The 329 minute class period version of the Iowa Tests of
Educational Development, prepared under the direction of E. F. Lindquist,
Science Research Associates, was used for both the pre and post tests of
achievement.

Normative Data

The norms for the Iowa Tests of Educational Development are based
on a nationwide testing program conducted in the spring of 1957, and apply
to a population of all students in grades nine through twelve in regular
daily attendance at public high schools throughout the United States. 64
The sample on which the norms are based was drawn from a population which
took into consideration geographical distribution as well as size of
community.

A total of 366 schools in 254 school systems, embracing 148,590
pupils, participated in the standardization project. 65 Adequate repre-
sentation was obtained for all but New England communities of 5,000 to

64 Science Research Associates, Iowa Tests of Educational Development
65 Ibid., p. 22.
Validly

While the Iowa Tests of Educational Development were not designed primarily as measures of scholastic aptitude, numerous studies over a period of fifteen years have revealed a high degree of correlation between the test scores and later high school and college achievement. The correlation between the composite score of the Iowa Tests and rank in graduating class varies between .50 and .71; between composite score and English average for grades 9 - 12 is .45; with cumulative grade point average through grade 12 at .73. Correlations of composite scores with college freshman grades vary from .40 to .77. It is recognized by the test authors that the correlations cited will vary from school to school and study to study as high school grades, rank in class, and college grades will vary widely.

To help teachers and administrators understand the purposes and techniques of the test authors, a detailed description of the tests, and a summary of the instructional objectives each was designed to measure are presented. Test 3, Correctness and Appropriateness of Expression was designed to "give a reliable indication of the student's mastery of some of the basic elements in correct and effective writing: punctuation, usage, capitalization, spelling, diction, phraseology, and organisation."
Test 7, Ability to Interpret Literary Materials is an attempt to assess "most of the measurable understandings that high school pupils may be expected to derive from the reading of literary materials." It is suggested that the test user put himself in the student's place and take the tests to determine what skills and proficiencies are demanded to obtain high scores.

Reliability

Each of the tests of the Iowa Tests of Educational Development was designed to yield a coefficient of reliability of .91 for students in a single grade in a single school. Coefficients are based on the correlation between scores on odd and even numbers as corrected by the Spearman-Brown formula.

Subtest 3, Form X, yields a reliability coefficient of .92; subtest 7, a coefficient of .90. For Form Y, subtest 3 yields a reliability coefficient of .94; subtest 7, .90. Coefficients have been calculated on the basis of 3 to 8 participating schools with 720 to 1,022 participating students.

Intelligence Quotient

The two groups were matched on the basis of IQ. Routinely, the

\[ \text{Intelligence Quotient} = \frac{\text{Verbal Score}}{\text{Performance Score}} \times 100 \]

See Appendix A for raw data.
Lorge-Thorndike Intelligence Tests are given in grades seven and ten. In October, 1961, while sophomores in high school, all forty-four students included in the study were administered the level 5, verbal version of this test. The Lorge-Thorndike Intelligence Test, widely accepted as a good group intelligence test, has an average standard error of 5.1 IQ points, and correlates quite highly with three other well-known group intelligence tests: California Mental Maturity (77); Kuhlmann-Anderson (79); and Otis (84).

Achievement

The Winona Public Schools is one of a few districts that give the Iowa Tests of Educational Development every year in grades nine through twelve. As the area studied, English, was not grouped until the sophomore year, it was thought that selected subtest scores of the Iowa Tests of Educational Development, given during September, 1961, could be used to match groups on achievement scores in certain phases of English. Participants in the study would be just beginning their sophomore year. It was decided that approximately two weeks of enrollment in grouped classes would not appreciably affect the scores obtained.

Subtests 3, 7, and 8 of the Iowa Tests of Educational Development are tests of Correctness of Expression, Reading Literature, and General Vocabulary, respectively. An attempt was made to statistically match two groups on these three subtests, plus the IQ score previously mentioned.

Too many variables were apparently uncontrolled, as matching was possible only on IQ. Dr. Tamminen suggested a method of matching to improve the situation. It was decided to select subtest 3, Correctness of Expression, as the most appropriate for matching the two groups in the measured knowledge of English. An attempt was made to match on subtest 7 also, but only on the basis of visual inspection. If a match was not obtained, it was decided that subtest 7, Iowa Tests of Educational Development, would be dropped. Subtest 8, while it deals with General Vocabulary, was not included as a variable to be controlled because it would have added to the number of variables.

**Age**

The literature suggests that learning may improve as age increases. An effort was made to match the two groups in age. Birth dates were obtained by an examination of school records. Age was calculated in months as of September 1, 1961. In the calculation, 15 days or more was considered a full month.

**Sex**

The literature is less clear as to the role of sex in achievement. It was decided to address this variable by use of chi square to determine whether the two groups were similar in the number of each sex found in them.

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75 See Appendix B
76 See Appendix C for raw data.
Sociocultural Variables

Matching groups on the basis of measured intelligence, educational status, age, and sex, does not assure matched groups, as everyone is also the product of his social, cultural, and economic environment.

One source suggests that participation in community life, type of occupation, ownership of homes or other status symbols, and participation in various types of organizations or cultural groups gives a good indication of sociocultural status.77 Still another source suggests that frequent changes in occupation, nationality group, religious affiliation, and amount of education are often regarded as guides to class structure.78

Organization Membership

A cover letter and questionnaire were sent to the parents of the students in an effort to determine the organizations to which they belonged.79 With some prodding by telephone, responses were obtained from all forty-four families involved. Table I indicates the number of each group who indicated membership in the various classifications of organizations.80

79See Appendices D and D1
80A chi square test is applied to this data further on in this paper to determine whether the two groups were similar in organizational membership.
### TABLE I
THE NUMBER OF FAMILIES IN EACH GROUP WHO INDICATED MEMBERSHIP IN CLASSIFICATIONS OF ORGANIZATIONS

<table>
<thead>
<tr>
<th>TYPES OF ORGANIZATIONS</th>
<th>EXPERIMENTAL</th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Service</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Labor Unions</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Special Interest Groups</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Community &amp; Nat'l. Betterment or Welfare Groups</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Professional Groups</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Fraternal Org. &amp; Servicemen's</td>
<td>12</td>
<td>9</td>
</tr>
</tbody>
</table>

*For a listing of organizations included in each classification, see Appendix E*

**Occupation**

Comparing the two groups in terms of occupation was done by consulting the city directory. The occupation of the main wage earner, as listed in the city directory, was put into one of five occupational classifications. The classification system used was the investigator's own modification of the Edwards' Scale of Occupational Classification. Table II summarizes the classifications of occupations of the two groups.

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TABLE II
CLASSIFICATION OF OCCUPATIONAL STATUS OF PARENTS

<table>
<thead>
<tr>
<th>Classifications of Occupations</th>
<th>Experimental Group N</th>
<th>Control Group N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, technical and kindred</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Managerial, Officials and Proprietors</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Sales, Clerical and Kindred</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Crafts, Foremen and Kindred</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Operatives and Kindred</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

A greater number of wage earners in the experimental group were found in the upper occupational levels. The control group had more wage earners in the lower occupational levels than did the experimental group.

Checking a 1958 directory against a 1963 directory indicated that only in two cases where deaths had occurred in the family had there been a change of occupation. All of the forty-four families had been residents of Winona for a period longer than five years. Both groups were considered well-established, stable residents of the city.

Home Ownership.

Whether the two groups differed in home ownership, an indication of socioeconomic status, was determined by consulting the city directory.

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83 A chi square test is applied to this data further in the paper.
Table III indicates how many in each group owned or rented their homes.

TABLE III
NUMBER OF FAMILIES IN THE STUDY WHO OWNED OR RENTED THEIR HOMES

<table>
<thead>
<tr>
<th>Home Ownership</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Rent</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Type of College Attended

It was decided that the type of college the participants of this study attended may indicate socioeconomic status. The underlying assumption was that the more difficult the school, the higher the prestige factor. It was also assumed that attending a college "away from home" would have lent more sophistication to those that attended them. As defined by Science Research Associates, colleges were placed in three categories:

1. "Most Difficult" will apply to (A) universities of the "Ivy League," (B) renowned technical colleges, and (C) top-rated private colleges and universities.

2. "Median Difficult" will apply best to (A) a majority of state universities, (B) some private universities, and (C) a majority of church-affiliated liberal arts colleges.

3. "Least Difficult" will probably best apply to (A) a majority of junior colleges, (B) a majority of state teachers colleges, and (C) some church-affiliated liberal arts colleges--particularly those in the more rural sections of the country.

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85 A chi square test is applied to this data further on in this paper in an effort to determine whether the two groups were similar in home ownership.

The college attended indicated more than socioeconomic factors. It was necessary to compare the two groups on the type of college attended so as to be able to make meaningful comparisons of grades received in freshman college English courses. It is possible that a lower grade point average in English at a "difficult" school might be better than a high one at an "easy" school.

An attempt was made to determine whether the two groups selected the same types of colleges. Table IV indicates how many of each group chose colleges of varying degrees of difficulty.87

**TABLE IV**

**THE NUMBER IN EACH GROUP WHO CHOSE COLLEGES OF VARYING DEGREES OF DIFFICULTY**

<table>
<thead>
<tr>
<th>Type of College*</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Difficult</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Median Difficulty</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Least Difficult</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

*See appendix F for a list of colleges attended.

**Location of Residence Within the City**

The city of Winona has a unique cultural pattern. It is generally accepted that the eastern section of the city, inhabited to a large extent

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87 A chi square test is applied to this data further on in this paper to determine whether the two groups were similar in type of college selected.
by people of Polish extraction, is the more culturally deprived area of Winona. Living in the western section, or in the extreme outlying regions is considered by many to be more acceptable. None of the forty-four families used in this study lived in the "questionable area." Location of residence did not appear to be a variable affecting socio-economic status.

**Statistical Procedure Used to Check on Equivalence of the Two Groups**

**IQ, Achievement, and Age**

The "t" test of significance was used to determine whether there were significant differences between the means of the experimental and control groups as sophomores on the following:

- **Large-Thorndike Intelligence Test, Level 5, Verbal**
- **Iowa Tests of Educational Development, subtest 3, Correctness of Expression**
- **Iowa Tests of Educational Development, subtest 7, Reading Literature**
- **Age, in months, as of September 1, 1961**

Table V summarizes the results of this calculation. The differences between the two groups in IQ, subtest 3, Iowa Tests of Educational Development (Correctness of Expression), subtest 7, Iowa Tests of Educational Development (Reading Literature), and age, were not significant at the 1% level of confidence. For purposes of this study, the two groups were alike on all four criteria.
TABLE V

SUMMARY OF THE CALCULATION OF "t" ON SELECTED CRITERIA FOR MATCHING EXPERIMENTAL AND CONTROL GROUPS AS SOPHOMORES

<table>
<thead>
<tr>
<th>Criteria for Matching</th>
<th>Experimental</th>
<th>Control</th>
<th>D</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>(IQ) Longe-Thorndike Level 5, Verbala</td>
<td>120.773 9.406</td>
<td>127.409 8.533</td>
<td>1.364</td>
<td>15.125 1.851</td>
</tr>
<tr>
<td>ITED subtest 7, Reading Literaturea</td>
<td>23.773 3.293</td>
<td>22.955 2.935</td>
<td>.818</td>
<td>19.933 .903</td>
</tr>
<tr>
<td>Age in Months as of 9/1/61b</td>
<td>182.64 4.271</td>
<td>182.36 4.645</td>
<td>.27</td>
<td>25.923 .2314</td>
</tr>
</tbody>
</table>

*aSignificant at the 5% level  **Significant at the 1% level

aSee Appendix A for raw data
bSee Appendix C for raw data

\[
SD = \sqrt{\frac{\sum X^2 - (\sum X)^2}{N - 1}}
\]

Where \( X \) = deviations from the mean

\[
\overline{D}_p = \sqrt{\frac{\sum D^2 - (\sum D)^2}{N - 1}}
\]

Where \( D \) = differences between scores of selected pairs

\[
t = \sqrt{\frac{\sum X^2 - (\sum X)^2}{N - 1}}
\]
Socioeconomic Variables

To determine whether the two groups were similar on socioeconomic variables, chi square was computed for those variables judged to be operating. Tables VI through IX summarize the calculations of chi square on those socioeconomic variables measured.

From tables VI through IX, it appears that there was no significant difference between the two groups in 1) types of organizations belonged to; 2) classifications of occupations; and 3) home ownership. Where a student attends college may give an indication of the socioeconomic status of the family. There was a significant difference in the type of college attended by the two groups. This finding may have implications in making meaningful comparisons of grades received in freshman college English courses as it is possible that a lower grade point average in English at a "difficult" school might be better than a high one at an "easy" school.

Location of Residence

Location of residence within the city was discussed earlier as a basis for matching, but the necessity of computing chi square was ruled out as none of the families lived in a "questionable area."

Sex

It was deemed important to determine that approximately the same number of boys and girls could be found in each group. Chi square was calculated to determine whether the two groups were similar in the number of each sex found in them. Table X illustrates this calculation.
TABLE VI

THE CALCULATION OF CHI SQUARE TESTING THE NULL HYPOTHESIS THAT NO SIGNIFICANT DIFFERENCE EXISTED BETWEEN THE TWO GROUPS IN TERMS OF ORGANIZATIONAL MEMBERSHIP

<table>
<thead>
<tr>
<th>TYPES OF ORGANIZATIONS</th>
<th>EXPERIMENTAL GROUP</th>
<th>CONTROL GROUP</th>
<th>ROW TOTAL</th>
<th>($O-E)^2$</th>
<th>$&lt; \frac{(O-E)^2}{E}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>9a</td>
<td>6a</td>
<td>15</td>
<td>3</td>
<td>0.200</td>
</tr>
<tr>
<td>Service</td>
<td>8</td>
<td>7.6923</td>
<td>15</td>
<td>3.120</td>
<td>0.248</td>
</tr>
<tr>
<td>Labor Unions</td>
<td>7</td>
<td>8.1522</td>
<td>15</td>
<td>1.065</td>
<td>0.1681</td>
</tr>
<tr>
<td>Special Interest Groups</td>
<td>9</td>
<td>8.6957</td>
<td>16</td>
<td>0.986</td>
<td>0.1288</td>
</tr>
<tr>
<td>Community &amp; Nat'l Betterment</td>
<td>6</td>
<td>8.6869</td>
<td>16</td>
<td>0.955</td>
<td>0.1288</td>
</tr>
<tr>
<td>Welfare Groups</td>
<td>8</td>
<td>8.0972</td>
<td>16</td>
<td>0.955</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Professional Groups</td>
<td>6</td>
<td>4.4248</td>
<td>10</td>
<td>0.200</td>
<td>0.0302</td>
</tr>
<tr>
<td>Fraternal Org. &amp; Servicemen's Clubs</td>
<td>12</td>
<td>11.4139</td>
<td>21</td>
<td>0.302</td>
<td>0.0352</td>
</tr>
<tr>
<td>Column Totals</td>
<td>50</td>
<td>42</td>
<td>92</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Where:
- $O =$ observed
- $E =$ expected (or) $(column \ total) \times (row \ total)$
- $\chi^2 = \frac{(O-E)^2}{E}$

Where:
- $E_x =$ experimental group
- $E_c =$ control group

*Significant at 5% level
**Significant at 1% level

---

TABLE VII

THE CALCULATION OF CHI SQUARE, TESTING THE NULL HYPOTHESIS THAT NO SIGNIFICANT DIFFERENCE EXISTED BETWEEN THE TWO GROUPS IN TERMS OF TYPES OF OCCUPATIONS

<table>
<thead>
<tr>
<th>CLASSIFICATIONS OF OCCUPATIONS</th>
<th>EXPERIMENTAL GROUP</th>
<th>CONTROL GROUP</th>
<th>ROW TOTAL</th>
<th>(O-E)²</th>
<th>Χ² ( \frac{(O-E)^2}{E} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, Tech. &amp; Kindred Occupat.</td>
<td>O²</td>
<td>E²</td>
<td>O²</td>
<td>E²</td>
<td>( E_b² )</td>
</tr>
<tr>
<td>Managerial, Officials, &amp; Proprietors</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Sales, Clerical and Kindred</td>
<td>10</td>
<td>8.5</td>
<td>7</td>
<td>8.5</td>
<td>17</td>
</tr>
<tr>
<td>Crafts, Foremen and Kindred</td>
<td>3</td>
<td>3.5</td>
<td>4</td>
<td>3.5</td>
<td>7</td>
</tr>
<tr>
<td>Operatives and Kindred</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
</tr>
<tr>
<td>Column Total</td>
<td>22</td>
<td>44</td>
<td></td>
<td></td>
<td>( \frac{\sum (O-E)^2}{E} ) = 3.0722</td>
</tr>
</tbody>
</table>

Where: 
- \( O \) = observed
- \( E \) = expected (or) \( \text{column total} \) \( \times \) \( \text{row total} \)

\[ \chi^2 = \frac{(O-E)^2}{E} \]

Where:
- \( E_b^² \) = Experimental group
- \( E_c^² \) = Control group

*Significant at the 5% level
**Significant at the 1% level

---

TABLE VIII

THE CALCULATION OF CHI SQUARE, TESTING THE NULL HYPOTHESIS THAT NO SIGNIFICANT DIFFERENCE EXISTED BETWEEN THE TWO GROUPS IN TERMS OF HOME OWNERSHIP

<table>
<thead>
<tr>
<th>OWN OR RENT HOMES</th>
<th>EXPERIMENTAL GROUP</th>
<th>CONTROL GROUP</th>
<th>ROW TOTAL</th>
<th>(\frac{(O-E)^2}{E})</th>
<th>(\frac{\chi^2}{E})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own homes</td>
<td>0</td>
<td>0</td>
<td>21</td>
<td>20.5</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>E</td>
<td>41</td>
<td>Ex^2 0122</td>
<td>Co^2 0122</td>
</tr>
<tr>
<td>Rent homes</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>E</td>
<td>4</td>
<td>Ex^2 01666</td>
<td>Co^2 01666</td>
</tr>
<tr>
<td>Column Total</td>
<td>22</td>
<td>22</td>
<td>Grand Total 44</td>
<td>(\frac{(O-E)^2}{E}) = .3576</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Where:
- \(O\) = observed
- \(E\) = expected (or) \(\frac{\text{Column total}}{\text{Row total}}\)
- \(\chi^2 = \frac{(O-E)^2}{E}\)

\(\chi^2 = \frac{(O-E)^2}{E}\)

\(\chi^2 = \frac{(O-E)^2}{E}\)

- \(b_E\) = Experimental group
- \(c_c\) = Control group

*Significant at the 5% level of confidence

**Significant at the 1% level of confidence

---

### TABLE IX

THE CALCULATION OF CHI SQUARE, TESTING THE NULL HYPOTHESIS THAT THERE WAS NO SIGNIFICANT DIFFERENCE BETWEEN THE TWO GROUPS IN TERMS OF TYPE OF COLLEGE SELECTED

<table>
<thead>
<tr>
<th>TYPE OF COLLEGE</th>
<th>EXPERIMENTAL GROUP</th>
<th>CONTROL GROUP</th>
<th>ROW TOTAL</th>
<th>( \frac{(O-E)^2}{E} )</th>
<th>( \sum \frac{(O-E)^2}{E} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Difficult</td>
<td>4 (^b) 16 (^b)</td>
<td>0 (^b) 4 (^b)</td>
<td>20 (^b)</td>
<td>3.6000 (^c)</td>
<td>14.7428**</td>
</tr>
<tr>
<td>Median Difficulty</td>
<td>4 (^d) 6 (^d)</td>
<td>5 (^d) 5 (^d)</td>
<td>10 (^d)</td>
<td>0.2000 (^e)</td>
<td></td>
</tr>
<tr>
<td>Least Difficult</td>
<td>2 (^d) 12 (^d)</td>
<td>7 (^d) 7 (^d)</td>
<td>14 (^d)</td>
<td>3.5714 (^e)</td>
<td></td>
</tr>
<tr>
<td>Column Total</td>
<td>22</td>
<td>22</td>
<td>44 (_{\text{Grand Total}})</td>
<td>( \sum \frac{(O-E)^2}{E} = 14.7428 )</td>
<td></td>
</tr>
</tbody>
</table>

\(^{a}\)See Appendix F

\(^{b}\)Where:
- \( O \) = observed
- \( E \) = expected (or) \( \frac{(\text{column total})(\text{row total})}{\text{Grand Total}} \)

\[ X^2 = \sum \frac{(O-E)^2}{E} \]

\(^{c}\)Ex = Experimental Group
\(^{d}\)Co = Control Group

*significant at the 5% level
**significant at the 1% level


*The planing of the colleges found in Appendix F into one of these categories was done by following the definitions of SRA as closely as possible. The categories are so broad that in some cases the opinion of the investigator classified them.*

---

\(^{91}\)Edwards, op. cit., pp. 152 ff.
### Table X

**The Calculation of Chi Square to Determine if the Groups Were Similar in Sex**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Experimental</th>
<th>Control</th>
<th>Row Total</th>
<th>(\frac{(O-E)^2}{E})</th>
<th>(\sum (O-E)^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>6</td>
<td>10</td>
<td>16</td>
<td>(\frac{E_b^b}{286})</td>
<td>(1.52^*)</td>
</tr>
<tr>
<td>Girls</td>
<td>16</td>
<td>14</td>
<td>28</td>
<td>(\frac{E_g^b}{286})</td>
<td>(1.52^*)</td>
</tr>
</tbody>
</table>

*Significant at the 5% level
**Significant at the 1% level

Where:
- \(O\) = observed
- \(E\) = expected (or) \((\text{column total})(\text{row total})\)
- \(X^2 = \sum (O-E)^2 / \text{Grand Total}\)

\(E_b = \text{Experimental Group}\)
\(E_g = \text{Control Group}\)

While both groups had a higher proportion of girls than boys, the difference was not significant. The heavy proportion of girls in both groups tends to bear out a study conducted in Rockville, Maryland, where experimentation with grouping indicated that talented groups consisted of more girls than boys. Based on this finding, they grouped by sex as well as other factors.

---

To determine whether the students selected for this study felt they had mastered the skills of composition, a questionnaire was sent asking them to indicate how well prepared they thought they were for the college English courses they were encountering. This questionnaire was sent at the end of the first semester of the freshman year. They were also asked to indicate which English course they felt did the most to prepare them for success in college English, and to write a short paragraph to explain why they answered as they did. Seventy-seven percent of the control group and eighty-six percent of the experimental group responded. In general, the experimental group felt less prepared for the college English courses they were encountering than did the control group, even though chi square computation (Table XI) showed no significant difference in the way the two groups responded.

It is within reason to assume that the kinds of colleges the participants of the study attended may have affected their responses to the questionnaire. Those in the more difficult schools may have been more aware of their deficiencies.

To establish the area in which they felt weak, the paragraphs written by the students, explaining why they answered as they did were carefully studied. Categories of replies were established, based upon the sixty-four percent of both groups that filled in this part of the questionnaire. It was interesting to note that seventy-nine percent of

93See Appendix G for questionnaire.
those that responded in the experimental group mentioned lack of skills in composition as their most serious difficulty with college English. Of the control group, forty-three percent of those that dealt with this portion of the questionnaire answered in the same manner.

TABLE XI

THE CALCULATION OF CHI SQUARE, TESTING RESPONSES TO THE QUESTION, "HOW DO YOU FEEL THE ENGLISH COURSES TAKEN AT WINONA HIGH SCHOOL HAVE PREPARED YOU FOR COLLEGE ENGLISH COURSES?"

<table>
<thead>
<tr>
<th>POSSIBLE ANSWERS</th>
<th>EXPERIMENTAL GROUP</th>
<th>CONTROL GROUP</th>
<th>ROW TOTAL</th>
<th>(O-E)^2/E</th>
<th>∑(O-E)^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not prepared at all for college</td>
<td>9^a</td>
<td>6^a</td>
<td>15</td>
<td>0.422</td>
<td></td>
</tr>
<tr>
<td>Prepared me somewhat above average</td>
<td>9</td>
<td>7.389</td>
<td>16</td>
<td>0.351</td>
<td></td>
</tr>
<tr>
<td>Superior preparation background</td>
<td>6</td>
<td>6.861</td>
<td>13</td>
<td>0.111</td>
<td></td>
</tr>
<tr>
<td>Column Total</td>
<td>19</td>
<td>17</td>
<td>36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level
**Significant at the .10 level

^aO = observed responses
E = expected responses (or) (column total) (row total) / Grand Total

X^2 = ∑(O-E)^2/E

^bEx = Experimental Group
Co = Control Group

Table XII illustrates the various kinds of responses obtained in the paragraphs of explanation, the number of each group that responded in each way, and percentages of those that responded.

**TABLE XII**

EXPLANATIONS BY STUDENTS AS TO WHY THEY ANSWERED THE FOLLOWING QUESTION AS THEY DID. "HOW DO YOU FEEL THE ENGLISH COURSES TAKEN AT WINONA HIGH SCHOOL PREPARED YOU FOR COLLEGE ENGLISH COURSES?"

<table>
<thead>
<tr>
<th>CATEGORIES OF RESPONSES</th>
<th>NUMBER OF STUDENTS RESPONDING</th>
<th>PERCENTAGE OF THOSE RESPONDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ex. Grp. b</td>
<td>Cont. Grp. a</td>
</tr>
<tr>
<td>Poor background in composition skills</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Good background in composition skills</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Poor background in literature</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good background in literature</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Poor background in grammar</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Good background in grammar</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>14</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

*See Appendix C

*Ex. Grp. = Experimental Group

*Cont. Grp. = Control Group
The two groups were alike on IQ, achievement scores as sophomores, age, and all but one of the socioeconomic variables that were evaluated. The groups were similar in sex, although girls outnumbered boys in both groups. The types of colleges selected by the two groups studied differed, the experimental group attending more sophisticated, selective colleges away from home; the control group staying closer to home in less selective colleges.

Both groups indicated a lack of knowledge in composition skills as being of major concern. A chi square test indicated the two groups were similarly aware of deficiencies in their English preparation, but the answers received may have been attributable to the colleges in which they were enrolled. It was judged that the two groups were sufficiently alike on the variables evaluated to carry on the study.
CHAPTER IV

FINDINGS OF THE STUDY

This chapter presents the findings of the statistical study described in the preceding chapter. The two general hypotheses tested are restated and results are given.

Hypothesis I

Enrichment in English in grades ten through twelve resulted in no significant differences in the means of the two groups as measured by subtest 3, Correctness of Expression, and subtest 7, Reading Literature, Iowa Tests of Educational Development.

Results of the Study

In September, 1963, the Iowa Tests of Educational Development were again routinely administered. By this time, as seniors, one group had had two full years of enriched English classes; the other had had only regular instruction. Differences between the two groups were tested with the "t" test of significance. This statistical test was applied to the results of subtests 3 and 7 of the Iowa Tests of Educational Development; the same tests that were used to match the groups as sophomores.95

95 See Appendix H for raw data.
Table XIII illustrates the calculation of "t" for subtest 3, Correctness of Expression, Iowa Test of Educational Development, taken as seniors. At the 1% level of confidence, the null hypothesis that there was no significant difference in the means of the two groups was not rejected. The value of "t" was quite high, with the experimental group having the higher mean score, but the difference was not statistically significant at the 1% level; it could have been due to sampling error.

**TABLE XIII**

THE CALCULATION OF "t", SUBTEST 3, IOWA TESTS OF EDUCATIONAL DEVELOPMENT TAKEN AS SENIORS

<table>
<thead>
<tr>
<th>Experimental</th>
<th>Control</th>
<th>D</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>26.909</td>
<td>2.544</td>
<td>25.182</td>
<td>2.407</td>
</tr>
</tbody>
</table>

*Significant at the 5% level (2.080 required)

**Significant at the 1% level (2.631 required)

\[ SD = \sqrt{\frac{\sum X^2 - (\sum X)^2}{N-1}} \]

Where \(X\) = the deviation of the raw scores from the mean

\[ D = \frac{\sum (X_e - X_o)^2}{N-1} \]

Where \(D\) = difference between scores of selected pairs

\[ t = \sqrt{\frac{D}{N-1}} \]

\[ df = 21 \]
Table XIV illustrates the calculation of "t" for subtest 7, Reading Literature, Iowa Tests of Educational Development, taken as seniors. Again, a null hypothesis was established that there was no significant difference in the means of the two groups. While the higher mean standard score favored the experimental group, the difference was not significant.

**TABLE XIV**

THE CALCULATION OF "t", SUBTEST 7, READING LITERATURE, IOWA TESTS OF EDUCATIONAL DEVELOPMENT, TAKEN AS SENIORS

<table>
<thead>
<tr>
<th>Experimental</th>
<th>Control</th>
<th>D</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{X}_e )</td>
<td>( \bar{X}_c )</td>
<td>( \bar{X}_e - \bar{X}_c )</td>
<td>( t )</td>
</tr>
<tr>
<td>26.000</td>
<td>3.008</td>
<td>24.591</td>
<td>2.987</td>
</tr>
</tbody>
</table>

*Significant at the 5% level  
**Significant at the 1% level

- \( SD = \sqrt{\frac{\sum X^2 - (\sum X)^2}{N-1}} \)  
  Where \( X \) = the deviation of the raw scores from the mean

- \( t = \sqrt{\frac{ND^2 - (\sum X)^2}{N-1}} \)  
  Where \( D \) = differences between scores of selected pairs

- \( df = 21 \)
The small observed differences in the means of subtests 3 and 7 in favor of the experimental groups could have been chance variations. From this small sample, it appears that enriched classes in English did not make it possible for the experimental group to score significantly better at the 1% level on tests designed to "give reliable indications of the student's mastery of some of the basic elements in correct and effective writing,"\(^96\) and to assess most of the measurable understandings that high school pupils may be expected to derive from the reading of literary materials.\(^97\) The experimental group, scoring significantly better at the 5% level on subtest 3, gives some support to the hypothesis that enrichment results in higher achievement. Had a larger sample been used the difference may have been significant at the 1% level of confidence.

Hypothesis II

Participation in enriched English courses while in high school results in better English grades in freshman English courses in college.

Results of the Study

**College Aptitude**

The composite score of the Iowa Tests of Educational Development, while not designed primarily as a measure of scholastic aptitude, does constitute about as dependable a predictor of academic success in college

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as can be secured from any scholastic aptitude test battery.98,99

Table XV shows the calculation of a "t" test of the null hypothesis that there was no significant difference in the means of the two groups on the composite score of the ITED taken as seniors.

**TABLE XV**

THE CALCULATION OF "t", TESTING THE NULL HYPOTHESIS THAT THERE WAS NO SIGNIFICANT DIFFERENCE IN THE MEANS OF THE TWO GROUPS ON THE COMPOSITE SCORE OF THE ITED TAKEN AS SENIORS

<table>
<thead>
<tr>
<th>Experimental</th>
<th>Control</th>
<th>D</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{X} )</td>
<td>SD</td>
<td>( \bar{X} )</td>
<td>SD</td>
</tr>
<tr>
<td>31.045</td>
<td>4.029</td>
<td>28.318</td>
<td>3.528</td>
</tr>
</tbody>
</table>

*Significant at the 5% level
**Significant at the 1% level

\[ SD = \sqrt{\frac{\sum X^2 - (\sum X)^2}{H-1}} \]

Where \( X \) = deviations of the raw scores from the means

\[ \sqrt{\frac{N_1D^2}{H-1}} \]

Where \( D \) = differences between scores of selected pairs

\[ df = 21 \]


99 See Appendix H
At the 1% level of confidence, the difference in the way the two
groups scored on the composite score of the ITED, taken as seniors, was
not significant. As this test is taken as an indication of college
aptitude, the two groups could be expected to do equally well in freshman
college English. The experimental group, scoring significantly better at
the 5% level on the composite score of the ITED, gives some support to the
thought that had the groups been larger, there may have been a significant
difference in college aptitude.

Grades Received in College

The forty-four students selected for this study attended eight-
een different colleges and universities scattered across the nation. It
was decided that grades would be requested after the completion of the
second quarter to allow a period of adjustment to the college situation.
Obviously, those students who attended colleges using the semester system
did not receive the same advantage. All credits, for purposes of uniformity,
were converted to quarter credits. In some cases, it was necessary to
write letters to the colleges, seeking additional information about the
courses so as to be able to convert the credits to a usable form.

Table XVI shows the calculation of "t" in determining whether a
significant difference existed between the grade point averages earned by
the two groups in the field of freshman college English. At the 1% level
of confidence, there was no significant difference in the mean grade point

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100 See Appendix F
101 See Appendices I & J
averages of the two groups even though the experimental group had a higher mean GPA.

**TABLE XVI**

THE CALCULATION OF "t" TO DETERMINE WHETHER A SIGNIFICANT DIFFERENCE EXISTED BETWEEN THE MEAN GPA EARNED BY THE TWO GROUPS IN FRESHMAN COLLEGE ENGLISH

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
<th>D</th>
<th>2d</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{X} )</td>
<td>2.851</td>
<td>2.700</td>
<td>.151</td>
<td>3.978</td>
<td>.50904</td>
</tr>
<tr>
<td>SD</td>
<td>.772</td>
<td>.559</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 5% level
**Significant at the 1% level

While no significant difference was found in the mean grade point averages of the two groups in freshman college English, it is possible that the different types of colleges selected may have affected the outcome. However, since it was the experimental group which attended the "more difficult" colleges, finding no significant difference in college grades in the field of English may well be a vote of confidence for homogenous grouping in English at Winona Senior High School.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This last chapter will briefly summarize what has been stated in the preceding chapters. An attempt will also be made to present some conclusions from the study and some recommendations for further study.

Summary

Throughout history, talented persons have often been set apart, at times receiving lavish praise for their accomplishments, at others being condemned as enemies of society. The growth of the democratic spirit promoted the education of the common man. Until recently, the talented student had to fit himself into this mold.

Shortly after the turn of the century, when the United States was propelled into a more important position in world affairs, society became more aware of the waste of talent resulting from the neglect of the gifted. Since World War II, special programs that make use of grouping, acceleration, or enrichment have come into common use in order to more adequately meet the needs of the talented. Homogeneous grouping to facilitate enrichment is most commonly found.

In the Winona Public Schools, such a program has existed since 1959. It was the purpose of this paper to determine whether enrichment in English, grades ten through twelve, resulted in greater achievement
as measured by appropriate subtests of the Iowa Tests of Educational Development. Comparing freshman college English grades was another method used to determine the value of enriched English courses.

A review of the literature on grouping and factors that affect its results was made to acquaint the reader with studies that have been conducted similar to the one presented in this paper.

The two groups, 22 in the experimental group and 22 in a control group, were matched as sophomores on achievement in English as measured by the Iowa Tests of Educational Development, subtests 3 and 7. Also, the two groups were equivalent in age, IQ, and most socioeconomic variables measured. The two groups were similar in regard to sex; there were more girls in the experimental group.

As seniors, the mean standard scores of subtests 3 and 7, Iowa Tests of Educational Development, favored the experimental group. This difference was significant at the 5% level for subtest 3, Correctness of Expression. An effort was made to determine whether the experimental group, having had three years of enriched English, would receive higher grades in freshman college English courses. Colleges attended by members of both groups varied in degree of difficulty. A greater number of the experimental group attended more difficult colleges further from home. While the experimental group's grade point average was not significantly higher than that of the control group, it is possible that the different colleges attended may have affected the outcome, as institutions and the grades issued by them vary. There was no significant difference
between the experimental and control groups in college aptitude as measured by the composite score of the Iowa Tests of Educational Development taken as seniors. This, when combined with the fact that the experimental group selected the "more difficult" colleges, (more difficult to get satisfactory grades) may well be a vote of confidence for homogeneous grouping in English at Winona Senior High School.

Members of both groups reported lack of knowledge in composition skills as a difficulty encountered in college English courses, but this too may be attributed to the different colleges attended. The experimental group scored significantly better on subtest 3, Iowa Tests of Educational Development as seniors; scored better on the composite score of the Iowa Tests of Educational Development, a measure of college aptitude, and attended the more difficult colleges. It could be that they were more painfully aware of their deficiencies.

Conclusions

It is not the purpose of enriched courses to prepare students to score better on the Iowa Tests of Educational Development. However, these tests are achievement tests, and as such are designed to indicate a measure of a student's mastery of recognized subject areas.102

At Winona Senior High School, enrichment did not result in higher achievement scores at the 1% level. Yet, the limitations of this study demand caution in drawing conclusions. These limitations are: 1) some self-selection of enriched courses was possible; 2) questions of motivation and the Hawthorne Effect; 3) the size of the groups participating; 4) selection of colleges of varying degrees of difficulty; and 5) the possibility that subtests 3 and 7 of the Iowa Tests of Educational Development may not measure all factors which affect achievement.

The only achievement tests given at Winona Senior High School are the Iowa Tests of Educational Development. Subtest 3 of the ITED, Correctness of Expression, measures a statistical difference in achievement between the two groups studied at the senior level (5% confidence level). Perhaps sampling error prevented finding a significant difference at the 1% level. Subtest 7, Reading Literature, shows no such significant difference at the senior level.

It was of interest to determine whether the enriched English program at Winona Senior High School enabled its participants to achieve higher grades in freshman college English. The information gained from the eighteen colleges that enrolled the participants of this study during their freshman year, with applied statistical tests, does not support this hypothesis. Finding no significant difference in the G.P.A. of the two groups insofar as freshman college English grades were concerned, allows the investigator to express doubt about the value of enriched classes in English at Winona Senior High School. However, the different types of colleges attended, plus the other limitations of this study, does not
allow a conclusion that such courses are of no value. Two assumptions: 1) there is no difference in difficulty of colleges; and 2) grades are comparable measures of student success, allowed two gigantic variables to operate. It is the investigator's opinion that being accepted by and succeeding at Stanford University is entirely different than being accepted by and succeeding at Winona State College. The composite score of the ITED, generally considered a good predictor of college success, with applied statistical tests, gave the experimental group a significant advantage at the .05 level. If this were the only criterion used, one would have predicted higher grade point averages for those in the experimental group. Yet, the actual grade point averages showed no significant differences between the two groups. Also, the experimental group scored better on a test designed to measure achievement in correctness of expression. There must be a great variance in what is acceptable at the different colleges included in this study. The investigator feels that the experimental group, having done "as well" as the control group in freshman college English grade point averages, speaks in favor of continuance of the enrichment program.

**Recommendations**

It was very difficult in a school of 1100 students in grades ten through twelve, to control as many variables as was desirable. A study of this nature would be much more meaningful if conducted over several years so as to accumulate a sizable population which attends the same college,
enrolls in the same courses, and learns from the same professors. Carrying on the study in a large metropolitan center which has a local university might come closer to this ideal in a shorter period of time.

This study yielded no hard, fast conclusions. In general, the concept of enrichment seems worthy of support. This study has uncovered no disadvantages; the advantages are elusive, as so many factors may determine the outcome.

Implications Of This Study

Enrichment usually means that the teacher is expected to do more, to stimulate, to provide advantages above and beyond that found in normal classes. In a true sense, teachers of enriched classes should be relieved of non-professional duties; should be given theme readers to reduce the work load; term papers written in other classes should be channeled through the theme readers where they could double for English grades. If these things were done, then it could be said that enrichment exists. The problem seems to be lack of composition skills. Yet, this investigator doubts whether many schools, including Winona, make it possible for English teachers to handle the number of papers their students should be writing.103 Perhaps if individual discussion of the writing took place, then it could be said that true enrichment exists.104 In the final analysis, this study does not discredit enrichment, nor does it prove its worth.

The idea of selecting students for enriched classes needs examination. Shouldn't every class be enriched? If the goal of American education is to teach everyone at his level; to educate him to reach his greatest potential, then every class needs enrichment. The students put into enriched classes in most cases already have many advantages: home background, basic intelligence, cultural and socioeconomic status; do they need one more advantage -- enrichment? Perhaps it is the other kind of student, the one who has none of these advantages, who is more in need; who could use enrichment to overcome some of the disadvantages over which he has no control.
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Educational Policies Commission of the National Education Association, Education of the Gifted, the Association, 1950.


**B. PERIODICALS**


C. MISCELLANEOUS PUBLICATIONS


APPENDIX A

MATCHED PAIRS OF STUDENTS: EXPERIMENTAL AND CONTROL GROUPS AS SOPHOMORES

<table>
<thead>
<tr>
<th>PAIR NUMBER</th>
<th>Lorge-Thorndike Level 5 Verbal I.Q.</th>
<th>Standard Scores Subtest 3</th>
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<sup>a</sup>E = experimental group

<sup>b</sup>C = control group
APPENDIX B

PROCEDURE FOR SELECTING A MATCHED GROUP USING SELECTED CRITERIA

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a nominator = assigned student number
denominator = standard score, subtest 7, ITED
black color = enriched group; N = 22
red color = all other graduates, class of 1964 that went to college, N=69
Lorge-Thorndike, level 5, verbal. Scores indicated are in addition to 100
APPENDIX C

MATCHED PAIRS OF STUDENTS: AGE* OF EXPERIMENTAL AND CONTROL GROUPS ON SEPTEMBER 1, 1961

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\[ \sum x = 4018 \quad \sum \bar{x} = 4012 \]
\[ \bar{x} = 182.64 \quad \bar{\bar{x}} = 182.36 \]

*In Months
Dear

As part of the requirements for the Masters Degree at the University of Minnesota, Duluth, a paper must be written. To satisfy the requirements of this paper, I have undertaken a study of the enrichment program that exists in the field of English at Winona Senior High School. Your son or daughter who was graduated this past June is included in this study, as he (she) was either in an enriched group or capable of being selected for the program but not included because of personal desire or conflicts.

It is important that the group that had enriched courses be matched as closely as possible with a group that did not have such courses. You can aid in this endeavor by filling out the enclosed questionnaire. The purpose of this questionnaire is to help determine the social and economic status of the two groups.

I hope you will forgive the intrusion into your private lives, but it is necessary to match the two groups of which your student is a part. All answers will be held in strict confidence.

Sincerely yours,

H. Lee Roberts
APPENDIX D1

QUESTIONNAIRE TO DETERMINE ORGANIZATIONAL MEMBERSHIP

Directions:

Please write the names of all organizations to which you belong, whether it be private, church affiliated, professional, or what have you. To aid you in this, I have provided some general headings. Please feel free to add others. Thank you very much for your cooperation.

Community Service: Special Interest Organizations:

Labor Unions: Community and Nat'1 Betterment or Welfare Groups:

Professional Groups: Fraternal Organizations and Servicemen's Clubs:
## APPENDIX E

### ORGANIZATION MEMBERSHIPS LISTED BY THE PARENTS OF THE PARTICIPANTS OF THE STUDY

#### Service Clubs and Organizations
- Exchange Club
- Jaycees
- Kiwanis
- Lions
- Rotary
- Mrs. Jaycees
- Community Hospital Auxiliary
- Winona Chamber of Commerce

#### Fraternal Organizations
- I.O.O.F. and Rebekahs
- Knights of Columbus
- Masons
- Eagles
- B.P.O.E.
- Red Men's

#### Professional Groups
- American Medical Association
- Winona County Bar Association
- P.E.O.

#### Community and National Welfare or Betterment Groups
- Issak Walton League
- Salvation Army
- Winona Civic Association
- Winona Community Chest
- Winona Shrine Club
- YWCA
- YMCA
- Welcome Wagon
- Who's New?
- Winona Shrine Hospital Association

#### Servicemen's Clubs
- American Legion and Auxiliary
- V.F.W. and Auxiliary

#### Labor Unions
- Central Labor Union
- Teamsters Union
- American Federation of Teachers

#### Special Interest Organizations
- Simplicity Club
- Royal Neighbors
- Venture Club
- Arlington Club
- Athletic Club
- Automobile Club
- Rod and Gun Club
- D.A.R.
- Republican Women's Club
- Winona Community Concert
- Winona County D.F.L. Committee
- Winona Civic Chorus
- A.A.U.W.
- Winona Art Group
- Winona Activity Group
- Toastmasters Club
- Winona Country Club
- Toastmistress Club
- Portia Club
- Seroptimists
- Chautauqua Club
- Various Church Groups
## APPENDIX F

**COLLEGES AND UNIVERSITIES ATTENDED BY THE SUBJECTS OF THE STUDY**

Number attending each college is indicated

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<th>Control Group</th>
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\[ N = 22 \] \[ N = 22 \]
APPENDIX G

QUESTIONNAIRE TO ASCERTAIN GROUP OPINIONS ON HIGH SCHOOL ENGLISH COURSES AS PREPARATION FOR COLLEGE ENGLISH

Dear

Now that you have spent a half year in the college of your choice you have undoubtedly formed some opinion on how well Winona Senior High School prepared you for the subjects you are now taking. Will you share your opinion with me? Your answers may help me draw some conclusions for my M.A. thesis, and perhaps, help the faculty at Winona High School improve the quality of their product. Your reply will be held in confidence.

Place a check (x) at a point on the scale that best describes your feeling.

1. In general, I feel that the English courses taken at Winona Senior High School have:

- Not prepared me at all for College English
- Prepared me somewhat for College English
- Given me above average preparation for College English
- Given me a superior background for College English

2. The English course that did the most to prepare me to succeed in college English courses was______________________________

3. If you would like to comment on why you answered as you did, please feel free to use the back side of this paper.

Enclosed you will find a self-addressed and stamped envelope to make it more convenient for you to return this questionnaire. Please forgive the impersonal appearance of the questionnaire, but time, and the number sent out, prohibit any other form.

For your cooperation I can only offer my heartiest thanks. Wishing you success in your endeavors, I remain.

Sincerely yours,
# Appendix B

## Matched Pairs of Students: Experimental and Control Groups as Seniors

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---

*a Experimental Group

*b Control Group
APPENDIX I

GRADERS EARNED BY THE CONTROL GROUP IN FRESHMAN ENGLISH OR EQUIVALENT

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<td>C</td>
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N reporting = 20

a Converted to quarter hours if the reporting college used some other form
b A = 4.00  B = 3.00  C = 2.00  D = 1.00
c First quarter grades available only
d Transferred to a different college at the end of the first quarter
f Refused permission for the release of grades
### APPENDIX J

**Grades Earned by the Experimental Group in Freshman English or Equivalent**

<table>
<thead>
<tr>
<th>Student Number</th>
<th>Grade Received</th>
<th>Credits</th>
<th>Honor Points</th>
<th>GPA</th>
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<td></td>
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</tbody>
</table>

\*Converted to quarter hours if the reporting college used some other form.

\*\*A = 4.00
B = 3.00
C = 2.00
D = 1.00

\*\*Grade Point Average

\*Grades reported by word of mouth. Not used so that the N of each group would be equal.

\*No grades received