AN INQUIRY INTO SELECTED FACTORS OF SECONDARY EDUCATION BEARING ON ACHIEVEMENT IN BASIC HISTORY AND POLITICAL SCIENCE COURSES AT OKLAHOMA STATE UNIVERSITY

By

Robert William Jacob

Bachelor of Arts
Tarkio College
Tarkio, Missouri
1949

Master of Arts
Oklahoma State University
1951

Submitted to the Faculty of the Graduate School of
the Oklahoma State University
in partial fulfillment of the requirements
for the degree of
DOCTOR OF EDUCATION
May, 1962

Thesis
1962D
J15i
cop.2

OKLAHOMA
STATE UNIVERSITY
LIBRARY

NOV 8 1962

AN INQUIRY INTO SELECTED FACTORS OF SECONDARY EDUCATION BEARING ON ACHIEVEMENT IN BASIC HISTORY AND POLITICAL SCIENCE COURSES AT OKLAHOMA STATE UNIVERSITY

Thesis Approved:

James E. Brewer
Thesis Adviser

Homer L. Knight

Theodore L. Agnew

Luther MacLean
Dean of the Graduate School

504520

PREFACE

There is a great deal of interest in the standards of secondary education in the United States. While criticisms of existing conditions are plentiful much of such criticism is based upon assumption rather than upon the findings of scholarly investigation. This study examined the validity of some of these criticisms.

To examine validity a measuring stick was needed and, to this end, the study utilized student achievement in certain basic courses at Oklahoma State University. The study was confined to secondary education in Oklahoma and specific emphasis was given to factors of secondary education bearing on achievement in history and political science.

Special acknowledgments are in order. First, I wish to thank the Advisory Committee for their interest, their encouragement and their many helpful criticisms and suggestions. The Committee consisted of Dr. James E. Frasier, Chairman, Dr. Homer L. Knight and Dr. T. L. Agnew.

The Departments of History and Political Science and individual members of their staffs were most helpful in making instructors' grade books available to me.

I wish to acknowledge, also, my appreciation for the cooperation and courtesies extended to me by the Bureau of Tests and Measurements of Oklahoma State University, under the direction of Dr. Harry K. Brobst, and by the Office of the Registrar of the University, under the direction of

Mr. Raymond Girod.

I am indebted to the Divisions of Instruction and Certification of the Oklahoma State Department of Education for their wholehearted cooperation in making their records and files available for my examination. In particular I wish to acknowledge the assistance of Mr. Jake Smart, Director of the Division of Instruction, Mr. E. H. Bingham, Director of the Division of Certification and Mr. R. B. Johnson, Director of Teacher Education.

In preparing the data for processing I had the helpful suggestions of Mr. Henry Allen Evans, graduate student in mathematics, and I wish to express my appreciation to him and to the Statistics Laboratory at Oklahoma State University for their work in computing several of the correlations reported in this study.

Professor Richard F. Fawcett, statistician with the Department of Mathematics of Central Methodist College, checked the processes and results of statistical computations which I did and checked, also, my reporting of the processes and results of all the statistical computations included in the study. I appreciate his valuable services.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

PROBLEM FOR STUDY

This study inquired into some of the factors of secondary education bearing on student achievement in basic history and political science courses at The Oklahoma State University of Agriculture and Applied Science.[1] The study grew out of criticisms as to the ineffectiveness of secondary education and a growing awareness of the importance of education on the secondary level. A great deal has been written and said about secondary education in recent years but much of such expression has been based upon bias and assumption. This study examined the validity of some of these biases and assumptions.

A measuring stick was needed to examine validity and, to this end, the study applied achievement in basic courses at Oklahoma State University. The specific courses used were the basic courses in American history and political science as the special concern of this study was with secondary education in history and government. Certain of the criticisms of secondary education seem especially apropos to instruction

---

[1]Hereafter referred to as Oklahoma State University. Prior to the summer of 1957 The Oklahoma State University was named The Oklahoma Agricultural and Mechanical College.

in history and government. Particularly so are such criticisms as deal with the failure of our schools to develop in American citizens an adequate value system and appreciation for the American way of life.

Statement of the Problem

The specific problem with which this study deals is: As regards first semester freshmen at Oklahoma State University who enrolled in basic American history or political science courses, what relationships existed between their achievement in these courses and: (1) the amounts of history and government the students had in senior high schools; (2) the sizes of the senior high schools which the students attended; (3) whether or not the high schools were accredited by the North Central Association of Colleges and Universities; (4) the academic preparation of the students' high school history and government teachers; (5) the non-instructional duties performed by the students' senior high school teachers; and (6) the Linguistic, Quantitative and Total Scores which the students made on the general ability tests taken upon entrance to Oklahoma State University.[2]

Definition of Terms

The following definitions apply to terms as used in this study:

---

[2]Hereafter the Linguistic, Quantitative and Total Scores are referred to as the L, Q and T Scores.

First semester freshmen means students enrolled for their first course work at Oklahoma State University, whose last enrollment was in a senior high school, who began work at Oklahoma State University in September following secondary graduation in May or June of the same year, and who were classified as freshmen upon entrance to Oklahoma State University.

Basic American history or political science courses refers to either History 283, History 293, History 303, Political Science 203 or Political Science 303 as listed in the catalogue of the College of Arts and Sciences of Oklahoma State University during the period of this study.

Relationships refers to coefficients of correlation, calculated by means of the Pearson Product-Moment method, between the variables involved or to the statistical significance of the differences between means of variables involved.

Achievement refers to the academic letter grade assigned to each student by the history or political science instructor as a terminal grade for the basic course at Oklahoma State University. Terminal grades were considered to be A, B, C, D, F and WF.

Senior high school includes grades nine through twelve inclusively, of the public schools of the State of Oklahoma. Secondary, as used in this study, means senior high.

Amounts of history and government means the total number of

Carnegie Units of such courses each student had in senior high school.

Academic preparation refers to the total number of semester credit hours of higher education in history and political science earned by the high school teachers.

Non-instructional duties means regularly assigned duties which were not classroom teaching assignments.

Sizes of senior high schools means total enrollments of full time students, grades nine through twelve inclusively.

The L, Q and T Scores of the general ability tests refers to the Linguistic, Quantitative and Total Scores made on the American Council on Education Psychological Examination given to entering freshmen at Oklahoma State University from September, 1950 through September, 1956 and to the Verbal, Quantitative and Total Scores made on the School, College Ability Test administered from September, 1957 to the present.[3]

Hypothesis of the Study

The basic hypothesis of this study was that amounts of history and government taken on the secondary level, the sizes of senior high schools, the North Central Accreditation status of senior high schools, the academic preparation of

---

[3]The scores on these tests are considered interchangeable. Thus, to avoid confusion, the designation L is used in this study to apply to both the Linguistic and Verbal Scores.

secondary history and government teachers, the non-instructional duties performed by high school teachers, and student achievement on the L, Q and T Scores of the general ability tests have significant relationships to the achievement of students in the basic American history and political science courses at Oklahoma State University.

Assumptions of the Study

There were certain assumptions the acceptance of which seemed basic to this study. Certainly it was necessary to assume at the outset that the relationships between variables set forth in the statement of the problem could be determined. It was also necessary to assume the validity of the yardstick used to measure the effectiveness of secondary education--that is, student achievement in the basic American history and political science courses at Oklahoma State University. As several of these courses were used and as achievement in them was applied over a seven year period, it was also assumed that the content and instruction of these basic courses were sufficiently consistent during the period investigated to justify considering them as constants. Finally, it was necessary to assume that the achievement of the first semester freshmen at Oklahoma State University represented an effort on their part which was commensurate with their ability and training resulting from secondary education.

Purposes of the Study

This study was designed to achieve three general purposes. These were: (1) to determine, within the scope of the study, the extent and nature of education in history and government in the secondary schools of Oklahoma; (2) to examine the validity of certain criticisms of secondary education by establishing the degrees of relationship between the variables given in the statement of the problem; and (3) to present this information in a manner helpful to those concerned with the teaching of history and political science in secondary schools and in higher education, especially in Oklahoma.

Needs for the Study

There is a considerable amount of concern expressed as to an apparent deficiency of American citizens in adequately understanding and appreciating the values and processes of the American heritage and system of government. If such a deficiency exists it is certainly a matter of interest to those responsible for instruction in history and government.

Many educators seem to assume that there are factors in secondary education contributing to this situation. Some feel that not enough courses in history and government are taught in the secondary schools. Some feel that there is excessive handling of instructional duties in history and government by persons not academically qualified for such

assignments. Often, it is charged, persons are assigned to teach history and government as incidental to other duties of a non-instructional nature.

If such assumptions are to any degree true, supporting evidence should be obtained in order that intelligent corrective action can be taken. If such assumptions are false, the evidence should be presented in order that the assumptions may be reevaluated.

In varying degrees the information presented in this study might prove helpful in: (1) planning history and government offerings in the secondary schools; (2) assigning non-instructional duties in the secondary schools; (3) planning for teacher training education; (4) counseling beginning university students as to the advisability of enrolling in basic history or political science courses; and (5) counseling and teaching individual students enrolled in the basic American history and political science courses at Oklahoma State University.

While the study was specifically limited to students attending Oklahoma State University it was hoped that findings would be of value to other colleges and universities. The study could, also, provide a basis and a stimulation for more widespread research on some facet of this study or on related matters which lie outside its scope.

American society has an important investment in the value structures developed by students in secondary schools. Education in history and government is an integral aspect of

this investment, and research studies which seek more investment returns in this area are certainly justifiable and worthwhile.

Scope of the Study

This study was concerned only with determining the relationships which existed between the variables given in the statement of the problem. It was recognized that the subject area is amenable to other relationship determinations as well, and references to some such additional determinations are made.

Quite strict limitations were placed upon the student population samples used in this study. They were limited in the following respects:

(1) to students who graduated from senior high schools, in the State of Oklahoma, that were accredited by the Oklahoma State Department of Education;

(2) to students who articulated between senior high school and Oklahoma State University with no time lapse in excess of the usual summer period, who had no college or university work during the summer period, who were approximately eighteen years of age and who were classified as freshmen at Oklahoma State University;

(3) to students whose first enrollment at Oklahoma State University was for a fall semester;

(4) to students who enrolled in a basic American history or political science course, but in not more than one such

course, in the fall semester of their first enrollment at Oklahoma State University;

(5) to students who were assigned a terminal academic grade (A, B, C, D, F or WF) in the semester in which they enrolled in the basic American history or political science course;

(6) to students who had the same instructor for the entire semester except for temporary substitute situations;

(7) to students who made a minimum percentage score of 16 on the T Score of the general ability tests taken upon entrance to Oklahoma State University; and

(8) to students who first enrolled at Oklahoma State University between the years 1950 and 1957 inclusively.

The above limitations were designed to select a homogeneous sampling of student population based upon the elimination, in so far as possible, of educative experiences other than secondary school work and study in the basic course at Oklahoma State University.

Sources of Data

The information and data used in this study were obtained from several sources. These sources are identified in the seven following paragraphs.

(1) Records of the History and Political Science Departments of Oklahoma State University were used to identify students taking the basic courses, the class level of these students, the instructors of the courses and the terminal

grades assigned to the students.

(2) The card files of the Bureau of Tests and Measurements of Oklahoma State University were used to obtain the L, Q and T Scores made by students on the general ability tests and as an aid in identifying students who were first semester freshmen.

(3) General ability test score listings were obtained from the offices of the deans of several of the respective colleges of Oklahoma State University as an aid in obtaining L, Q and T Scores and as an aid in identifying first semester freshmen.

(4) Transcripts and records on file in the Office of the Registrar of Oklahoma State University were valuable in several respects. They helped to identify the students who took the basic American history and political science courses, as well as the instructors of these courses and the grades assigned to the students in the courses. The Registrar's files also contributed such information as: ages of the students; high schools from which the students graduated and dates of graduation; records of any previous college or university work; the history and government courses which the students took in high school and; the high school at which each course was taken and the date each course was taken.

(5) Much of the information used in this study was obtained from records on file in the Divisions of Instruction and Certification of the Oklahoma State Department of Education. The data pertaining to the identity of high school

teachers, their teaching assignments, non-instructional assignments and academic preparation were obtained from this source. Information concerning the sizes of high schools was also obtained there as were data concerning State and North Central accreditation.

(6) Certain pertinent information was obtained from periodicals and from professional journals. In addition certain bulletins and unpublished materials proved helpful.

(7) Personal interviews with persons associated with some of the above sources proved very informative.

Organization of the Study

Chapter I has stated the problem and introduced the study. Chapter II is a background of the study, supporting the need for the study in somewhat more detail than does Chapter I. In Chapter III the methodology of the research is explained and Chapter IV describes the preparation of the data for processing. In Chapter V the findings of the study are reported, and Chapter VI gives the conclusions and the recommendations of the study.

CHAPTER II

BACKGROUND FOR THE STUDY

Secondary education in the United States has been widely criticized in recent years. Prominent among such criticism is that the schools are not producing students possessing adequate knowledge, appreciation or understanding of the American heritage and system of government. While this criticism has stemmed from a variety of sources a portion of it has emitted from the educational community itself--from both secondary personnel and from college and university faculties. Certainly such criticism should be of interest to teachers of history and government, both in secondary and higher education. Indeed, there is evidence of this interest and of a concern that corrective action be undertaken if the criticism is valid.

Professional societies in history and political science have shown increasing awareness of the importance of secondary education. Such awareness led the American Historical Association, in 1956, to establish a Service Center for Teachers of History as an aid to the secondary school teacher in the improvement of instruction and as an aid in improving communications between the higher and secondary educational

levels.[1] Speaking in relation to the Service Center the President of the American Historical Society said,

"We have recently shown an acute awareness of the important fact that we have, over the long pull, become increasingly out of touch with secondary education and that something ought to be done about it."[2]

The American Political Science Association has also shown awareness of the problem. In its Fifty-Sixth Annual Meeting the Council of the Association ". . . recorded its opinion that the problem of high school teaching is of high priority and that the Executive Committee should consider it and make recommendations."[3] In this connection the Council discussed the feasibility of the American Political Science Association publishing pamphlets in political science, for use by the secondary teacher, similar to pamphlets published by the Service Center for Teachers of History of the American Historical Association.[4] With both of these professional

---

[1]For the background and functions of the Service Center see American Historical Association, The Service Center for Teachers of History, A Brochure Prepared by the Committee on Teaching (Washington D. C.: American Historical Association, April 1, 1960). Cf. George B. Carson, Jr., "Service Center for Teachers of History," Social Education, XXI (February, 1957), pp. 53-55.

[2]Dexter Perkins, "We Shall Gladly Teach," The American Historical Review, LXII (January, 1957), p. 291.

[3]"Fifty-Sixth Annual Meeting of the American Political Science Association: Minutes of the Council Meeting," The American Political Science Review, LIV (December, 1960), p. 1078.

[4]These pamphlets are designed to keep secondary teachers of history informed on current and significant historical writings and trends. See American Historical Association. Cf. Carson, p. 53.

organizations taking an active and current interest in the teaching of history and government on the secondary level the matter is obviously one of concern to the professional historian and political scientist.

Early in 1960 the Oklahoma Curriculum Improvement Commission of the State Department of Education and the Oklahoma Council for the Social Studies jointly created the State Committee on Improvement of Instruction in the Social Studies.[5] In a tentative bulletin this committee included history and government among "specific subjects" which it designated as social studies, thus indicating a concern of the committee with secondary instruction in these disciplines.[6] In its first meeting the committee

> proposed to undertake three immediate projects: (1) to survey the social studies offerings, kindergarten through grade twelve, in the public schools of the state; (2) to study certification standards; and (3) to prepare a brochure . . . suggesting some bases for improving social studies instruction.[7]

This interest in matters relating to the social studies, including history and government, in the secondary schools of Oklahoma gives special sanction to the research of this dissertation.

Similar interests are evident in states other than

---

[5]"Bulletin # 1 (Tentative), Prepared by the Oklahoma State Committee on Improvement of Instruction in the Social Studies" (December, 1960), p. 3. (Mimeographed).

[6]Ibid., p. 4.

[7]Ibid., p. 3.

Oklahoma. In 1960 the Missouri Political Science Association

> . . . recommended that a committee be appointed by the President . . . for the purpose of undertaking a study of the extent to which the subject matter of American Government is taught in Missouri high schools.[8]

A recent study was made in Kansas of the background and academic preparation of social science teachers in the high schools of that state.[9] Professional educational journals and bulletins indicate that parallel interest is, indeed, rather widespread.

Actually studies being made in the area are relatively few as compared with the widespread interest which is evidenced. The Kansas study reported that in the area of teacher preparation "studies . . . are not plentiful in the field of social science or for that matter in any field."[10] Such a statement is equally, perhaps more applicable to studies evaluating high school education in terms of achievement in higher education. To the knowledge of this writer there are no such studies, other than this dissertation, being undertaken at the present.

Much of the interest which educators express in secondary education takes the form of criticism rather than research study. Some main areas of criticism relate to the academic

---

[8]"Missouri Political Science Association: Minutes of Meeting" (October 28, 1960), p. 4. (Mimeographed).

[9]Harold V. Sare, "Background and Academic Preparation of the Social Science Teachers in the High Schools of Kansas 1956-1957," The Emporia State Research Studies, VII (December, 1958).

[10]Ibid., p. 6.

preparation of high school teachers, amounts and nature of subject matter taught and the teaching and extracurricular assignments of teachers.

It is sometimes charged that high school teachers of history and government are often not adequately trained in these disciplines and thus have insufficient knowledge in the areas in which they are assigned to instruct. This situation is usually attributed to certification policies of state departments of education which frequently certify in "fields" only rather than in specific disciplines, such as history and government. The result, it is charged, is that teachers may be assigned courses on the basis of a certification to teach "social studies" but these teachers may have very few actual credit hours in history or political science. One Oklahoma educator has given rather forceful expression to this particular charge.

> In Oklahoma a person is qualified to teach a certain subject with only 15 hours of academic preparation (the so called minor field). Many high school teachers have better training but usually they have only about 36 hours. There are also numerous teachers who have much less. These people hold the so called Social Science degree for which they have taken a few hours of history, geography, etc. This degree qualifies them to teach these various subjects. Thus, it happens very frequently that a person with only six hours of history is qualified to teach this subject.[11]

The Council of Basic Education, created in 1956, is well known for a similar position on this subject and for its espousal of more subject matter courses in teacher training

---

[11]Gerlof D. Homan, "The Weaknesses of High School Teacher Training," The Oklahoma Teacher, XLI (May, 1960), p. 22.

programs.[12] An officer in this organization has written that:

> A certificate in itself means next to nothing to a school board or other employing official; least of all does it mean that the teacher has mastered the subject he proposes to teach.[13]

He continued with the statement that:

> . . . Many of us . . . persist in our notion that the most promising way we have yet found of preparing people to teach is to furnish their minds generously with the best that has been thought and said in the principal fields of man's intellectual activity; to allow them to gain a mastery of, and a delight in, at least one of these fields. . . .[14]

Not only is it charged that teachers are inadequately prepared in their subject matter but closely related is the concern over teachers whose major field is not even social studies being assigned the task of teaching social studies courses such as history and government. A prominent secondary educator in an address to the American Historical Association put it this way:

> Many college students find that their school's requirements in history and related subjects total enough or nearly enough credits to enable them to qualify in many states for several specific subjects in the general social studies classification. Hence many a prospective teacher whose major interest is in another field can pick up a comparatively easy minor in social studies. As these people apply for teaching positions in the secondary schools, budget conscious superintendents appoint them as specialists in the field of their major interest, then since so many qualify for any social study, parcel out history classes one each to the specialists in the

---

[12] In this connection see Winfield C. Scott, "Criticisms of Schools Continue," NEA Journal, XLVI (May, 1957), p. 341.

[13] James D. Koerner, "Merely Training in Pedagogy," NEA Journal, XLVIII (April, 1959), p. 18.

[14] Ibid.

other fields of learning.[15]

Of special criticism is the practice of parceling out courses to school administrators and coaches. The above quotation continues:

> Even the principal, or in small school systems, the superintendent, may take over a history class and hope that administrative duties will permit him to meet the class on most of the days school is in session. Under such circumstances, it is little wonder that so much history teaching in the secondary schools is half hearted, dull, colorless, and, of course, ineffective.[16]

But the crowning criticism is of the coach who is assigned the job of teaching the academic course such as history and government. An assumption seems prevalent among educators that it is a tragedy to turn over a "subject matter" course to an athletic coach. In no sense an isolated opinion the following quotation from the pen of historian Thomas A. Bailey speaks the minds of many academicians.

> A stradivarius is a marvelous instrument, but in the hands of a gorilla it is only wood, glue, and gut. American history is a marvelous subject, but in the hands of an exfullback it can be dust, cobwebs, and ashes. If it inspires boredom and even hate, the primary fault lies with the instructors who believe that anyone can teach history who is semi-literate and who can keep his textbook open while the students keep theirs closed.[17]

Another educator wrote on the same subject:

> And do not be misled that this situation exists only in the smaller schools. In the larger ones the tremendous

---

[15]Hazel C. Wolf, "The Secondary School History Teacher," Social Education, XXI (October, 1957), pp. 258-259.

[16]Ibid., p. 259.

[17]Thomas A. Bailey, "Revitalizing American History," Social Education, XXIV (December, 1960), p. 371.

emphasis upon competitive athletics frequently encourages . . . administrators to look not for teachers who can coach or assist with coaching, but for coaches--or even assistant coaches--who can qualify under state regulations for teaching one or another of the academic subjects. . . . Hence many history classes are taught by men whose prowess in football, basketball, baseball or even track qualify them as All American, but whose training in history is meager.[18]

Assignments of extracurricular duties other than athletic coaching are also often frowned upon as detracting from teaching effectiveness. Such duties as glee club, debate, drama and driver training may be considered in this extracurricular category. There does seem to be substantial evidence that social studies teachers often are assigned coaching and other extracurricular duties. For instance, the Oklahoma State University Placement Service listings of teaching vacancies frequently list social studies jobs calling for such "other" duties.[19] In fact, it is rather commonly assumed

---

[18]Wolf, p. 259.

[19]The following listings are examples from "Public School Teacher Vacancies Reported April 22--May 4, 1961" (University Placement Services, Oklahoma State University), pp. 1 ff. (Mimeographed).

"514. (1) Social science and/or English--head football coach and track coach; High school; . . ."
"521. (1) Basketball coach and H.S. soc. science; Assist in football and track; . . ."
"527. (1) Head football coach; . . . Teach two . . . boy's PE, Driver Education; social studies; . . ."
"530. (1) Coach and English or social studies--Head Wrestling coach, assist in football and track; have boy's PE and English or social studies; . . ."
"538. (1) Social studies, prefer a man who can coach football or basketball and handle jr. high athletics; . . ."
"540. (1) Head wrestling coach, assist in football; Teaching field either English or social studies; . . ."
"600. (1) Social studies and PE; . . ."
"601. (1) Basketball coach and history; . . ."
"603. (1) Head or assistant wrestling coach, possibly ass't. football coach, social studies; . . ."

that high school teachers do perform a myriad of duties other than their specific teaching assignments.

The sentiments of educators who vent the several criticisms of secondary education discussed above can be rather effectively summarized in the statement that:

> . . . To prepare himself for his exacting assignment, the teacher must first of all come to his task well prepared in the field of his specialty, must be allowed to teach it, (not forced to teach something else), must have time for study and reflection, /and/ must be protected against an intolerable load of duties. . . .[20]

There are other criticisms directed at the secondary schools but those pertaining to teacher preparation and teacher assignment were the major concerns of this study. It was a purpose of this study to examine the validity of some of these criticisms to which secondary schools are subjected. Many of the charges seem to be based upon bias and assumption rather than upon the findings of research. There is no study to this writer's knowledge, for instance, which has examined the effectiveness of coach-subject matter teaching combinations. This study made such an examination. There are few studies which have been undertaken in the teacher preparation field and none, to this writer's knowledge, for Oklahoma teachers, other than such study as the State Committee for the Improvement of Social Studies contemplates. This dissertation made intensive examination into this matter. Other matters with which this study dealt

---

[20]Warner Rice, "The Importance of Subject Matter," NEA Journal, XLVIII (April, 1959), p. 23.

are equally pertinent to an examination of the effectiveness of secondary education. It is frequently expressed that students from large school systems receive better education than students from smaller systems and certainly schools not accredited by the North Central Association of Colleges and Universities are considered inferior to those accredited. This writer has heard the sentiment stated, quite frequently, by members of academic communities that intelligence tests and other tests of general ability are not susceptible to intelligent use because there are so many variables which they do not take into account. On the other hand, there are members of academic communities who place a great deal of value on the results of such testing. It was the viewpoint of this study that such tests, taken upon entrance to higher education, reflect abilities and knowledge gained in secondary education and thus are pertinent to an examination of the effectiveness of secondary education.

Certainly if many of the criticisms and assumptions pertaining to secondary education are valid, corrective action would seem to be in order. But corrective action should be based upon fact, not biased assumption. If criticisms are not valid evidence should be presented upon which they may be reevaluated. It is hoped that this dissertation has established foundations upon which an intelligent approach to corrective actions or reevaluations may be taken.

CHAPTER III

RESEARCH PROCEDURES

The research procedures of this study were governed partly by the nature and location of the data themselves. Also, many procedural decisions were determined by the nature of the populations which the study isolated preparatory to computing correlations. Steps taken to isolate the population samples rather automatically resulted in the collection of many data desired for use in the study.

The Population Samples

There were three basic types of populations to be isolated. These were: (1) Oklahoma State University students; (2) high schools; and (3) high school teachers. As each of the population types was involved in two or more correlations each of the types was subdivided into groups. These subdivisions were of varying sizes and adhered to varying requirements. They are, subsequently in this study, referred to as correlation groups.

The Student Population Sample

It was required that each member of the student population sample meet specific requirements. Each student was

required to have:

(1) taken all Carnegie Units in history and government at the same high school;

(2) graduated from a senior high school in the State of Oklahoma, which was accredited by the State of Oklahoma;

(3) articulated between the senior high school and Oklahoma State University with no time lapse in excess of the summer period following high school graduation;

(4) been in the seventeen through twenty age group at the time of articulation between high school and Oklahoma State University;

(5) entered Oklahoma State University without prior college or university study;

(6) first enrolled at Oklahoma State University for a fall semester between the years 1950 and 1957 inclusively;

(7) made a T Score in excess of 15 on the general ability tests taken upon entrance to Oklahoma State University;

(8) enrolled in a basic American history or political science course in the fall semester of his first enrollment at Oklahoma State University;

(9) had the same instructor for the entire semester at Oklahoma State University except for temporary substitute situations; and

(10) been assigned a terminal academic grade in the semester in which he enrolled in the basic American history or political science course.

By eliminating all students who did not meet these requirements the student population sample was obtained. This population sample was basic to the study in that all other population samples and all correlation groups had a direct relation to it.

Actually the students, *per se*, were not included in any correlation computations. Rather, there were five groups of student data which served as bases for correlations. These five correlation groups were: (1) the grades which students made in the basic history or political science courses at Oklahoma State University; (2) the Carnegie Units of history and government which the students had in high school; (3) the L Scores which the students made on the general ability tests taken upon entering Oklahoma State University; (4) the Q Scores which the students made on the general ability tests taken upon entering Oklahoma State University; and (5) the T Scores which the students made on the general ability tests taken upon entering Oklahoma State University.

The student grade item was the focal correlation group of the whole study as all correlations were either between groups of grades or between grades and some other factor. There were, then, grade correlation groups involved in all correlations in the study. While student grades were a part of all correlations, grades were used, in a given correlation, for only those students for whom the information involved, in the factors being correlated, was available.

The High School Population Sample

The basic high school population sample was obtained by identifying all schools, accredited by the State of Oklahoma, from which a member of the basic student population sample graduated. There were, however, three correlation groups within this high school sample. Those schools accredited by the North Central Association of Colleges and Universities and those not accredited by this same Association formed two of these correlation groups. The third group consisted of all high schools for which size figures, grades nine through twelve, were available.

The Teacher Population Sample

The teacher population sample was divided into two correlation categories. One such category was composed of all teachers for whom the total number of college or university semester credit hours in history and political science could be determined. This category, itself, was a correlation group. It, in turn, was divided into two sub-correlation groups. These two sub-groups were: (1) the teachers of students who had more than one teacher of history and/or government in high school; and (2) the teachers of students who had only one teacher for all history and/or government taken in high school.

The other teacher correlation category was the non-instructional duties which the teachers performed as a part

of their regular high school duty assignments. This category, in turn, was divided into twelve actual correlation groups. Such fragmentation resulted from the particular interest of this study in the specific non-instructional factor of coaching athletics.

Not only were correlations computed between student achievement and the overall non-instructional factor but also between student achievement and the specific factor of coaching. More precisely, the correlations were computed between student grades and teachers, (1) none, (2) some, and (3) all of whom had non-instructional duties and between student grades and teachers, (4) none, (5) some, and (6) all of whom had athletic coaching duties.

In addition, six other correlation groups were used because of uncertainty as to whether gymnasium and physical education should be considered as instructional or non-instructional. It was thought that these, per se, were instructional but that perhaps those engaged in teaching gymnasium and physical education were frequently coaches as well. Too, some people may hold the opinion that there is something less instructional about physical education than other laboratory instructional situations.

In order to encompass a wide scope of opinion on this matter, and to examine the merit of various opinion, the six non-instructional correlation groups listed above were computed both on the basis of including gymnasium and physical education as instructional and on the basis of regarding them

as both non-instructional and as coaching. This, then, made a total of twelve correlation groups in which the non-instructional correlation category was involved.

In summary, the process of isolating population samples and of dividing them into correlation groups yielded twenty-three factors of which one, grades received by the Oklahoma State University students, was correlated, in some respect, with each of the other twenty-two factors. The following four tables identify and give the total size of each of these twenty-three factors as well as the basic population sample to which each was related.

Table I identifies and gives the sizes of the three basic population samples. All correlation groups were directly related to one of the three.

TABLE I

BASIC POPULATION SAMPLES

Population Sample	Size of Sample
Students	863
High Schools	264
Teachers	1,150

Table II identifies and gives the sizes of the five student correlation groups. Each of the five was directly related to the basic student population sample in that each was an item of student achievement.

TABLE II

STUDENT CORRELATION GROUPS

Correlation Group	Size of Group
Grades	863
Carnegie Units	859
L Scores	863
Q Scores	863
T Scores	863

Table III identifies and gives the sizes of the three high school correlation groups. Each of the three was directly related to the basic high school population sample.

TABLE III

HIGH SCHOOL CORRELATION GROUPS

Correlation Group	Size of Group
North Central Schools	622
Non-North Central Schools	230
Size of Schools	860

Table IV identifies and gives the sizes of the fifteen teacher correlation groups. Each of the fifteen was directly related to the basic teacher population sample.

TABLE IV

TEACHER CORRELATION GROUPS

Correlation Group	Size of Group
Total Semester Hours, One Teacher	107
Total Semester Hours, Multiple Teachers	179
Total Semester Hours, All Teachers	286
No Non-Instructional Duties, Including Phys. Ed.	191
Some Non-Instructional Duties, Including Phys. Ed.	208
All Non-Instructional Duties, Including Phys. Ed.	143
No Coaching Duties, Including Phys. Ed.	266
Some Coaching Duties, Including Phys. Ed.	171
All Coaching Duties, Including Phys. Ed.	80
No Non-Instructional Duties, Excluding Phys. Ed.	211
Some Non-Instructional Duties, Excluding Phys. Ed.	202
All Non-Instructional Duties, Excluding Phys. Ed.	128
No Coaching Duties, Excluding Phys. Ed.	305
Some Coaching Duties, Excluding Phys. Ed.	156
All Coaching Duties, Excluding Phys. Ed.	56

The three basic population samples and the twenty-three correlation groups constituted the objects of the research and the bases of the computations which were the concern of this study. The specifics of the gathering of the data which constituted these population samples and correlation groups are the subject of the remainder of this chapter.

Compilation of the Data

Research in Teacher Grade Books

Much of the data sought could not be obtained until the basic sample of Oklahoma State University students had been isolated. The point of origin, for isolating this sample, seemed logically to be the students who had taken fall semester courses in basic American history and political science during the eight years involved in the study.

There were two feasible sources for this information. One source was the Official Class Roll permanently on file in the Registrar's Office at Oklahoma State University. This source gave the name of the course, the name of the instructor, the names of the students and the grade assigned to each student. But the source did not give the class level of the students--that is, it did not tell which of the students were first semester freshmen.

The other source was the grade books kept by the teachers who instructed the basic American history and political science courses during the fall semesters for the period 1950 through 1957. The I B M class cards from which the data for grade books were taken included the class level as determined by the Registrar's Office and it was discovered that many of the teachers recorded this information in their grade books.

The grade books gave, also, all pertinent information included on the Official Class Rolls. Since students who

were first semester freshmen were not readily determinable from any other known source it was decided to give the teacher grade books priority status in the hope that they would prove rewarding in this respect.

The Registrar's Office maintained a loose leaf volume, referred to as the Class Roll Study, containing a list, by year and semester, and by department, of all courses taught at Oklahoma State University. This list gave the number of students enrolled in each section of all courses taught and listed, also, the name of the teacher of each course section.

By adding the enrollment figures given in the Class Roll Study it was determined that a total of 10,433 students had enrolled in the basic American history and political science courses during the eight semesters of the study. A ready source for narrowing this rather large number to first semester freshmen seemed desirable.

A list was made, from the Class Roll Study, of all basic American history and political science course sections taught during the fall semesters of 1950 through 1957. The number of students enrolled in each section and the name of the teacher were listed also.

It was next determined which course sections had more than one regular teacher during the semester and such sections were dropped from the study. This information was obtained from notations on the Class Roll Study and the Official Class Rolls, from information furnished by members of the History and Political Science Departments of Oklahoma

State University and from the writer's own familiarity with such incidents.

A search was then initiated, the object of which was to locate the teacher grade books which corresponded to the list of course sections which had been compiled from the Class Roll Study. Practically all of these grade books were located with the cooperation of the History and Political Science Departments.

Of 151 course sections, for which information was sought, the grade books failed to identify freshmen students in only twelve sections. All students in these sections were kept in the sample pending further determination of their grade level status. The information for the students in these twelve sections was obtained from the Official Class Rolls in the Registrar's Office and the information obtained from the grade books was checked with the Official Class Rolls to assure accuracy of parallel data.

Of the original total of 10,433 students 6,914 had been eliminated by the end of the grade book check. Some were eliminated due to sections being dropped from the study. Most were eliminated because they were not freshmen. A few instances of mortality were due to students not being assigned a terminal grade.

This elimination process left a student population sample of 3,519. Of this number 2,875 were listed as freshmen in the teacher grade books. The remaining 644 were either not designated as to class level in the grade books

or the grade books, which might have contained the information, could not be located. These 644 were not eliminated from the study at this point because it was assumed that some were eligible cases and that subsequent steps in the research procedure would reveal their status as to class level.

The grade book check had served its purpose--that of providing a relatively ready means of narrowing the original population sample of 10,433 to a more manageable size. While it was possible that there had been some errors in teacher transcribing of the class level of students it was felt that such errors would have been the exception rather than the rule. Furthermore, while such errors could have slightly reduced the total student population, in case a freshman was listed as some other class, they could not have injected impurities into the sample because subsequent procedural steps would reveal the errors and the cases could then be dropped from the study. That is, if an upper classman was erroneously listed as a freshman subsequent procedural steps would reveal this error.

Research in the Bureau of Tests and Measurements

Selected as the second major stage of research procedure was a check of the files of the Bureau of Tests and Measurements at Oklahoma State University. The director of the Bureau provided information that most students, during the eight year period of the study, took the general ability entrance examinations in September of their freshman year.

He felt that it was reasonable to assume that if a student did not take general ability tests during the same fall semester in which he enrolled in the basic history or political science course, the student was not at that time a first semester freshman.[1]

Thus a check of the Bureau's records could give not only the L, Q and T Scores for which the study called but could also help to eliminate impurities in the student population sample. While the grade book check had identified 2,875 students, remaining in the sample, as freshmen it had not identified them as first semester freshmen. Also the grade book check left 644 students for which no class level determination had yet been made.

The Bureau of Tests and Measurements maintained an alphabetical card catalogue of all students who had taken the general ability entrance examinations. In addition the Bureau, each fall, prepared a mimeographed list of all students taking the examinations. Both the card catalogue and the mimeographed lists contained the name of each student, the student's L, Q and T Scores and the college (school before 1957) in which the student was enrolled. Copies of the mimeographed lists were furnished to the dean of each college.

With the cooperation of the dean's office of each

---

[1]Information obtained from conversation with Dr. Harry K. Brobst, Director of the Bureau of Tests and Measurements at Oklahoma State University, August 8, 1958. Dr. Brobst did say that a few first semester freshmen might have simply failed to take the tests.

college of the University the mimeographed lists were obtained for the years 1952 through 1957 inclusively. The lists for 1950 and 1951 could not be located.

Using the card file for 1950 and 1951 and the mimeographed lists for 1952 through 1957 a search for the L, Q and T Scores of the 3,519 students still in the sample was undertaken. As student information was obtained from the grade books and the Official Class Rolls it was recorded, by basic course sections, on 8 X 11 inch sheets of paper. In addition, headings were made in anticipation of the check of the Bureau of Tests and Measurements information. Figure 1, on page 36, is a partial illustration, omitting teacher and student names, of one of these course section rosters. As Bureau of Tests and Measurements data were obtained they were recorded on these prepared rosters.

As a consequence of the Bureau check, students were deleted from the sample: (1) if they had no general ability test scores recorded; (2) if they took the general ability tests at a time other than the fall semester in which they enrolled in the basic course in history or political science; (3) if, because of insufficient name information, students could not definitely be identified; and (4) if they made a T Score lower than 16 on the general ability tests. As students were deleted from the study their names were lined out and an X was placed at the item of datum which caused their deletion. Figure 2, on page 36, is a partial illustration of one of the rosters in its completed form.

Hist. 283, Fall, 1956-Instr._____, sec. 4

			Grade	Date	Q	L	T
1	Student's Name	en 1 m	C				
2	Student's Name	co 1 m	B				
3	Student's Name	en 1 m	C				
4	Student's Name	as 1 m	C				
5	Student's Name	as 1 f	D				

Fig. 1 A partial illustration, omitting teacher and student names, of a course section roster prepared from teacher grade book and Official Class Roll preparatory to obtaining data concerning the general ability tests taken by students.

Hist. 303, Fall, 1950-Instr._____, sec. 4

			Grade	Date	Q	L	T
1	Student's Name	en 1 m	D	9-15-50	91	73	84
2	~~Student's Name~~ N	~~co 1 m~~	~~C~~				
3	~~Student's Name~~	~~co 1 f~~	~~D~~	~~9-15-50~~	~~7~~	~~23~~	~~11X~~
4	Student's Name	co 1 f	C	9-15-50	36	38	34
5	Student's Name	co 1 m	C	9-15-50	79	53	64
6	Student's Name	co 1 m	C	9-15-50	76	69	73
7	~~Student's Name~~	~~co 1 m~~	~~F~~	~~1-28-50X~~	~~9~~	~~27~~	~~16~~
8	~~Student's Name~~	~~ag 1 m~~	~~D~~	~~1-8-50X~~	~~19~~	~~29~~	~~21~~
9	Student's Name	co 1 m	D	9-15-50	93	75	86

Fig. 2 A partial illustration, omitting teacher and student names, of a course section roster which had been completed as a result of a check of data from the Bureau of Tests and Measurements.[2]

[2]An N between the student's name and his college designation indicates that no record could be found. An X indicates the item which caused a student to be deleted.

The exact reason for all of the deletions was not determined because the mimeographed lists rather than the Bureau of Tests and Measurements card file were used for six of the eight years of the study.[3] When a student's name did not appear on the mimeographed list it was assumed that either he was not a first semester freshman or that no general ability test record existed for him.[4]

Using this roster system there was a mortality of 1,960 of the 3,519 students checked. The size of the student sample at the termination of the check of the Bureau of Tests and Measurements information stood at 1,559.

Research in the Office of the Registrar

The 1,559 students remaining in the sample were next checked against their permanent files in the Office of the

---

[3]Of the 3,519 students checked, 471 were deleted because they made a T Score below 16 on the general ability tests. Of the 644 students for whom the grade book check gave no class level determination 535 were deleted as a result of the check of the Bureau of Tests and Measurements information.

For 1950 and 1951 all information was taken from the card file in the Office of the Bureau of Tests and Measurements. There were 252 deletions for these two years. Ninety were deleted due to the date on which they had taken the general ability tests (accepting this as an index that they were not first semester freshmen). Fifty-eight were deleted because no record could be located. Another 104 were deleted because they made a T Score below 16.

[4]Actually a check of twenty-five student samples (names not appearing on the mimeographed lists) produced three students who might have been eligible cases. They did not appear on the mimeographed lists as, for some reason, they took the general ability tests at a date subsequent to the time that the list was prepared, but during the same fall.

Registrar of Oklahoma State University. This check left no doubt as to the first semester freshman status of the students because the files contained their high school transcripts. Most of the transcripts contained information as to age and as to date of high school graduation. In addition, these files contained transcript, or other, information as to any college or university work taken between high school graduation and the following fall's enrollment at Oklahoma State University. The specific items of information sought, for each student, in the Registrar's files were: (1) the name of the high school from which the student graduated; (2) the date the student graduated from high school; (3) the student's age; and (4) the number of Carnegie Units in history and government which the student took in high school, including the names of the courses, the year in which each course was taken and the school in which each course was taken if different than the high school from which the student graduated.

A student was deleted from the population sample as result of the Registrar check: (1) if he graduated from high school other than in May or June of the same year that he enrolled at Oklahoma State University for the fall semester; (2) if he graduated from a high school not located in the State of Oklahoma; (3) if his age deviated significantly from eighteen; (4) if any of his Carnegie Units of history and government were taken at more than one high school or at a high school other than in the State of Oklahoma; (5) if he

had any type of college course work prior to enrollment in the basic course in history or political science; and (6) if his high school transcript was not on file at the Registrar's Office or if the transcript could not be clearly read. As a result of the check of the Registrar's files 692 students were dropped from the population sample and 867 were retained.[5] Most of those dropped as a result of this check were deleted because they had not articulated quickly enough between high school and Oklahoma State University or because they had graduated from an out of state high school.

The permanent records of all present and past Oklahoma State University students were filed numerically in the Registrar's Office. Student names were recorded alphabetically on a card index file and student file numbers were given on these alphabetized cards. The first step in checking the permanent records of the 1,559 students still under consideration was, then, to determine their file numbers by locating them in the card index.

These numbers were recorded on student data cards which were used for purposes of recording information gathered during the research. These were 4 X 6 inch cards upon which

---

[5]Upon completion of the check of the Registrar's files only one check remained as far as determining the basic student population sample to be used in the study. This check was as to whether or not the high schools from which the students graduated, or at which they had history and government courses, were State accredited at the time. Subsequent steps in the procedure of the study resulted in the deletion of only four student samples for this reason. Thus the final size of the basic student sample was 863. See infra, p. 54.

headings were typed and places designated for the recording of various data. The cards were first prepared after the Bureau of Tests and Measurements check. At that stage in the research each card contained: (1) the student's name; (2) the student's college, class and sex; (3) the history or political science course in which the student enrolled; (4) the date the student enrolled in the history or political science course; (5) the grade the student made in the history or political science course; (6) the name of the instructor of the history or political science course; (7) the general ability tests which the student took (A.C.E. or S.C.A.T.); (8) the date that the student took the general ability tests; and (9) the Q, L and T Scores made on the general ability tests. Figure 3, on page 41, is an illustration of one of these data cards, omitting the names of the teacher and student, at that stage of completion.

The student's file number and then the information from the permanent record in the Registrar's Office was next added to this card. Figure 4, on page 42, is an illustration of one of these data cards, omitting the names of the teacher and student, after the permanent record information had been recorded.

Once each data card bore the number of the student, the next step was to pull the files and record the data. Direct access to the files was possible through the courtesy of the Registrar. About twenty folders were usually pulled at one time, all of them checked, all of them re-filed and the

NAME OF STUDENT 1952 helf

AGE:

COURSE: P.S. 203 Date: 1952 Grade: C Instr.

TEST: A.C.E. Date: 9-8-52 Grades: Q-63, L-10, T-23

HIGH SCHOOL:

Date Grad: U.H. U.G. T.U.

Fig. 3 An illustration of a student data card, omitting the names of the teacher and student, after the information from the Bureau of Tests and Measurements had been obtained.

NAME OF STUDENT (NUMBER OF STUDENT) 1955
EN I M

AGE: 18

COURSE: H.303 Date: 1955 Grade: C Instr.

TEST: A.C.E Date: 9-12-55 Grades: Q-70, L-50, T-58

HIGH SCHOOL: WESTVILLE

Date Grad: 5-12-55 U.H. 2½ U.G. ½ T.U. 3

OH-½-1 CV-½-1
WH-1-2
US-1-3

Fig. 4 An illustration of a student data card, omitting the names of the teacher and student, after the information from the Registrar's files had been recorded.[6]

[6]U.H. means Carnegie Units of history, U.G. means Carnegie Units of government and T.U. means total units. OH-½-1 means Oklahoma History, ½ Carnegie Unit, freshman year--The form for the listing is: abbreviation of the course, amount of Carnegie Unit credit and year (1, 2, 3 or 4) taken.

process repeated with the next twenty folders.

First the folder was checked to see whether or not the student had graduated from an Oklahoma high school. The Registrar's filing system aided this process in that a different colored registration permit card was used for out of state students. The stub of this card was fastened, usually in an obvious place, in each student's permanent file folder. If a student was from out of state, both the state and the school from which he graduated were typed on this registration permit stub. In such cases these data were recorded on the student's data card. The card was marked with a red X at that item, the student was deleted from the study and the folder was checked no further.

If the student was a transfer from another college or university this was also indicated, by name and location of the other institution, on the registration permit stub. Such cases, after notations on the data card were made, were immediately deleted from the study.

The next check was for age and for high school graduation date. If the student was over twenty years of age or had not articulated between high school and college during the minimum time alloted, this information was recorded and marked with a red X. The student was then deleted from the study and the folder checked no further.

If the student met the in-state, articulation and age requirements then the balance of information for which the data cards called was obtained and recorded. Those students,

however, whom were found to have had history or government courses from more than one school, whether in state or out of state were deleted from the study.

The Registrar's Office had an evaluation slip attached to the application for admission form, in each student's folder, which gave the number of Carnegie Units which Oklahoma State University accepted for satisfaction of entrance requirements. However, the transcript itself was checked for purposes of this study as the evaluation sheet did not, except for Oklahoma history, identify individual courses, nor did it list the year and school in which courses were taken.

The following high school course names, which appeared on transcripts, were accepted for Carnegie Unit credit in history: American history; ancient history; Biblical history; general history; Latin American history; modern history; Oklahoma history; United States history; and world history. The following course names were accepted for Carnegie Unit credit in government: American democracy; American government; civics; and problems of democracy.

It was decided not to give Carnegie Unit credit for high school courses listed as social science or social studies because of the difficulty in determining the content of such courses. The Oklahoma State University Registrar rarely gave any history or government credit for such courses and an official of the Oklahoma State Department of Education told this writer that there was no safe index for determining

their content.[7]

Most of the information desired from the permanent record folders in the Registrar's Office was commonly contained on the high school transcript. In those instances when age or date of graduation was omitted from the transcript, other information in the folders, such as letters and application for admission forms were accepted as satisfactory evidence. The application for admission form usually, in addition, identified the college or university in case a student had had prior experience in higher education.

Research at the Oklahoma State Department of Education

With the exception of checking for the accreditation of their high schools by the State of Oklahoma the student population sample had now been isolated. In addition, and as a co-product of isolating this sample, the items, for correlation with student grades, of general ability test L, Q and T Scores and of Carnegie Units in history and government had also been obtained.

It was now necessary to isolate the desired population samples of high schools and of high school teachers in order that the data needed for the computation of the rest of the planned correlations could be obtained. This was accomplished by research in the files and records of the Division

---

[7]This information given to the writer in conversation with Mr. Jake Smart, Director of the Division of Instruction, Oklahoma State Department of Education, on August 10, 1959.

of Instruction and the Division of Certification of the Oklahoma State Department of Education. The writer was given direct access to these files.

The following information was sought at the State Department of Education: (1) the identity of the teachers who taught each course in history and government taken by each member of the student population sample; (2) the non-instructional duties which each of these teachers performed; (3) the college semester credit hours in history and political science which each of these teachers had at the time of teaching a given course to a given member of the student population sample; (4) whether or not the high school from which each student graduated was accredited by the Oklahoma State Department of Education; (5) whether or not the high school from which each student graduated was accredited by the North Central Association of Colleges and Universities; and (6) the size, total number of students grades nine through twelve, of each high school for each year a member of the student sample attended it. Most of this information was obtained from records kept by the Division of Instruction.

Research at the Division of Instruction.--Through the entire period of this study it was necessary for each high school in the State of Oklahoma to apply for State accreditation each and every year. The application required the completion of certain standard forms and the submission of these forms to the Division of Instruction of the State Department

of Education. The Division of Instruction had maintained the forms in permanent bound volumes. These bound volumes were kept alphabetically, each year, by counties and the actual high school records were kept alphabetically, by city and school, for each county.[8]

The following forms, submitted each year by each high school, were found in the bound volumes: (1) Application for Accrediting High School; and (2) Application for Accrediting Secondary School Personnel. There were other parallel forms submitted for elementary schools and there was an accrediting approval form included by the Division of Instruction, but the two forms numbered above were the significant forms for the obtaining of information pertinent to this study.

The format of these forms and the exact information for which they called changed somewhat over the years but there was no significant change, as far as affecting the information sought by this study was concerned. The forms contained a great deal of information over and beyond that which this research sought. The actual information which the forms contributed to this study was as follows.

(1) Application for Accrediting High School: This form contained the total pupil enrollment, grades nine through

---

[8]These volumes were titled Application for High School Accrediting. There were 156 of these volumes for the period covered in this study. There were thirteen volumes each year and the same alphabetical breakdown was used each year.

twelve; and a daily schedule which listed the name of each teacher in the high school and the school duties which the teacher performed. The school duties included non-instructional as well as instructional. Each course a teacher taught was specifically listed and non-instructional duties were individually designated. Thus, from this form it was possible to obtain the size of high school data, the identity of each teacher who taught history and government in a given school in a given year and the non-instructional duties which each of these teachers performed.

(2) Application for Accrediting Secondary School Personnel: This form changed several times during the years involved in the study. While it has changed markedly since the final year of the study it, however, contained the same information with little deviation during the years of the study. It contained the name of each teacher in the high school, the subject areas in which the teacher taught and the total number of semester hours of higher education which each teacher had in each subject area in which he was teaching.

Thus, from this form the information obtained was the total number of semester hours of higher education which each teacher had had in his teaching field. Other information, such as teacher's name and teaching field, was used, though, to identify the teacher from the daily schedule contained on the Application for Accrediting High School form.

While the semester credit hour information obtained from this form was later to be discarded it still provided the

valuable service of giving a check, against the daily schedule, of the spelling and completeness of teachers' names.[9] In a number of instances the daily schedule did not have the full name of a teacher but the personnel accrediting form did have the full name.

In preparation for recording the information given on these two accrediting forms 4 X 6 inch high school data cards were made. Four identical, separate data cards were prepared for each instance that a high school appeared in the study. To elaborate: When one or more members of the student population sample graduated from a high school in a given year then that was an instance of the high school appearing in the study. But the data desired for the study was needed not for just the graduation year but for all four years the student, or students, attended the high school. This was necessary since the size of the school, teacher personnel, courses the student took and other factors would vary, at least in some respects from year to year. If, as one example, a student took world history in his sophomore year then it would not be sufficient to have the teacher data for only the year in which the student graduated.

Thus, four data cards were made for each instance a school appeared in the study. These data cards were alike in all respects, since the data sought were the same, except

---

[9]For explanation as to why this information was discarded see infra, p. 62.

that each card was dated with a different one of the four years.

As a hypothetical case, suppose that in the year 1955 three of the students in the study sample graduated from the high school in Stillwater, Oklahoma. A data card would have been prepared for Stillwater High School for the year 1955. In addition one data card would have been prepared for each of the years, 1954, 1953 and 1952.

Only one data card was prepared for a given school for any one year regardless of how many students, of the student population sample, had attended that school during that year. For instance, if Stillwater again appeared in the study in 1956, duplicate cards for 1955, 1954 and 1953 would not have been prepared since such cards would have already existed. But suppose that Stillwater had not appeared in the study in 1956 and reappeared in 1957. Cards would then have been made for 1957 and 1956 but not for 1955 and 1954 since cards for the latter two years would have already existed.

As some of the students in the student population sample graduated from high school in 1950 it was necessary to prepare high school data cards for years dating back through 1946.[10] Blank cards were first produced _en masse_ by typing eight information category headings on them. Then, as each yearly instance of a high school appearing in the study was

---

[10]Both the high school and teacher population samples covered the eleven school years of 1946-1947 through 1956-1957.

identified, three items of information were placed on one of the data cards. These items were: (1) the name of the high school; (2) the year to be checked; and (3) the name of the county in which the high school was located.

Following the procedure sketched above 1,558 high school data cards were prepared prior to the check of the Division of Instruction records. Figure 5, on page 52, is an illustration of one of these cards at this stage of completion.

The information as to the county in which the high school was located was needed because, as previously mentioned, the accrediting forms in the files of the Division of Instruction were bound alphabetically by counties. This information was obtained readily from the Oklahoma Educational Directory. The Directory, issued annually by the State Department of Education, was obtainable from many sources but the Division of Instruction had a complete file dating back prior to any year included in this study. One of the items of information in the Directory was an alphabetical list of all State accredited schools in Oklahoma, showing also the counties in which they were located.

After the county information had been entered on the data cards the cards were alphabetized, by school years, first by county, then by city and finally by high school. The data cards were then in the same order in which the Division of Instruction records were bound and the research into these records was ready to proceed.

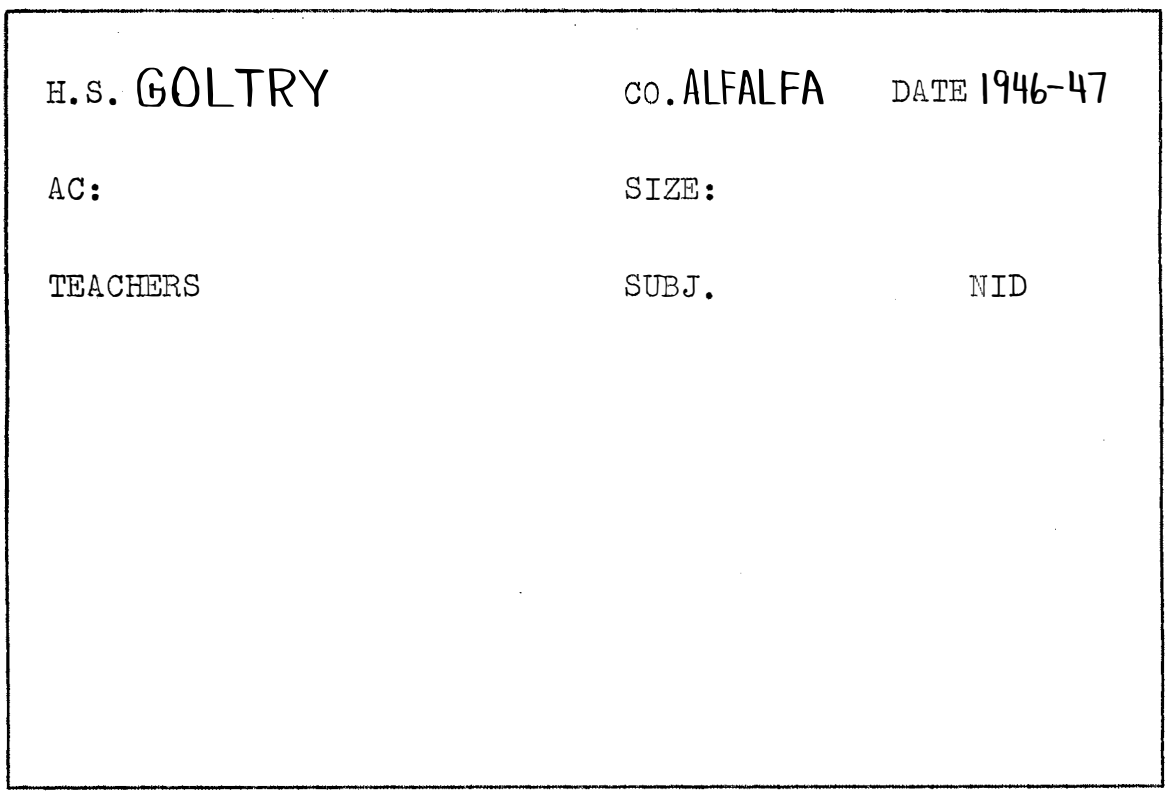

Fig. 5 An illustration of a high school data card as prepared prior to the check of Division of Instruction records.

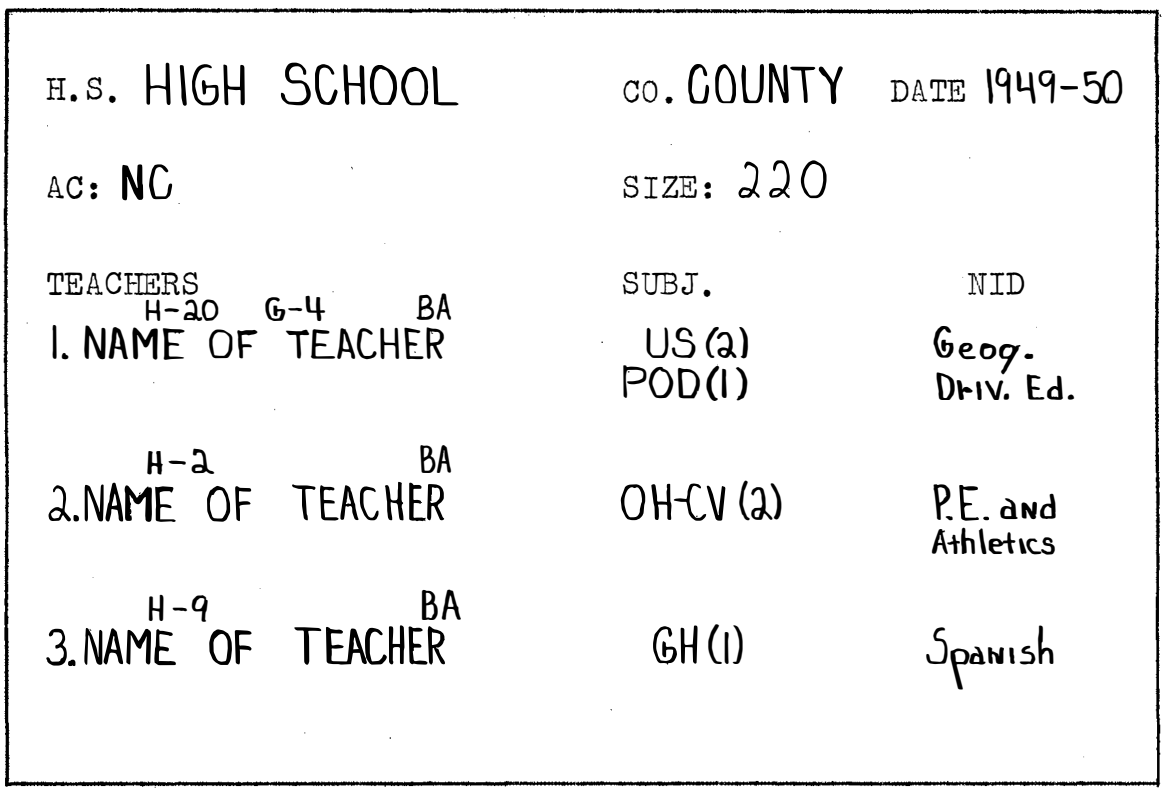

Fig. 6 An illustration of a high school data card, omitting the names of the high school, county and teachers, upon which all data were recorded.[11]

[11]The abbreviations on the high school data card stand for: H.S., high school; AC, accreditation (marked NC if North Central and X if State only); SUBJ., subjects taught in high school; NID, non-instructional duties; H, history; G, government. The number placed in parentheses after the course abbreviation is the number of sections taught.

Starting with the school year 1946-1947 and working toward the terminal year of 1956-1957 each card was, in turn, filled out from the data given for the high school, listed on the card, in the records contained in the bound volumes. Figure 6, on page 53, is an illustration, omitting the names of high school, county and teachers, of one of these cards upon which complete data were entered.

It was not necessary to make a special check to see if the high schools were accredited by the State for no forms were contained in the bound accreditation volumes unless a school was accredited for a given year. Each time there were no records for a school the Oklahoma Educational Directory for that year was checked. Both sources were in agreement in that the Directory did not list as State accredited four schools for which records were not contained in the bound accreditation volumes. Since four schools were not State accredited the sixteen data cards for these schools were dropped from the study, leaving a total of 1,542 data cards of high school information. These four non-accredited schools related to four different students in the student population sample and these students were also deleted from the study. This narrowed the final sample of student population from 867 to 863.

The first item of accreditation records information placed on a high school data card was the size of school figure. The total number of students enrolled in grades nine through twelve was the figure entered on the card.

Then, teacher information from both the daily schedule and the personnel accrediting form was recorded.

While there was no heading on the cards for the total semester hours of history and political science that each teacher had taken in higher education, this information was entered immediately above the teacher's name. Although not called for in this study the teacher's highest degree was also entered there. History and political science credits were listed separately although the total is all the study called for. These were items of information which did not deter from the study and which might prove of value for subsequent expansion of the study.

The subjects taught by the teachers were abbreviated by using the first letters of the course titles. Immediately following the course abbreviation the number of sections taught was placed in parentheses. This helped to determine the extent to which a teacher performed full time in his teaching field.

Under the non-instructional duty, NID on the data card, heading, the instructional duties other than in the fields of history and government were recorded as well as the non-instructional duties. Again this did not detract from the study, provided an item of interest for future expansion of the study and was obtained with a minimum of effort as compared to re-checking the files at a later date. The teacher duties which were considered non-instructional were: (1) administration, including attendance officer, principal and

superintendent; (2) audio visual aids; (3) coaching athletics, including activities, athletics, baseball, basketball, coaching, football, tennis, track and wrestling; (4) debate and dramatics; (5) driver training; and (6) music, including band, chorus and glee club.

There were some problems involved in obtaining the information from the accreditation records. Some schools, for instance, rather than using the State Department's standard form for the daily schedule enclosed a copy of their locally prepared schedule. As a result there were a variety of forms of schedules to be read. Some schedules were more complicated than others and the very fact of deviation from the standard form tended to slow the checking process.

An item which presaged a problem for the future was that history courses, on the daily schedule, were sometimes listed by Roman or Arabic numerals rather than by name. Since courses were listed by name on the students' high school transcripts it became necessary to determine if there existed a standard numerical code for the courses in history. If no such code existed it would have been difficult to match transcript course listings with those on the daily schedules in instances where numerals were used. The following code was found to exist for such numerical listings: (1) history I or 1, Oklahoma history; (2) history II or 2, general history or world history; (3) history III or 3, American history or United States history; and

(4) history IV or 4, modern history.[12]

The most difficult problem encountered was caused by the existence of junior high schools. Junior high schools were accredited separately from senior high schools, although they adhered to similar annual application procedures. The accreditation forms, for purposes of this study, contained like information but were filed in separately bound volumes.[13]

As the ninth grade was a common junior high grade the size and teacher data, in cities having junior high schools, were frequently not included on the senior high school accreditation forms. To obtain the information, in such cases, it was necessary to use the bound volumes containing the junior high school accreditation forms.

There were 219 instances in which a member, or members, of the student population sample graduated from a school system which had a junior high school and in which the junior high school could be identified. Unless the high school

---

[12]Information obtained from a conversation with Mr. Jake Smart, Director of the Division of Instruction, Oklahoma State Department of Education, August 1, 1961. Some of the metropolitan area schools used codes with listings up to history VI or 6. In such cases the code stood for semester taken rather than name of the course. However, this did not complicate matters seriously as, in these schools, several teachers taught the same course and could not be matched with student transcript listings in any event.

[13]There were nineteen of these volumes which applied to the years of this study, 1946-1947 through 1956-1957. They were titled, Approved Junior High Schools. These volumes were alphabetical by city and school but not, in addition, by county which was the case with the senior high school volumes.

transcript had listed the name of the junior high school the identification could sometimes not be made as, in some instances, there was more than one junior high school in a city.

For the 219 instances for which there was adequate identification junior high school data cards were made. Just as for the high schools, some information for the junior high schools was needed for all four years the student was in the school system.[14] Thus 876 data checks, for junior high schools, had to be made. Rather than make four data cards for each of the 219 instances (or a total of 876 cards), however, it was found that all four years of needed information could conveniently be recorded on a single card. Less information was needed for the junior high schools.[15] Figure 7, on page 59, illustrates one of these data cards,

---

[14]The size of school figures were needed for all four years.

[15]Seldom more than one teacher taught history and government courses in a junior high school and quite often the records revealed this person to be a person who taught also in senior high school. Thus it was not necessary to take the duplicate information.

Also, no information as to accreditation status was taken. There were instances in which junior high schools were not State accredited but, since teacher personnel was often the same as the personnel of an accredited high school, a probability existed that such schools were organized on paper only and in actual operation the ninth grade was part of an accredited high school.

Teacher hours in history and political science were not recorded on these cards as it had been previously determined that such information from the accreditation forms was inadequate for purposes of this study.

Another factor which limited the information to be taken from the junior high school records was that Oklahoma history

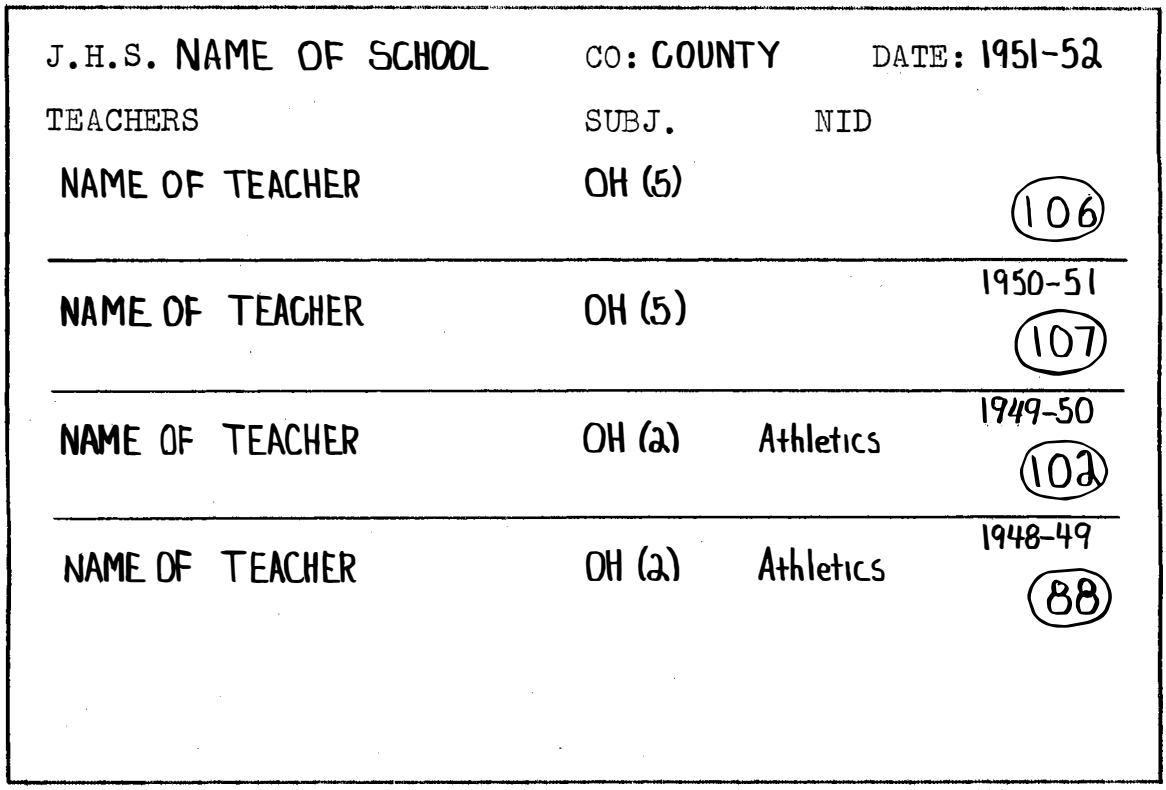

Fig. 7 An illustration of a junior high school data card, omitting the name of school, county and teacher, in its completed form.[16]

---

and civics were the only pertinent courses taught in the ninth grade.

Thus for many schools size was the only figure recorded. For most others it was necessary to record, for each applicable school year, the name of usually just one teacher, the sections of Oklahoma history and/or civics he taught and his non-instructional duties, in addition to the size of the school.

[16]The numbers circled are the size of school figures.

omitting the name of school, county and teacher, in its completed form.

During the check of the high school records each high school data card was marked JHC (junior high check) if the information for the ninth grade was still needed. After the high school check had been completed the junior high data cards were made and the check of the junior high accrediting records then accomplished.

Data cards were not made for those instances in which the high school transcript had not listed the name of the junior high school attended. In such cases the data for ninth grade history and government teachers were not obtainable. However, size data were obtained by estimating ninth grade figures. Ninth grade estimates were made on the bases of the size and trend of the tenth, eleventh and twelfth grades in such school systems. This was done with confidence that an undesirable variable would not be introduced into the size of school correlation as such cases occurred mainly for metropolitan systems which were in a size category quite by themselves anyway. It was felt that such estimation was much more to be desired than to omit the metropolitan high schools from the size of school correlation.

After the junior high data cards had been completed they were used, in turn, to complete the size data on the high school data cards which had been marked JHC. The teacher data on the junior high cards were not transferred to the high school cards but, when the data were later

prepared for processing, used in conjunction with them.

There were problems, then, related to the research in the Division of Instruction volumes of accreditation forms. The main problems related to deviation from the standard form for the daily schedule, the use of numerals for course names and the inclusion of ninth grade information in junior high school records.

For the most part, though, the information on the accrediting forms was readily available. However, obtaining and locating all pertinent information and recording it was a matter of considerable time and painstaking care.

Another category of information to be obtained was the North Central accreditation status of the high schools. This information was needed as the study planned a comparison of grades of students in the student population sample who had and who had not graduated from high schools accredited by the North Central Association of Colleges and Universities.

This information was obtained for each high school used in the study and for each year that a given high school appeared in the study. As the information was contained, on an annual basis, in the Oklahoma Educational Directory it was readily available.

The high school data cards for each year of the study were checked in the Directory for the matching year and all schools listed as accredited by the North Central Association in the Directory were so noted on the data cards. Of the 264 high schools for which data were used in this study 111

were accredited by the North Central Association during part, or all, of the period involved in the study.[17]

The check of North Central accreditation completed research at the Division of Instruction. The next object of research investigation was information on file at the Division of Certification.

Research at the Division of Certification.--Had all of the data obtained on the accreditation records of the Division of Instruction been adequate for use in the study, research at the Division of Certification would have not been necessary. However, the semester hours of history and political science recorded from the accreditation forms proved inadequate for two main reasons: (1) the hours were often recorded as hours in social science or social studies rather than specifically history and political science; and (2) when a sample was checked against the actual transcripts of teachers' college study, on file in the Division of Certification, there were instances of disagreement.[18]

It was thus felt desirable to ascertain the semester hours of history and political science by actually reading the teachers' transcripts. Such transcripts were a part of

---

[17]The sizes of the North Central correlation groups were not determined by these figures but, rather, by total instances of accreditation investigation as determined by the number of data cards. See Table III, supra, p. 28.

[18]Of a twenty case sample check in the Division of Certification files there were four cases of agreement and sixteen cases of disagreement.

the personnel folders, for current and past teachers in the State of Oklahoma, on file in the Division of Certification. The main records in these folders were the transcripts, applications for certification and correspondence concerning the teachers' certification.

The transcripts provided exact information as to semester hours in history and political science. The applications for certification and the correspondence proved quite helpful in definitely determining the identity of each teacher for whom data were gathered.

The initial step in obtaining this data was to prepare a teacher data card for each teacher in the study. This was done by working chronologically through the 1,542 high school data cards. For the first year, 1946-1947, a data card was made for every teacher whose name appeared on a high school card. For subsequent years teacher data cards were made for only teachers who had not previously appeared in the study. For those who had previously appeared in the study the notation of their reoccurring appearance was made on the teacher data card. When teachers remained at the same school ditto marks were used. When they appeared in a different school, the name of the current school was listed for that year.[19] The total number of teachers for whom data cards were prepared was 1,407. Figure 8, on page 64, is an illustration

---

[19]Thus each card contained a record, for the given teacher, of the Oklahoma schools at which that teacher had taught during each of the eleven years of the study.

NAME OF TEACHER

DATE	H.S.		HH	HPS	TH
46-47	X	X			
47-48	X	X			
48-49	X	X			
49-50	NAME OF SCHOOL				
50-51	"	"			
51-52	NAME OF SCHOOL				
52-53	"	"			
53-54	"	"			
54-55	"	"			
55-56	"	"			
56-57	"	"			

Fig. 8 An illustration of a teacher data card, omitting the names of the teacher and the school, as it had been prepared prior to the check of transcripts.

of a teacher data card, at this stage, omitting the names of the teacher and school.

After these data cards were prepared a check was made of corresponding teacher folders in the Division of Certification files. Each teacher folder was pulled from its alphabetical location in the files, the information obtained and the folder re-filed before another folder was pulled. This procedure was designed to lessen the possibility of re-filing errors.

From these certification files the semester hours of history and of political science were placed on the data card of each teacher for whom the information could be located. The total hours accumulated by a teacher were not sufficient for purposes of the study, however. It was necessary to know precisely the number of semester hours that a teacher had for any given year he appeared in the study. In frequent instances teachers accumulated additional hours in history and/or political science after they had first appeared as a teacher in the study.

The total number of hours of history and of political science that a teacher had upon first teaching, for purposes of the study, was recorded. If the teacher accumulated additional hours subsequently the exact number of hours of history and of political science and the date (fall, spring and summer) that credit for them was taken were listed separately on the data card.

A number of teachers had taken graduate degrees after

NAME OF TEACHER

1949 DATE	H.S.		12 HH	6 HPS	18 TH	ME 1950 NIG
46-47	X	X				
47-48	X	X				
48-49	X	X				
49-50	X	X				
50-51	NAME OF SCHOOL					
51-52	"	"				
52-53	"	"				
53-54	"	"				
54-55	"	"				
55-56	NAME OF SCHOOL					
56-57	X	X				

Fig. 9 An illustration of a teacher data card, omitting the names of the teacher and the school, after it had been completed by the transcript check.[20]

---

[20]H.S. is high school; HH is hours of history; HPS is hours of political science; TH is total hours. The numbers of hours are recorded above these headings. The date of the bachelor degree is recorded above the word date. X X means, not a teacher in the study that year. NIG means no history or political science in graduate school.

NAME OF TEACHER

1938 DATE	H.S.		18 HH	6 HPS	24 TH	Plus 3HH Sum. 1956
46-47	X	X				
47-48	X	X				
48-49	X	X				
49-50	X	X				
50-51	X	X				
51-52	NAME OF SCHOOL					
52-53	11	11				
53-54	11	11				
54-55	11	11				
55-56	X	X				
56-57	X	X				

Fig. 10 An illustration of a teacher data card, omitting the names of the teacher and the school, after it had been completed by the transcript check.

first appearing as teachers in the study. Some, however, took no additional history or political science in their graduate work and, in such instances, their data card was marked NIG (none in graduate). Figure 9, on page 66, and Figure 10, on page 67, are illustrations of teacher data cards, omitting the names of teachers and schools, which show the typical type of information recorded on these cards.

Some other items of information were noted, on the cards, which were valuable in one or more of the following ways. They aided in more definitely identifying teachers, helped in accurately determining the number of semester hours of history and political science and provided possibilities for future expansion of the study. Such items of information were: (1) the dates of bachelor degrees; (2) for some random samples, the types of bachelor degrees; (3) the dates that the last history and/or political science courses were taken when teachers held no degrees; (4) the types of graduate degrees held and, in most cases, the dates of those degrees; (5) the name of advanced degree granting institutions in a random sample of cases; and (6) for a random sample of cases the name of all courses taken in history and/or political science and the grades earned in these courses.

The matter of teacher identification was the major problem in connection with research in the Division of Certification files. There were several reasons for this

problem, the substance of which was that teachers' names, as given in the Division of Instruction records, were sometimes inadequate for locating the teachers in Division of Certification files.[21] Some examples will illustrate the type of situations with which the researcher was confronted.

For women teachers who had married the married name was sometimes used in one set of records and the maiden name in another. Miss _____ Allen was located as Mrs. _____ Capps. Mrs. _____ Birkhead was located as Miss _____ Hood. There were a number of instances of this nature.

Nicknames were occasionally the cause of complication: Ed turned out to be Earl Edward; Id turned out to be Ither; Peck turned out to be Charles; and so on. Sometimes it worked in reverse. For instance, Tilgham turned out to be Tim.

Typographical errors caused some consternation. For instance, Burl turned out to be Murl and Ray turned out to be Roy.

The complete omission of first names occurred now and then and only initials were used for first names very frequently. Also the omission of the middle initial was sometimes quite troublesome. These things caused little problem if the last name was fairly distinctive such as

---

[21]A less troublesome problem was caused by transcripts which gave credits in quarter, rather than semester, hours. It was necessary to change quarter hours to semester hours by dividing the number of quarter hours by two-thirds.

Alley, Burney or Ritchie. But when the last name was Johnson, Jones, Smith or such more frequently occurring names location was sometimes complicated.

Likely the most frequent cause of difficulty was the use of middle names rather than first names. Eugene turned out to be Francis Eugene, Howard was located as Thurston Howard, Faye turned out to be Edith, Ann was Corinne and Paul turned out to be Robert. This problem presented itself almost constantly. When one source (either Division of Instruction records or Division of Certification files) gave both the first and middle names the problem was usually easily solved. But when one source gave one name and the other source the other name the problem was sometimes difficult.

There were a number of problems of various sorts which were never solved to the extent that the teachers could be located. As examples: Mrs. Blanche was never found; Mrs. (husband's first name) Herron was never found; D. J. Smith and Jimmy Smith were never found; George Walker was never found; and an individual referred to as "Wright" was never located.

But a great number of challenging cases were located by the use of assisting information such as those data which had been recorded on the data card as to the high school in which each teacher taught each year. The application for certification also contained this information and thus a teacher could be located by matching schools. There might,

for instance be many Bob Joneses but it was unlikely that more than one Bob Jones would have taught at the same school in a given year.

This could be checked in even more detail, though, which gave additional assurance as to the correctness of the identification. If the degree held matched in both Division of Instruction records and Division of Certification files that was additional evidence. If the field in which the person was teaching matched between the personnel accrediting form and the application for certification form that was also additional verification of identity. Identification might have been made through a letter included in the certification folder. The person's nickname or some other pertinent item of information might have proved the key in such a letter.

Altogether, of the 1,407 teachers for whom transcript checks were made, the total for whom the semester hours of history and political science were obtained was 1,172. The completion of the teacher data cards was the final step in the gathering of the data for this study.

CHAPTER IV

PREPARATION OF THE DATA FOR PROCESSING

As gathered during the research all items of correlation group data were recorded on individual student, school or teacher data cards. In preparation for correlation computation it was desirable that these data be collated from the data cards and listed by correlation groups.

A master list of all data used in the various correlations was first prepared. There were ten columns of information in this master list.[1]

The left-hand column was a numerical list of the 863 student population. Starting with the group of students who enrolled at Oklahoma State University in the fall of 1950 and working toward the fall of 1957 group each student data card was assigned a number from one through 863 inclusively.

The remaining nine columns were lists of correlation group data. These lists were compiled by recording, horizontally, the following information for each numbered student: (1) the grade made in the history or political science course at Oklahoma State University; (2) the total number of

---

[1]This entire master data list is given in Appendix A. For an illustration of the headings and data entries of the master data list see Figure 11, infra, p. 74.

Carnegie Units in history and government which the student had in high school; (3) the total number of semester credit hours in history and political science which the student's teacher had at the time he taught the student in high school; (4) whether or not the student's teacher, or teachers, had non-instructional duties in high school and the identity of those who had coaching and physical education duties; (5) the average size of the high school during the four years which the student attended it; (6) whether or not the school was accredited by the North Central Association of Colleges and Universities; and (7) (8) (9) the L, Q and T Scores which the student made on the general ability tests taken upon entrance to Oklahoma State University.

All nine items were recorded for each student in turn. First, items from the student data cards were listed. Second, the data from the high school data cards were listed and finally data from the teacher data cards were recorded.

The data listed from the student data card were: the grade the student made in the basic history or political science course at Oklahoma State University; the total number of Carnegie Units of history and government which the student had in high school; and the L, Q and T Scores which the student made on the general ability tests taken upon entrance to Oklahoma State University. Recording these data was a matter of direct transfer except for the student grades. Each of the grades was assigned a numerical quantity as only items which can be expressed numerically are capable

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
112	50	2	28	0/1	48	no	31	73	46
113	25	3	NA	1/1 1C	113	yes	21	36	23
114	25	2	NA	NA	272	yes	36	47	38
115	50	2	37	1/2 1P	161	no	45	70	54
116	100	3	NA	2/2 2C	44	no	25	24	21
117	25	3	NA	1/3 1C	151	no	31	17	21
118	0	3	25	0/1	231	yes	27	84	49
119	0	3	18	2/3 2C	59	no	17	36	21
120	75	4	26	1/4 1C	152	no	58	4	19
121	25	2	NA	NA	566	yes	58	66	61
122	50	3	NA	NA	1,186	yes	85	73	83
123	25	2	NA	NA	1,186	yes	5	63	16
124	50	2	NA	NA	1,186	yes	43	47	42
125	50	1	NA	NA	1,186	yes	25	44	28
126	50	2	32	1/1	73	no	38	51	41
127	25	4	NA	NA	145	yes	9	44	17
128	50	1	NA	NA	330	yes	31	51	36
129	75	4	33	3/4 1C 1P	194	no	82	90	88

Fig. 11 An illustration of the master data list including headings and notations of all data for correlations made in the study.[2]

[2]The complete master data list is given in Appendix A.

of being statistically correlated. The numerical expressions assigned to the grades were: A, 100; B, 75; C, 50; D, 25; F and WF, 0.

Data obtained from the high school data card were: the size of the high school; whether or not the high school was accredited by the North Central Association of Colleges and Universities; and the non-instructional duties information. Transferring these data from the school data cards to the master data list was somewhat more involved than recording the data from the student cards.

Actually, the student cards and high school cards had to be read in conjunction with each other in order to obtain the high school card data for the master list. For each student it was necessary to have high school data card information for the four years the student attended the high school. When junior high school situations were applicable the junior high school data card was substituted for the ninth grade year. Thus four stacks or years, of school data cards were worked from in conjunction with one stack, or year, of student data cards. As an example, if the student graduated from high school in 1950 then school data cards for 1949-1950, 1948-1949, 1947-1948 and 1946-1947 were used to obtain the information for the master data list.

The size of school datum was obtained by taking the mean of the size figures given on each of the four data cards. Thus, if for the four years the data cards gave size figures of a high school as 440, 430, 420 and 410 respectively, the

size datum entered on the master data list would have been 425 or the mean of these four figures.

Information as to North Central accreditation was easily obtained from the data cards. The master data list was simply marked yes or no for this item. The numerical quantities used for correlation in this case were the grades made by students from both accredited and non-accredited schools. Unless a school was either accredited for all four years or not accredited for all four years it was not included in either correlation group.

To this point most information was available for each correlation group. In a few instances, however, certain cases were deleted from the correlation. For example, in some cases size figures were not definite, there was hesitance about granting Carnegie Unit credit for some high school course or a school was not North Central accredited for one of the four years. In case an item, for a given student, was deleted the letters NA (not available) were entered on the master data list.

To collate the non-instructional duty data it was first necessary to obtain, from the student data card, the name of the high school courses in history and government and the year in which they were taken. As an example, the student data card might show OH-½-1, US-1-3 and POD-1-4. In other words the student took one-half Unit of Oklahoma history as a freshman in high school, 1 Unit of United States history as a junior and 1 Unit of problems of democracy as a senior.

For the years in which the student took those courses it was then necessary to locate the names, from the school data cards, of the teachers who had taught the courses. Opposite the teacher's name on each data card the non-instructional duties performed that year were listed and could, thus, be obtained for the master data list.

Sometimes the student had only one teacher for all history and government courses he took; sometimes he had two or even more teachers. In many cases none of the teachers had non-instructional duties. Frequently some of them did and some didn't and in other instances all of the teachers had non-instructional duties. This was expressed on the master data list by fraction type notations. As examples: 0/1 meant that the student had only one teacher for the courses he took and that one teacher had no non-instructional duties; 1/1 meant that the one teacher did have non-instructional duties; and 2/3 meant that the student had three different teachers and that two of the three had non-instructional duties. The denominator of the fraction, then, expressed total number of teachers and the numerator expressed the number of teachers who had non-instructional duties.

In addition, the information as to what teachers had athletic coaching duties and gymnasium or physical education duties was needed. Such duties were identified by abbreviated notations to the right of the fraction type entry.

A number of NA notations were necessary on the master data list for the non-instructional item. This was a result

of not being able to definitely identify teachers. The most common cause of this was that sometimes more than one teacher taught the same named course. As an example, if a student had world history his sophomore year but the high school data card for his school for that year showed two teachers instructing world history, there was no way of telling, from the data recorded, which teacher was the one for whom non-instructional data were desired. Now, if neither of the two teachers had non-instructional duties the data could be used and if both of the teachers had identical non-instructional duties, as related to coaching or non-coaching, the data could also be used. Too, the data could be applied if both of the teachers had some non-instructional duties.

The final data needed for the master list were the teachers' semester hours in history and political science. As the teachers were identified from the high school data cards, and after the non-instructional data had been listed, the teachers' data cards were pulled from an alphabetical file and the desired semester hour datum was recorded.

There were more NA notations necessary for this data item than for any other listed on the master data list. Not only was this necessary in cases in which the teacher could not be identified but some not available notations were necessitated by the fact that the semester hour information had not been obtained for 235 of the 1,407 teachers for whom cards had been prepared.

Many of the students had more than one teacher of history

and government in high school. In such cases the mean number of semester hours was recorded. As an example, suppose a student had three teachers. Respectively, they had 18, 6 and 24 semester hours credit. The mean, or 16, was recorded on the master data list. In cases in which the student had only one teacher this teacher's total was recorded. In the multiple teacher instances if the semester hours for any one teacher were not available then the whole case was marked not available (NA).

The final sizes of the correlation groups, as given in Tables II, III and IV, used in the study were actually not revealed until this master data list had been completed. From its completion the list, rather than the data cards, was used as the primary source of data information.

In order to make the data more readily readable additional correlation group data lists were prepared from the master list. Correlation group lists were prepared for: Carnegie Units; North Central accreditation; teacher non-instructional duties; and teacher semester hours.

The smallest number of Carnegie Units taken by a student in high school was one and the greatest number taken by a student was four and one-half. Between these extremes the totals ran by halves and wholes.

The Carnegie Unit information was prepared for processing by recording, for each of the 863 students in the population sample, the numerical equivalent of the grade made in the basic history or political science course, under the number

of Carnegie Units of history and government taken in high school. Thus, if a student had taken three Units in high school and made a C in History 303, a 50 would have been recorded under the heading, 3. An illustration of this form is given in Figure 12 on page 81.

The North Central accreditation information was prepared by listing, for each of the 863 students, the numerical designation of the grade he made in the basic history or political science course under one of two headings, YES or NO. YES signified graduation from a North Central accredited high school and NO signified graduation from a school not accredited by the North Central Association. Thus, if a student made a C in Political Science 303 and attended a North Central accredited school a 50 would have been entered under the heading YES. An illustration of this form is given in Figure 13 on page 82.

All twelve of the correlation groups for teacher non-instructional duties were individually prepared. They were prepared under two main headings which were, WITH PHYSICAL EDUCATION AND GYMNASIUM and WITHOUT PHYSICAL EDUCATION AND GYMNASIUM. Under each of these main headings were the sub-headings of Non-Instructional Duties and of Coaching. Each of these sub-headings was divided, in turn, into three categories. These categories were none, some and all.

Under none, some or all the numerical equivalent of the grade which a student made in the basic history or political science course was recorded for each of the four categories:

Students:	No. Units-- 1	1½	2	2½	3	3½	4	4½
40					25			
41			50					
42							25	
43			50					
44					100			
45						75		
46					25			
47						75		
48				0				
49		50						
50			50					
51					25			
52					50			
53					75			
54				0				
55					75			
56			25					
57		25						
58			50					
59			0					
60								50
61					100			

Fig. 12 An illustration of the data list for the Carnegie Units correlation group, showing student grades, by numerical designation, listed under the total number of Carnegie Units the students had in high school.

Students	N.C. Accredited YES	NO	Students	N.C. Accredited YES	NO
1		25	21	NA	NA
2		50	22	75	
3	25		23		100
4	50		24	75	
5		0	25	75	
6	25		26	50	
7	50		27	50	
8		25	28		0
9		25	29		50
10		75	30		25
11	0		31		50
12	50		32		50
13	0		33		25
14	75		34	0	
15	75		35	50	
16	50		36	50	
17		75	37	75	
18		50	38		0
19	0		39	0	
20		25	40		25

Fig. 13 An illustration of the data lists for the North Central accreditation correlation groups, showing student grades, by numerical designation, listed under whether or not the high schools from which the students graduated were accredited by the North Central Association of Colleges and Universities.

INCLUDING PHYSICAL EDUCATION AND GYMNASIUM

Students	Non-Instructional Duties			Coaching		
	none	some	all	none	some	all
58	50			50		
59		0		0		
60	50			50		
61	100			100		
62	50			50		
63	50			50		
64	25			25		
65		75			75	
66			50		50	
67			50			50
68	25			25		
70		100		100		
71			100		100	
72	50			50		
74		25		25		
75			75		75	
76			50			50

Fig. 14 An illustration of the data lists for the non-instructional duties correlation groups, showing student grades, by numerical designation, listed under whether, including physical education and gymnasium as non-instructional, none, some or all of the students' teachers had non-instructional duties and whether none, some or all of the students' teachers had athletic coaching duties.

EXCLUDING PHYSICAL EDUCATION AND GYMNASIUM

Students	Non-Instructional Duties			Coaching		
	none	some	all	none	some	all
58	50			50		
59		0		0		
60	50			50		
61	100			100		
62	50			50		
63	50			50		
64	25			25		
65		75			75	
66			50		50	
67			50			50
68	25			25		
70		100		100		
71			100		100	
72	50			50		
74		25		25		
75			75		75	
76		50			50	
77		0			0	

Fig. 15 An illustration of the data lists for the non-instructional duties correlation groups, showing student grades, by numerical designation, listed under whether, excluding physical education and gymnasium from the non-instructional category, none, some or all of the students' teachers had non-instructional duties and whether none, some or all of the students' teachers had athletic coaching duties.

	ONE TEACHER		MULTIPLE TEACHERS		ALL TEACHERS	
Students	Total Hours	Grades	Total Hours	Grades	Total Hours	Grades
1			16	25	16	25
3	24	25			24	25
4	24	50			24	50
5			26	0	26	0
6			52	25	52	25
17			10	75	10	75
19			25	0	25	0
21	25	75			25	75
23	34	100			34	100
26	26	50			26	50
27			17	50	17	50
29			49	50	49	50
30	27	25			27	25
31			16	50	16	50
33			21	25	21	25
38	28	0			28	0
40			47	25	47	25
41			32	50	32	50

Fig. 16 An illustration of the data lists for the teacher semester hours correlation groups, showing student grades by numerical designation and showing the total (for one teacher) or mean (for multiple teachers) semester hours in history and political science which the teachers had earned from institutions of higher learning at the time that these teachers taught the students in high school history and government courses.

(1) Non-Instructional Duties INCLUDING PHYSICAL EDUCATION AND GYMNASIUM: (2) Coaching INCLUDING PHYSICAL EDUCATION AND GYMNASIUM: (3) Non-Instructional Duties EXCLUDING PHYSICAL EDUCATION AND GYMNASIUM: and (4) Coaching EXCLUDING PHYSICAL EDUCATION AND GYMNASIUM. Figure 14, on page 83, and Figure 15, on page 84 illustrate this preparation of the teacher non-instructional data.

Separate data lists were also made for the teacher semester hours correlation groups. There were three of these lists under the separate headings ONE TEACHER, MULTIPLE TEACHERS and ALL TEACHERS. Under each of these main headings there were two sub-headings, Total Hours and Grades.

Under the Total Hours heading of the ONE TEACHER group the teacher's total semester hours credit in history and political science was entered. Under the Total Hours heading of the MULTIPLE TEACHERS group the mean total of the semester hours which the teachers had was recorded. Under the heading Grades, for both groups, the numerical designation of the grade the student made in the basic history or political science course was listed. The ALL TEACHER group simply combined all data listed under the other two groups. Figure 16, on page 85, is an illustration of these semester hour data lists.

Separate data lists were not prepared for the size of school data or for L, Q and T Scores. These data were quite easily read from the master data list and, also, they were not subdivided into multiple correlation groups.

CHAPTER V

RESULTS OF STUDY COMPUTATIONS

The statistical computations were, in keeping with study purposes, designed: (1) to determine, within the scope of the study, the extent and nature of instruction in history and government in the secondary schools of Oklahoma; and (2) to establish the degrees of relationship between the variables under consideration. Data gathered pursuant to correlation computations revealed, in addition to correlation results, information concerning extent and nature of high school and college instruction in history and government. Pertinent aspects of this additional information are reported, in this chapter, coordinately with the results of relationship computations.

Relationship determinations planned by the study were between the grades which students made in the basic history and political science courses at Oklahoma State University and: (1) the amounts of history and government the students had in senior high school; (2) the sizes of the senior high schools which the students attended; (3) whether or not the high schools were accredited by the North Central Association of Colleges and Universities; (4) the academic preparation of the students' high school history and government

teachers; (5) the non-instructional duties performed by the students' senior high school teachers; and (6) the L, Q and T Scores which the students made on the general ability tests taken upon entrance to Oklahoma State University.

Student grades in the basic history and political science courses at Oklahoma State University were central to all of the relationship computations in that student grades were, in some manner, a part of all such computations. On the basis of the numerical quantities designated for student grades the mean grade for the 863 student population samples was 44.70.[1] This mean is significant as a point of comparison with other mean grade scores which appear subsequently in this chapter. Table V, on page 89, shows a mean and frequency breakdown of grades by individual basic history and political science courses.

The results of the relationship computations together with pertinent coordinate information are recorded in the remainder of this chapter. Each relationship area is reported individually.

The Amounts of History and Government Taken in High School

The amounts of history and government were determined by the number of Carnegie Units of such courses which students had taken in senior high school. The number of Units

---

[1]The numerical quantities were: A, 100; B, 75; C, 50; D, 25; F and WF, 0. See supra, p. 75.

TABLE V

MEAN AND FREQUENCY OF STUDENT GRADES BY BASIC HISTORY AND POLITICAL SCIENCE COURSES

Basic Course	Grade Frequency	Grade Mean
History 283	129	48.25
History 293	69	51.09
History 303	462	43.13
Political Science 203	169	44.08
Political Science 303	34	42.65
All Basic History and Political Science Courses	863	44.70

TABLE VI

MEAN AND FREQUENCY INFORMATION REGARDING STUDENTS' CARNEGIE UNITS IN HISTORY AND GOVERNMENT COURSES

Subject Field	Number of Units	Per Cent of Units	Mean Number of Units	Number of Students
History	1,550	79%	1.80	859
Government	400	21%	.47	535*
History and Government	1,950	100%	2.27	859

*There were 859 students for whom Carnegie Unit information was obtained. All 859 had Units in history but 324 did not have Units in government. The mean number of government Units (.47) was computed on the basis of all 859 students. For the 535 students who actually had courses in government the mean number of Carnegie Units per student was .75.

which all 863 students had taken ranged from a low of one Unit to a high of four and one-half Units. The mean number of Units taken was 2.27. The greater number of Units was taken in history as compared to government. Of the 1,950 total number of Units taken by the students 1,550 were taken in various history courses and 400 were taken in government courses. The mean number of history Units was 1.80 and the mean number of government Units was .47. All students had some Unit credit in history but 324 students had no Carnegie Units in government. This information is recorded in Table VI on page 90.

The relationship which the study sought was between the combined Units of history and government and the grades which the students made in the basic courses at Oklahoma State University. This relationship was computed by the product-moment coefficient of correlation, the basic formula of which may be written $r = \frac{\Sigma xy}{\sqrt{(\Sigma x^2)\ (\Sigma y^2)}}$.

By this formula a result of 1.00 is a perfect positive correlation and a result of -1.00 is a perfect negative correlation. A result of 0 signifies no correlation. The degree of positive or negative correlation depends upon the distance toward 1.00 or -1.00 by which the result deviates from 0. For purposes of this study a variation of .60 or -.60 from 0 was accepted as indicating a significant degree of correlation between the factors involved in a computation.[2]

---

[2]Authority for this was Dr. James E. Frasier, Professor

The coefficient of correlation between the grades made by the students and the number of Carnegie Units of history and government which they had in high school was .04. This is not a .60 or -.60 deviation from 0 and, therefore, the correlation between these factors was not significant.

In addition to declaring this result not significant on the basis of a difference from 0 of less than .60 or -.60 a test of statistical significance was made by dividing the coefficient of correlation by its standard error, the result being the critical ratio. This is expressed by the formula $CR = \frac{r}{\sigma_r}$. This formula is based on the null hypothesis that the observed value of r is not different from zero. If the critical ratio is 1.96 or higher a check with a table of

---

of Education, Oklahoma State University, Stillwater. It was felt that correlation coefficients below this level would have little practical value.

Garrett cites a common agreement among workers with psychological and educational tests of the following somewhat tentative guide of significance criteria: .00 to ± .20, negligible; ± .20 to ± .40, low; ± .40 to ± .70, substantial; and ± .70 to ± 1.00, high to very high. See Henry E. Garrett, Statistics in Psychology and Education (New York, 1955), p. 173.

Tests for statistical significance were computed for all coefficients of correlation reported in the study and in all cases correlations of above .60 showed significance. Other coefficients of correlation were far below .60 and none showed significance. These tests served to support the acceptance of the parallel level of significance for purposes of this study.

In addition, all coefficients of correlation results reported in the study were designated as "fairly high" or "null hypothesis accepted" (no correlation) by personnel of the Statistics Laboratory at Oklahoma State University. Although these designations were made independently of regard for a .60 correlation, all coefficients over .60 were designated as "fairly high" and all others were designated as "null hypothesis accepted."

normal areas will reveal it to be significant at the .05 level of probability. In the instance of the Carnegie Units and student grades coefficient of correlation the critical ratio was 1.18. Entering a table of normal areas the probability was found to be about 24 in 100 that a larger value of r than that observed (.04) might occur because of sampling errors. Thus the null hypothesis was accepted that r actually equaled 0 and the .04 coefficient of correlation between student grades and the amounts of Carnegie Units in history and government was not significant.

Additional insight into the relationship between the amounts of Carnegie Units and the student grades was sought by computing the significance of the differences of the grade means of four Carnegie Unit groupings. The amounts of Carnegie Units were grouped as follows: (A) 1 and 1½ Units; (B) 2 and 2½ Units; (C) 3 and 3½ Units; and (D) 4 and 4½ Units. The means of grades earned by students having taken amounts of Carnegie Units in each of these four groups were, respectively: (A) 41.24; (B) 46.22; (C) 44.46; and (D) 43.82. There appears to be no indication from these means that students who took the most history and government courses in high school achieved highest in the basic history or political science courses at Oklahoma State University. In fact the highest grade mean was obtained for the 2 and 2½ Carnegie Units group. Table VII, on page 94, shows Unit frequencies and grade means for each of these Carnegie Unit groupings.

Critical ratios were computed for the differences

TABLE VII

STUDENT FREQUENCY AND GRADE MEANS FOR FOUR GROUPINGS OF CARNEGIE UNIT AMOUNTS WHICH STUDENTS HAD IN HISTORY AND GOVERNMENT

Unit Groupings	Student Frequency	Student Grade Means
1 and 1½	137	41.24
2 and 2½	417	46.22
3 and 3½	271	44.46
4 and 4½	34	43.82

between six pairings of these group means by the formula $CR = \frac{D}{\sigma_D}$. That is to say that the critical ratio equals the difference between the means divided by the standard error of the difference between the means. The results were as follows: (1) the critical ratio between A and B groups was 1.87; (2) the critical ratio between A and C groups was 1.13; (3) the critical ratio between A and D groups was .41; (4) the critical ratio between B and C groups was .81; (5) the critical ratio between B and D groups was .40; and (6) the critical ratio between C and D groups was .27. There were in excess of 100 degrees of freedom in each computation and, at the .05 level of probability a critical ratio of 1.96 was necessary to establish significance.[3] As each of the computed critical ratios was smaller than 1.96 none of the differences between the means of the four groupings of Carnegie Units was a significant difference at the .05 level of probability. The differences could be regarded as the result of accident or chance. This tended to substantiate the lack of coefficient of correlation between the student grades and the amounts of Carnegie Units which the students took in high school.

---

[3]In significance computations with 100 or more degrees of freedom statisticians commonly accept 1.96 (approximately two standard deviations from the mean) as the minimum critical ratio needed to establish significance at the .05 level of probability.

Sizes of the Senior High Schools

A product-moment coefficient of correlation was computed between the sizes of the high schools attended by the students and the grades the students made in the basic history and political science courses at Oklahoma State University. The sizes of schools were determined by taking their average enrollments for all four years that members of the student population sample attended them.

The coefficient of correlation between student grades and sizes of schools was -.01. As this is practically zero it is reasonable to assert that there was no correlation between these two factors. In addition, the critical ratio of this coefficient of correlation was -.33. A table of normal areas revealed that in about 74 out of every 100 trials a value of r larger than the value observed (-.01) might occur by chance. To be significant at the .05 level such larger value could occur no more frequently than five in every 100 trials. Thus, by the critical ratio standard there was no significance in the -.01 coefficient of correlation between student grades and the sizes of high schools the students attended.

A further insight into relationship between the sizes of schools and the student grades was sought by computing the significance of the difference between the means of grades, in the basic history and political science courses, of students attending schools of the size of 1,000 and over

TABLE VIII

FREQUENCY, GRADE MEANS AND THE CRITICAL RATIO BETWEEN THE GRADE MEANS FOR STUDENTS WHO ATTENDED HIGH SCHOOLS OF THE SIZES OF 1,000 AND OVER AND 100 AND LESS

Sizes of Schools	Student Frequency	Student Grade Means	Critical Ratio of Difference Between Means
1,000 and over	263	45.53	- - - - - - - - .96*
100 and less	111	42.57	

*There were 372 degrees of freedom in this computation and, thus, at the .05 level of probability, a critical ratio of 1.96 was needed to establish significance.

and students attending schools of the size of 100 and less. The mean grade of the 1,000 and over group was 45.53 and the mean grade of the 100 and less group was 42.57. Thus, there was an actual difference of 2.96, favoring the 1,000 and over group, between the two means. Computation for critical ratio produced a result of .96. There were 372 degrees of freedom and significance at the .05 level of probability required a critical ratio of 1.96. The difference between the means of these two groups was, then, not significant at the .05 level of probability. The difference could have as easily been in favor of the 100 and less group. Student frequency and grade means of the two groups plus critical ratio information is given in Table VIII on page 97.

North Central Accreditation

Another relationship which the study sought was between the grades made by the students in the basic history and political science courses at Oklahoma State University and whether or not the schools which the students attended were accredited by the North Central Association of Colleges and Universities. Computations were made to determine the significance of the difference between the grade means of those students who attended North Central accredited schools and those students who attended schools not accredited by that Association.

The mean grade of the accredited group was 44.98 and the mean grade of the non-accredited group was 43.26. The mean

TABLE IX

FREQUENCY, GRADE MEANS AND THE CRITICAL RATIO BETWEEN THE GRADE MEANS FOR STUDENTS WHO ATTENDED HIGH SCHOOLS ACCREDITED BY THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND UNIVERSITIES AND STUDENTS WHO ATTENDED HIGH SCHOOLS NOT ACCREDITED BY THAT ASSOCIATION

School Accreditation Status	Student Frequency	Student Grade Means	Critical Ratio of Difference Between Means
Accredited	622	44.98	.81*
Non-Accredited	230	43.26	

*There were 850 degrees of freedom in this computation and, thus, at the .05 level of probability, a critical ratio of 1.96 was needed to establish significance.

of the accredited group was, thus, 1.72 higher than the mean of the non-accredited group. Computation, to determine whether this difference was significant or accidental, obtained a critical ratio of .81. There were 850 degrees of freedom and, in order to have been significant at the .05 level of probability, the critical ratio would have had to have been at least 1.96. As .81 is less than 1.96 the difference between these two means was not significant. Table IX, on page 99, shows this critical ratio plus student frequency and grade means for both the accredited and non-accredited groups.

Even though the mean of the accredited group was slightly higher than the mean of the non-accredited group there was, then, no statistical indication that the difference was due to the factor of accreditation. The difference, rather, can reasonably be assumed to have occurred due to sampling fluctuations and accidents, and the difference might have as easily been in favor of the non-accredited group.

The Academic Preparation of the Senior High School Teachers

The academic preparation of high school teachers for whom data were used in this study was determined on the basis of the combined number of semester hours in history and political science which the teachers had earned in institutions of higher learning. The frequency with which teachers took history and political science as well as the mean number of

TABLE X

FREQUENCY WITH WHICH 1,172 HIGH SCHOOL TEACHERS HAD TAKEN COURSES IN HISTORY AND POLITICAL SCIENCE AND THEIR MEAN NUMBER OF SEMESTER HOURS EARNED IN THESE COURSES

Subject Field	Teacher Frequency	Percent of Teachers	Mean Number of Hours	Percent of Combined Means
History	1,167	99.6%	22.11	81%
Political Science	1,096	93.5%	5.29	19%
History and Political Science	1,171*	99.9%	27.40	100%

*One teacher had no semester hours in either history or political science. The mean of this group (27.40), however, was computed on the basis of all 1,172 teachers.

hours per teacher in these subject fields is reported in Table X on page 101. Considering all 1,172 teachers, for whom this information was obtained, the mean number of semester hours in history and political science combined was 27.40. Of this number 22.11 were taken in history courses and 5.29 were taken in political science courses. Only five of the teachers had not taken courses in history while seventy-six had not taken courses in political science.

Product-moment coefficients of correlation were computed for three pairings. Correlations were computed between student grades in the basic history and political science courses and: (1) the amounts of semester hours in history and political science of those teachers in cases where students had only one teacher for their high school history and government courses; (2) the amounts of semester hours in history and political science of those teachers in cases where students had multiple teachers (more than one) for their high school history and government courses; and (3) the amounts of semester hours in history and political science of all teachers in this correlation group.[4]

On a scale from -1.00 to 1.00 the following coefficients of correlation were obtained: (1) between student grades and one teacher instances, .61; (2) between student grades and multiple teacher instances, .76; and (3) between student grades and all teachers, .69. All of these coefficients of

---

[4]See Table IV, supra, p. 29.

correlation were above .60 and therefore significant.

The significance of each was statistically verified by computing the formula $CR = \frac{r}{\sigma_r}$. By this formula the critical ratios (CR) obtained were: (1) one teacher correlation, 6.22; (2) multiple teacher correlation, 10.13; and (3) all teacher correlation, 11.69. A table of normal areas showed the possibility to be remote that correlation results larger than these could occur by chance or accident. The null hypotheses, upon which the critical ratio computations were based, were rejected as the coefficients of correlation for all three of these pairings proved significant.

Computation results, thus, produced a rather marked relationship between the achievement of the students in the basic history and political science courses at Oklahoma State University and the academic preparation of their high school teachers of history and government. Considering the levels of the coefficients of correlation, and the sizes of the critical ratios computed for them, it seems reasonable to term this relationship as substantially to highly significant.[5]

These coefficients of correlation revealed an interesting pattern--that the correlation between the students' grades and the semester hours of their teachers was higher in instances in which students had multiple teachers of history and government in high school than in instances in which students had only one teacher for all their history and

---

[5]See footnote, supra, p. 91 f.

government courses. The two correlations were .76 and .61 respectively. Although the critical ratio between these two coefficients of correlation was 1.81 and, thus, below the .05 probability level of significance (1.96), it was decided to test the hypothesis that a relationship existed between the number of teachers of history and government the students had in high school and the grades the students made in the basic history and political science courses at Oklahoma State University.

In order to test this hypothesis it was necessary to extract the variable of teacher semester hours from the computation. This was done by first determining if there was a significant difference between the number of semester hours that teachers had in the one teacher and multiple teacher instances. If a significant difference existed then the semester hour variable might well be assumed the causative factor and the hypothesis rejected. If, on the other hand, there proved to be no significant difference in the semester hour accumulations of the two teacher samples then the testing of the hypothesis could proceed by testing the significance of the difference between the means of the grades of the two student correlation groups involved in the one teacher and multiple teacher coefficient of correlation computations.

First, then, computations were made to determine the difference, and possible significance of the difference, in the amounts of semester hours of history and political science accumulated by each teacher group. It was found that

the one teacher group had a higher mean of semester hours than did the multiple teacher group. The two means, respectively were 32.14 (one teacher) and 30.36 (multiple teachers). The difference between these two means was 1.78. A test of the significance of this difference produced a critical ratio of 1.24. There were 282 degrees of freedom and in order to have been significant at the .05 level of probability a ratio of 1.96 was demanded. As 1.24 is less than 1.96 the 1.78 difference between the means of semester hours of the one teacher and the multiple teacher groups was not significant. It appeared reasonably certain that the difference could easily have arisen from accidental or chance fluctuation in the samples. This lack of significance, then, indicated that the two samples (one teacher and multiple teacher) actually came from populations with the same means of semester hours in history and political science.

Since the one teacher and multiple teacher groups came from the same population as far as number of semester hours was concerned the possibility still remained that the hypothesis that a relationship existed between the basic course grades and the number of high school history and government teachers a student had in high school might be accepted upon further testing. And this tentative hypothesis could be accepted provided that the difference in grades made by the students of the one teacher group and the multiple teacher group was indeed significant.

The mean of the grades of students who had only one

teacher in their high school history and government courses was 40.88 and the mean of the grades of students having multiple teachers was 42.74. Thus, the multiple teacher group had a higher grade mean, the difference between the means being 1.86. A test of the significance of this difference produced a critical ratio of .49. With 282 degrees of freedom a critical ratio of 1.96 was necessary for significance at the .05 level of probability. Since .49 is less than 1.96 the 1.86 difference between the grade means of these two groups was not significant. It appeared reasonably certain that the difference between the means could easily have arisen from sampling fluctuations and hence did not indicate a true difference. There was, then, no statistical support for the hypothesis that the higher correlation of the multiple teacher group as compared to the one teacher group was related to the number of history and government teachers the students had in high school. The hypothesis was rejected.

Non-Instructional Duties

The relationships between student grades and teacher non-instructional duties were determined by testing the significance of the differences between the grade means of student groups whose teachers had various categories of the non-instructional duties. Twelve such computations were done. Six were between student grades and teachers none, some and all of whom had non-instructional duties. In this category three groups included physical education and

gymnasium as non-instructional and three excluded them (i. e., counted them as instructional). Six other computations were between student grades and teachers none, some and all of whom had athletic coaching duties. In this category three groups included physical education and gymnasium as coaching and three groups excluded them.[6]

All of these significance tests were done on the .05 level of probability and there were sufficient degrees of freedom that critical ratios of 1.96 were needed to establish significance in all the computations. The results are reported by non-instructional categories.

Non-Instructional, Including Physical Education and Gymnasium

(1) For students none of whose teachers had non-instructional duties the mean grade was 45.53. For students some of whose teachers had non-instructional duties the mean grade was 42.53. The difference between these means was 3.00 and the computed critical ratio was 1.04. As 1.04 is less than 1.96 the difference between the two means was not significant.

(2) For students none of whose teachers had non-instructional duties and students all of whose teachers had non-instructional duties the mean grades were 45.53 and 46.76 respectively. Computation for the 1.23 difference between the means produced a critical ratio of .42 which was too small to establish significance at the .05 level of probability.

---

[6]See Table IV, supra, p. 29. Cf. Table XI, infra, p. 111.

(3) For students some of whose teachers had non-instructional duties the mean grade was 42.53 and for students all of whose teachers had non-instructional duties the mean grade was 46.76. The difference between these means was 4.23 and the critical ratio of the difference was 1.44, which was not large enough to establish significance.

Non-Instructional, Excluding Physical Education and Gymnasium

The results of the computations for the non-instructional groups, excluding physical education and gymnasium as non-instructional (i. e., regarding them as instructional) showed a similar lack of significance. The following results were obtained.

(1) The grade means for students none of whose teachers had non-instructional duties and for students some of whose teachers had non-instructional duties were, respectively, 45.57 and 41.54. The 4.03 difference between these means was not significant as the 1.43 critical ratio of the difference was less than the needed value of 1.96.

(2) For students none of whose teachers had non-instructional duties the mean grade was 45.57 and for students all of whose teachers had non-instructional duties the mean grade was 47.07. The .89 critical ratio computed for the 1.50 difference between the means was not sufficiently large to be significant at the .05 level of probability.

(3) For students some of whose teachers had non-instructional duties and students all of whose teachers had

non-instructional duties the mean grades were 41.54 and 47.07 respectively. The difference between these means was 5.53 and the critical ratio of the difference was 1.81, which did not establish significance.

Coaching, Including Physical Education and Gymnasium

(1) The grade mean for students none of whose teachers had athletic coaching duties was 45.00 and the grade mean for students some of whose teachers had coaching duties was 44.27. Computation for the significance of the .73 difference produced a critical value of .26. As .26 is less than 1.96 the difference between the two means was not significant.

(2) For students none of whose teachers had athletic coaching duties the mean grade was 45.00. For students all of whose teachers had coaching duties the mean grade was 43.99. The difference between these means was 1.01 and the critical ratio of the difference was .49, which was too small to establish significance.

(3) Grade means for students some of whose teachers had coaching duties and all of whose teachers had coaching duties were 44.27 and 43.99 respectively. The .28 difference between these means was not significant as a computed critical ratio of .07 was less than the needed critical value of 1.96.

Coaching, Excluding Physical Education and Gymnasium

The last three of these computations for the non-instructional duties pairings were relative to athletic

coaching, excluding physical education and gymnasium (i. e., regarding them as non-coaching). No significant differences between grade means were obtained.

(1) The grade means for students none of whose teachers had coaching duties and for students some of whose teachers had coaching duties were, respectively, 44.52 and 44.07. The .16 critical ratio computed for the .45 difference between these two means was too small to be significant at the .05 level of probability.

(2) For students none of whose teachers had coaching duties the mean grade was 44.52 and for students all of whose teachers had coaching duties the mean grade was 44.20. The difference between these means was .32 and the critical ratio of the difference was computed at .08. As .08 is less than the needed value of 1.96 the difference between these means was not significant.

(3) Grade means for students some of whose teachers had coaching duties and for students all of whose teachers had coaching duties were 44.07 and 44.20 respectively. The difference between these means was .13 and the critical ratio of the difference was .03, which was not sufficiently large to establish significance.

In summary, none of the differences between pairs of means which were tested proved to be significant at the .05 level of probability. It may reasonably be assumed that the differences among these means arose as a matter of sampling fluctuations and can be attributed to accident or chance.

TABLE XI

COMPUTATION RESULTS FOR TESTS OF THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THE GRADE MEANS OF TWELVE STUDENT GROUPS WHOSE TEACHERS HAD VARIOUS CATEGORIES OF NON-INSTRUCTIONAL DUTIES

Student Groups	M	Group Pairs	MD	DF	CR
Non-Instructional Including P.E. & Gym					
None of Teachers	45.53	None & Some	3.00	392	1.04
Some of Teachers	42.53	None & All	1.23	327	.42
All of Teachers	46.76	Some & All	4.23	338	1.44
Non-Instructional Excluding P.E. & Gym					
None of Teachers	45.57	None & Some	4.03	408	1.43
Some of Teachers	41.54	None & All	1.50	335	.89
All of Teachers	47.07	Some & All	5.53	327	1.81
Athletic Coaching Including P.E. & Gym					
None of Teachers	45.00	None & Some	.73	433	.26
Some of Teachers	44.27	None & All	1.01	342	.49
All of Teachers	43.99	Some & All	.28	237	.07
Athletic Coaching Excluding P.E. & Gym					
None of Teachers	44.52	None & Some	.45	456	.16
Some of Teachers	44.07	None & All	.32	355	.08
All of Teachers	44.20	Some & All	.13	211	.03

Key: M = mean MD = difference between means
DF = degrees of freedom CR = critical ratio
CR needed for significance = 1.96

The twelve computations just reported are shown in Table XI on page 111.

Table XI reveals an interesting pattern of grade means for the two non-instructional categories. In both of these categories the some-of-teachers average was lower than the averages of either the none-of-teachers or the all-of-teachers groups. From low to high the pattern, in both categories, ran some, none, all. It would seem that the "some" group should have fallen between the "none" group and the "all" group whichever direction the low to high pattern ran. However, the fact that no statistical significance existed among the means indicated that which group had the higher mean and which had the lower mean was simply a matter of chance and, probably, the unexpected pattern gave substantiation to the computations of statistical non-significance. That the identical some, none, all pattern existed in both non-instructional categories was in all probability due to the fact that these groups were correlated (related). That is, both groups were largely composed of the same samples, the only differences between them arising from the inclusion or exclusion of physical education and gymnasium as non-instructional.

In the twelve computations reported in Table XI data were used only for those teachers whom could be definitely identified as having taught a given course, at a given time, in a given school and to a specific member of the student sample. The total number of such teacher identifications was

TABLE XII

FREQUENCIES WITH WHICH 1,407 OKLAHOMA HIGH SCHOOL HISTORY AND GOVERNMENT TEACHERS WERE ASSIGNED CERTAIN TYPES OF NON-INSTRUCTIONAL DUTIES IN 3,266 TEACHING INSTANCES BETWEEN 1946 AND 1957

Teacher Non-Instructional Duty Categories	Teaching Instances	
	Frequency	Per Cent
Teachers having only instructional duties, counting p.e. and gym as instructional	1,931	59.1%
Teachers having only instructional duties, counting p.e. and gym as non-instructional	1,804	55.2%
All teachers having non-instructional duties, counting p.e. and gym as instructional	1,335	40.9%
All teachers having non-instructional duties, counting p.e. and gym as non-instructional	1,462	44.8%
Teachers having administrative duties	547	16.8%
Teachers having coaching duties	775	23.7%
Teachers having both administrative and coaching duties	143	4.4%
Teachers having non-instructional duties other than administrative and coaching	156	4.8%
Teachers having physical education and gymnasium duties	127	3.9%

541. As non-instructional duties information was actually obtained for 1,407 teachers and those teachers were involved in a total of 3,266 teaching instances, certain tabulations were made to gain insight into this total group situation. These tabulations are presented in Table XII on page 113.

Of the total 3,266 teaching instances 1,931 had no non-instructional duties and 1,335 did have such duties assigned.[7] A breakdown of the 1,335 teaching instances in which there were non-instructional duties showed 547 instances in which administrators (superintendents and principals) taught history and government courses and 775 instances in which athletic coaches taught such courses.[8] In 143 of these instances the teachers were both administrators and coaches. There were another 156 instances of teachers having other types of non-instructional duties such as band, glee club, dramatics and debate.

The coaching instances of non-instructional duties occurred in 23.7 per cent of the total 3,266 teaching instances.[9] Tabular presentation of the coaching instances by year shows, with the exception of one year, a rather steady

---

[7]As listed on the daily schedule submitted annually, by schools, to the Division of Instruction of the Oklahoma State Department of Education. Physical education and gymnasium were counted as instructional.

[8]The athletic coaching figure does not include instances of physical education and gymnasium.

[9]If physical education and gymnasium are included as coaching, the frequency was 27.7 per cent.

TABLE XIII

FREQUENCY OF HIGH SCHOOL COACHING INSTANCES, FOR EACH OF ELEVEN SCHOOL YEARS FROM 1946-1947 THROUGH 1956-1957, OF ANNUAL PORTIONS OF 3,266 TEACHING INSTANCES

School Years	Teaching Instances	Coaching Instances	% Coaching of Teaching Instances*
1946-1947	145	25	17%
1947-1948	242	41	17%
1948-1949	305	59	19%
1949-1950	350	78	22%
1950-1951	336	74	22%
1951-1952	384	97	25%
1952-1953	369	91	25%
1953-1954	378	95	25%
1954-1955	341	100	29%
1955-1956	255	73	29%
1956-1957	161	42	26%
1946-1957	3,266	775	24%

*Figures are rounded to the nearest per cent.

percentage increase of instances in which history and government teachers were assigned coaching duties. From seventeen per cent in 1946-1947 such instances increased to twenty-nine per cent in 1955-1956 and then decreased to twenty-six per cent in 1956-1957. This information is given in Table XIII on page 115.

General Ability Test Scores

Product-moment coefficients of correlation were computed between student grades and the Linguistic, Quantitative and Total Scores (L, Q and T Scores) which the students made on the general ability tests taken upon entrance to Oklahoma State University.

All three of these coefficients of correlation were higher than .60 on a scale running from -1.00 to 1.00 and were, therefore, regarded as having practical significance.[10] The correlation between student grades and student L Scores was .71. The correlation between student grades and student Q Scores was .64. The correlation between student grades and student T Scores was .75.

Critical ratios for each coefficient of correlation were computed by the formula $CR = \frac{r}{\sigma_r}$, or the critical ratio equals the coefficient of correlation divided by its standard error. These computations produced critical ratios of 20.88 for the L Score correlation, 18.82 for the Q Score correlation

---

[10]See footnote, supra, p. 91 f.

and 22.06 for the T Score correlation. A table of normal areas showed that all three of these critical ratios were so large that the possibility of greater r values, than .71, .64 and .75, occurring by chance was extremely remote. Therefore, these three coefficients of correlation were statistically significant.

That a definite relationship existed between the grades of students and their L, Q and T Scores is shown in Table XIV on page 118. In this Table the average L, Q and T Scores for each grade (A, B, C, D and F) is presented. In each case the Table shows that the means of the test scores decrease progressively from A through F. Thus, students making high L, Q or T Scores tended to make higher grades in the basic history and political science courses than did students who made low L, Q and T Scores.

Table XV, on page 119, shows the grade averages in the basic history and government courses for four student groups whose T Scores fell within certain score intervals. Again it is apparent that there was a marked relationship between the academic grades and the general ability test scores. Table XV also shows the relationship by giving the percentages of A grades and F grades for each T Score interval. The table shows that a low percentage of A grades and a high percentage of F grades were related to low T Scores while a high percentage of A grades and a low percentage of F grades were related to high T Scores.

Although all three of the general ability test scores

RELATIONSHIP BETWEEN GRADES IN THE BASIC HISTORY AND GOVERNMENT COURSES AND L, Q AND T SCORES ON THE GENERAL ABILITY TESTS, MADE BY 863 FIRST SEMESTER FRESHMEN AT OKLAHOMA STATE UNIVERSITY BETWEEN 1950 AND 1957, AS SHOWN BY LISTING AVERAGE L, Q AND T SCORES FOR STUDENT GROUPS MAKING EACH OF THE ACADEMIC GRADES IN THE BASIC COURSES

Academic Grades	General Ability Test Scores		
	L	Q	T
A	70.59	67.92	71.80
B	56.71	64.29	60.26
C	42.52	56.77	47.04
D	37.06	54.12	41.80
F*	36.09	50.09	39.18

*Includes WF grades.

TABLE XV

RELATIONSHIP BETWEEN GRADES IN THE BASIC HISTORY AND GOVERNMENT COURSES AND T SCORES ON THE GENERAL ABILITY TESTS, MADE BY 863 FIRST SEMESTER FRESHMEN AT OKLAHOMA STATE UNIVERSITY BETWEEN 1950 AND 1957, AS SHOWN BY LISTING GRADE FREQUENCIES AND GRADE MEANS FOR STUDENT GROUPS WHOSE RESPECTIVE T SCORES FELL WITHIN CERTAIN SCORE INTERVALS

T Score Intervals	Frequencies of Grades						Grade Mean of Interval*	Nearest	
	A	B	C	D	F	Totals		%A	%F
80-99	25	42	24	15	6	112	64.51	22%	5%
60-79	19	43	64	23	10	159	55.97	12%	6%
40-59	10	36	84	67	39	236	40.58	4%	17%
16-39	5	41	128	116	66	356	36.17	1%	19%

*Applicable grade intervals are: B, 87.50--62.51; C, 62.50--37.51; and D, 37.50--12.51.

correlated significantly with the grades of the students there existed differences among the levels of correlation. Tests of the significance among these differences were computed by converting the coefficients of correlation to z values, finding the standard errors of the differences between pairs of the z values (σ_{Dz}) and, then, obtaining critical ratios for pairs of the differences by the formula $CR = \frac{z_1 - z_2}{\sigma_{Dz}}$. The critical ratio for the difference between T Score and Q Score coefficients of correlation was 4.48. For the difference between T Score and L Score coefficients of correlation the critical ratio was 1.79 and for the difference between the L Score and Q Score correlations the critical ratio was 2.69. As a critical ratio of 1.96 is necessary for significance at the .05 level of probability significance was established for the differences between the T Score and Q Score and between the L Score and Q Score coefficients of correlation. On the other hand, the difference between the T Score and the L Score coefficients of correlation did not prove to be significant at the .05 level of probability. In summary, the correlations between student grades and the T Scores and L Scores were significantly higher than the correlation between student grades and the Q Scores.

A grade prediction from regression equation was computed for the highest (.75, T Score) of these correlations and a test was made of the reliability of the prediction from regression equation. The regression equation used was

$\bar{Y} = \frac{\sigma_y}{\sigma_x}(X - Mx) + My$. $\bar{Y}$ is the estimated grade in the basic history or government course which the equation predicts from a particular T Score (X in the equation). Worked out and simplified, this formula reads $\bar{Y} = .93X - .55$. Inserting, as an example of computation, the T Score 82 in this formula the formula reads $\bar{Y} = .93 \times 82 - .55$. Thus, $\bar{Y} = 76.26 - .55$ or $\bar{Y} = 75.71$. In other words, the estimated grade a first semester freshman student would make, in a basic history or government course, if that student's T Score on the general ability test was 82, is 75.71 (or B). Any T Score may be substituted for X in the formula $\bar{Y} = .93X - .55$ and a similar prediction made on the basis of that particular T Score.

Predictions from regression equation are not so accurate that it could be expected that all students making T Scores of 82 would make 75.71 (or B) in the basic course. Therefore, the reliability of the prediction was tested by the formula $\sigma_{\bar{Y}} = \sigma_y\sqrt{1 - r^2}$. In this formula $\sigma_{\bar{Y}}$ is the standard error of the estimated grade and σ_y is the standard deviation of the grades made by the 863 members of the student sample. Computation of this formula produced a standard error of the estimated grade ($\sigma_{\bar{Y}}$) of 18.74. Thus, in estimates of basic course grades from particular T Scores the estimates would be accurate within $\pm$ 18.74 (one standard error) from the estimated grades in about 68 per cent of the time. Estimates would be accurate within $\pm$ 37.48 (two standard errors) in about 95 per cent of the time.

This reliability of estimated grade was tested against the 863 student sample with which this study deals. As the grades for the students were recorded in this study as A, B, C, D and F the numerical equivalents could be determined no more precisely than 100, 75, 50, 25 and 0. However, by using a T Score interval rather than a particular T Score acceptable approximations of grade intervals could be made. The T Score interval used was 61 through 74. One standard error below the estimated grade for a T Score of 61 was 37.44 and one standard error above the estimated grade for a T Score of 74 was 87.01. In the numerical equivalents of grades the upper limit of the B interval was 87.50 and the lower limit of the C level was 37.50. These upper and lower limits were about the same as the upper and lower limits of the standard error from the T Score interval. Thus, of all the students in the 863 sample who made T Scores between 61 and 74 about 68 per cent of them should have made B and C grades in the basic history or government course. There were 119 students who made T Scores falling within the 61 through 74 range. Of this number, 82 or 68.9 per cent made B and C grades. This result substantiated the reliability of the grades predicted from the regression equation.

No student was included in the student sample unless he made a T Score on the general ability tests in excess of 15. Although not specifically called for in the statement of the problem it seemed relevant to do some computations involving the group deleted from the study because of

deficient T Scores.

Of all the students for whom general ability test score checks were made 471 had T Scores of 15 or lower. The mean grade made in the basic history or political science course was 24.26 for these 471 students. This compared with a mean grade of 44.70 made by the 863 students who composed the student sample (all of whom had T Scores in excess of 15). A difference of 20.44 existed in the grade means of these two groups, in favor of the 863 student samples. A test of the significance of this difference produced a critical ratio of 14.17. As there were 1,332 degrees of freedom in this computation a critical ratio of 1.96 was necessary for significance at the .05 level of probability and of 2.58 at the .01 level of probability. The obtained critical ratio of 14.17 was significant at both of these levels.[11]

---

[11]For additional computations relative to students who were deleted from the study because of low T Scores, see Appendix B.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

This study has sought to determine the relationships between grades which first semester freshmen at Oklahoma State University made in basic history and political science courses and certain factors relating to their high school education. Specifically, the relationships sought were between the students' grades and: (1) the amounts of history and government the students had in senior high schools; (2) the sizes of the senior high schools which the students attended; (3) whether or not the high schools were accredited by the North Central Association of Colleges and Universities; (4) the academic preparation of the students' high school history and government teachers; (5) the non-instructional duties performed by the students' senior high school teachers; and (6) the Linguistic, Quantitative and Total Scores (L, Q and T Scores) which the students made on the general ability tests taken upon entrance to Oklahoma State University. The study hypothesized that significant relationships existed in each of these cases. Commensurate with the scope and methods of the study certain results were revealed which lead to the conclusions and recommendations which are the subject of the remainder of this chapter.

Conclusions

The following conclusions are based upon insight gained into the extent and nature of secondary education in Oklahoma as revealed through the determination of the relationships listed above. The conclusions partially verified the hypothesis upon which the study was premised, the hypothesis being supported by relationship determinations which produced significant correlations.

Significant correlations existed between the students' grades and two of the relationship areas. These areas were: (1) the academic preparation of the students' high school history and government teachers; and (2) the L, Q and T scores which the students made on the general ability tests taken upon entrance to Oklahoma State University. These correlations were both statistically and practically significant. Based upon these correlations it is concluded that the academic preparation of high school history and government teachers has significant influence on the grades which first semester freshmen make in the basic history and political science courses at Oklahoma State University and, that the scores which these students made on the general ability tests are significant indexes to their probable achievement in the basic courses. In relation to the general ability test scores it is the conclusion of this study that the relationship between student grades and the L and T Scores is more significant than the relationship between

student grades and the Q Score.

Study results failed to support the hypothesis in four of the relationship areas. No correlation existed between the grades made by the students in the basic history and political science courses at Oklahoma State University and: (1) the amounts of history and government taken in high school; (2) the sizes of the senior high schools attended by the students; (3) whether the students attended high schools accredited or not accredited by the North Central Association of Colleges and Universities; and (4) the non-instructional duties performed by the students' high school teachers. Based upon these results it is concluded that these four relationship areas have no significant influence upon grades which students make in the basic courses.

The lack of correlation with respect to non-instructional duties held true whether physical education and gymnasium were counted as instructional or as non-instructional. It also held true when the athletic coaching aspect of non-instructional duties was isolated. The fact is that students who had coaches as high school teachers of history and government did as well in the history and political science courses at Oklahoma State University as did the students whose high school history and government teachers were not coaches. The same results held true when attention was focused upon teachers having non-coaching types of non-instructional duties or a combination of coaching and non-coaching duties. The results did not differ when none, some or all of the

teachers had non-instructional duties.

These findings, in combination with the significant correlation in relation to teacher academic preparation, prompt the conclusion that if high school teachers of history and government have adequate academic preparation in their subject disciplines it matters not, in relation to their teaching effectiveness, that they may have coaching or other non-instructional duties.

Recommendations

It is hoped that this study has produced results of value for the History and Political Science Departments at Oklahoma State University. Information as to the academic preparation of high school teachers and as to general ability test scores should be of use in advising students. As teacher academic preparation information is not readily available it is particularly recommended that use be made of the general ability test scores, especially the T Scores. These scores are furnished to each college of the University by the Bureau of Tests and Measurements and may be obtained, in any case, by simply contacting the Bureau.

The T Score will give an indication of the potential of a given first semester freshman student to achieve in a basic history or political science course. He could thus be advised, prior to enrollment in such a course, as to the probability of his achieving a given grade level. This T Score should also afford insight as to the potential of a student who has

already enrolled in such a course and is experiencing difficulty.

It is not recommended that such information be used in relation to students other than first semester freshmen as defined in this study. Neither is it recommended that the T Score be used in advising students as to the selection of a history or political science major. Especially is it felt that a low T Score should not be the sole basis for advising against such a major. Major fields are primarily the products of post-freshman study and there is some evidence that students above the first semester freshman level do significantly better in the basic courses than do first semester freshmen, even though their general ability test scores might be quite low.[1] Such factors as interest, experience and physical maturity would seem to be variables which need special investigation. While the limitations, in terms of applicability and probability, of the use of these T Scores should be kept in mind, and while they do not provide an infallible index for prediction and advisement, their use is recommended because they do provide an index which is amenable to intelligent administration.

The significant correlation which this study produced in relation to the academic preparation of high school teachers should be of especial interest to those concerned with teacher training and certification. In the raising of standards in

---

[1]See Appendix B.

this connection it is recommended that particular emphasis be given to the amount of academic preparation teachers have in the subjects which they teach. Further study is recommended to determine what desirable requirements should be but it is recommended, on the basis of this study, that requirements be increased in relation to specific subject matter disciplines in preference to general areas or fields such as social sciences and physical sciences. Even though this study has dealt solely with the subject fields of history and government it is suggested that this particular correlation has possible applicability for other subjects in the social studies area and for subjects in the physical sciences as well.

Also in respect to teacher preparation it is recommended that study be made of the correlation between college and university grades and the amounts of teaching methods courses taken by high school teachers. Though it is the recommendation of this study that adequate preparation in the subject discipline be stressed, it does not automatically follow that there should be a corresponding deemphasis of preparation in methodology. Perhaps a more desirable approach would be a program which strikes a balance between the two.[2]

---

[2]In 1958 the National Council of Independent Schools, after a study of preparation of teachers for secondary teaching, recommended ". . . a well balanced integration of . . . academic work and a study of education." Francis Parkman, "Teacher Preparation for Independent Schools," NEA Journal, XLVIII (April, 1959), p. 23. In this connection cf. Abel A. Hanson, "Too Much Method in Education?" NEA Journal, XLVIII (April, 1959), pp. 20-21.

Of particular contribution in this connection might be a study of types of degrees. For instance, perhaps types of master of teaching degrees taken solely, or mostly so, in education courses might produce less effective teachers than masters degrees taken solely in the subject content to be taught. On the other hand, such subject content study with no courses in education or methodology might fall short of desired results.

In 1956 Dr. Oliver Hodge, Director of the Oklahoma State Department of Education, reported that, "Oklahoma at this time rates third from the top in academic preparation of its public school teachers."[3] The basis for this rating was the percentage of Oklahoma teachers who held bachelors and masters degrees. Dr. Hodge reported that for the school year 1954-1955, of all Oklahoma teachers 96.51 per cent held the bachelors degree or better and 27.4 per cent held the masters degree or better. This is certainly commendable and it is difficult to fathom how teachers could be effective without the degree work. However, degrees per se might be a poor index for rating. For instance, data gathered for this study revealed that many Oklahoma teachers holding masters degrees were among those having the lesser amounts of content preparation in their teaching subjects. Of 533 masters

---

[3]Oliver Hodge, "The Oklahoma Commission on Teacher Education and Certification," The Oklahoma Teacher, XXXVII (January, 1956), p. 14. In this connection cf. Edgar Fuller, "Emerging Problems in American Education," The Oklahoma Teacher, XXXIX (December, 1957), pp. 13-14.

degree holders examined, 210 were listed as holding master of teaching or master of education degrees, 101 master of science degrees (mostly in education) and 145 master of arts degrees.[4] The master of teaching and education degree holders had an average of 23 credit hours of history and political science. The average for the master of science degree holders was also 23. The master of arts degree holders had an average of 43 credit hours of history and political science. Over half of the masters degree holders (280 of 533) had taken no graduate work in history or political science, whatsoever. Sixty-two of these degree holders actually had less than 15 credit hours in history and political science and one teacher had no such credit hours at all. All 533 of these persons had taught high school courses in history and government. Certainly the findings of this study concerning the academic preparation of teachers give cause for reflection on this matter.

The fact that some of the relationship areas of this study produced a lack of correlation prompts certain recommendations. It is suggested, however, that additional investigations be made into these relationship areas, particularly in relation to subject areas in addition to history and

---

[4]Of the remaining seventy-seven holders of masters degrees, the type of degree could not be determined for sixty-four. Eight held two types of masters degrees. Three held doctorates. Two held degrees listed as Master of Music and these two each had a total of seven hours of history and political science.

political science.

If further study should produce similar lack of relationship it is recommended that the North Central Association of Colleges and Universities re-examine the bases upon which it determines the accreditation of schools. It would seem that accreditation should be justified by superior achievement of students produced by accredited schools as compared to students produced by non-accredited schools.

It is hoped that persons concerned with curriculum development in the secondary schools will gain value from this study through the knowledge that the amounts of history and government taken in high school had no significant influence on the grades made in college. This is not recommended as grounds to reduce the number of such courses offered or even as grounds not to increase the number of such courses. Such actions should not be taken without examination of the possible causative factors of this lack of influence. There is assuredly some value, however, in the supporting evidence for the idea that quantity alone, in education, does not produce excellence.

A lack of correlation was also found between the college grades and whether or not the students' high school teachers were athletic coaches or had other non-instructional duties. According to this study the assumption that coaches are inherently ineffective teachers in subject areas is not borne out. While additional study in this matter is recommended the scope and extent of the present study is sufficiently

thorough to cause critics to pause in their castigation of coach-teacher high school personnel, and of other non-instructional-teaching combinations. This study indicates that more emphasis should be given to teacher subject matter preparation.

In respects this dissertation is pilot in nature. It is difficult, indeed, to free a study of variables to the extent that one may feel a finished product has been produced. Variables, not included within the scope of the study, exist which might cast additional insight upon factors of secondary education influencing achievement in higher education. Some of these variables, such as student experience and interest, have been previously mentioned. The ages and teaching experience of high school teachers and the impact of local provincialism upon teaching content are other possible variables. Student attitudes developed in high school might be as significant to later achievement as their mastering of subject content and method. Too, there may be variables within the higher education evaluating process which, if eliminated, might produce additional insight--such as, for example, prevalence of cheating on examinations. Such variables as these provide avenues for further study.

There also exist possibilities for investigation through expanding the scope of this study to include other correlation computations or relationship determinations. Some possibilities for additional correlation studies would be in relation to types of high schools such as public and private,

white and colored, public and parochial and public and military. Correlations might also prove interesting between students of different high schools or relative to a comparison of teachers from different teacher training institutions. Also, in relation to high school teachers, it might be of value to correlate full-time versus part-time social studies teachers who had only instructional duties. Perhaps correlations between the grades made by students in college and the college grades made by their high school teachers or the students' own high school grades would be revealing. Other possibilities such as types of degrees and teacher preparation in methodology have previously been mentioned. Possibilities for additional correlations are many and each correlation itself could likely be broken down into components which would prove subject to correlation.

This study used grades made in higher education as the basis for evaluation of the effectiveness of education in high schools. While the use of college grades has merit for evaluating the effectiveness of high school instruction for those students who pursue higher education, there is no assurance that factors of secondary education which produce more effective college students are equally effective for the great number of high school graduates who never go to college. It is recommended that study be undertaken in the area of effective teaching for non-college preparation, although it is recognized that the isolating of a valid evaluation index might be very difficult.

Perhaps colleges and universities other than Oklahoma State University will find the results of this study of interest. It seems reasonable that the results should, in fact, be applicable for other institutions of higher learning in Oklahoma, especially due to the high school and high school teacher common denominator. It seems plausible that instruction at Oklahoma State University and secondary education in Oklahoma are more typical than atypical of conditions in other colleges and universities and in other states. Based upon this plausibility, the findings of this study should have at least assumptive applicability to other locations, pending special study. It is, indeed, hoped that the methods and findings of this study and the suggestions for further exploration will encourage others to conduct related research.

A SELECTED BIBLIOGRAPHY

American Historical Association. The Service Center for Teachers of History. A Brochure Prepared by the Committee on Teaching. Washington, D. C.: American Historical Association (April 1, 1960), 4.

American Political Science Association. "Fifty-Sixth Annual Meeting of the American Political Science Association: Minutes of the Council Meeting." The American Political Science Review, LIV (December, 1960), 1077-78.

Bailey, Thomas A. "Revitalizing American History." Social Education, XXIV (December, 1960), 371-74.

"Bulletin # 1 (Tentative), Prepared by the Oklahoma State Committee on Improvement of Instruction in the Social Studies." (December, 1960), 14 (mimeographed).

Carson, George B., Jr. "Service Center for Teachers of History." Social Education, XXI (February, 1957), 53-5.

Cook, Walter W. "Why Professional Preparation?" NEA Journal, XLVIII (April, 1959), 19.

Fuller, Edgar. "Emerging Problems in American Education." The Oklahoma Teacher, XXXIX (December, 1957), 13-15 ff.

Hanson, Abel A. "Too Much Method in Education?" NEA Journal, XLVIII (April, 1959), 20-1.

Hodge, Oliver. "The Oklahoma Commission on Teacher Education and Certification." The Oklahoma Teacher, XXXVII (January, 1956), 14.

Homan, Gerlof D. "The Weaknesses of High School Teacher Training." The Oklahoma Teacher, XLI (May, 1960), 22 ff.

Koerner, James D. "Merely Training in Pedagogy." NEA Journal, XLVIII (April, 1959), 18.

"Missouri Political Science Association: Minutes of Meeting." Columbia, Missouri: Department of Political Science, University of Missouri (October, 1960), 5 (mimeographed).

Oklahoma Educational Directory. Issued annually by Oliver Hodge, State Superintendent of Public Instruction. Bulletins number 108-X through 109-G. Oklahoma City: State Department of Education.

Parkman, Francis. "Teacher Preparation for Independent Schools." NEA Journal, XLVIII (April, 1959), 23.

Perkins, Dexter. "We Shall Gladly Teach." The American Historical Review, LXII (January, 1957), 291-309.

"Public School Teacher Vacancies Reported April 22--May 4, 1961." University Placement Services, Oklahoma State University, 10 (mimeographed).

Rice, Warner. "The Importance of Subject Matter." NEA Journal, XLVIII (April, 1959), 22-3.

Sare, Harold V. "Background and Academic Preparation of the Social Science Teachers in the High Schools of Kansas 1956-1957." The Emporia State Research Studies, VII. Emporia, Kansas: The Graduate Division of the Kansas State Teachers College (December, 1958), 69.

Scott, Winfield. "Criticisms of Schools Continue." NEA Journal, XLVI (May, 1957), 340-41.

Wolf, Hazel C. "The Secondary School History Teacher." Social Education, XXI (October, 1957), 257-60.

APPENDIX A

Master List of Data Used for Correlations in This Study

MASTER LIST OF DATA USED FOR CORRELATIONS IN THIS STUDY*

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
1	25	4½	16	4/5 3C	42	no	69	27	51
2	50	2	NA	1/1	101	no	41	51	42
3	25	2	24	0/1	151	yes	29	51	34
4	50	2	24	0/1	151	yes	75	93	86
5	0	3	26	1/2 1C	55	no	31	70	44
6	25	2	52	0/2	658	yes	73	91	84

*KEY: Students--The students for whom data were used in the study were given numerical designations, 1 through 863. Grades--This refers to the grades the students made in the basic history and/or political science courses. Grades were given numerical equivalents; A-100, B-75, C-50, D-25 and F-0. C Units--This means the number of Carnegie Units of history and government courses taken in high school. T Hours--This refers to the average number of credit hours in history and political science which the high school teachers had in college. NID--This means non-instructional duties. Under this heading, the denominator indicates the total number of teachers of history and government the student had in high school and the numerator indicates the number of these teachers who had non-instructional duties. Also in this column, C indicates the number of the teachers who were athletic coaches and P indicates the number who instructed physical education and gymnasium. S means some, ? means an undeterminable multiple number and NA-C means it could not be determined whether or not a teacher had athletic coaching duties. Size--Under this heading is listed the number of full-time students, grades nine through twelve, in the high school the student attended. The figure is the average enrollment for all four years of the student's attendance. NC--This column indicates whether or not the high school was accredited by the North Central Association of Colleges and Universities. L Q T--These columns give the respective scores which each student made on the general ability tests taken upon entrance to Oklahoma State University. NA, appearing in most of the columns, means not applicable and indicates that a particular item of datum was not determinable for use in this study.

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
7	50	3	NA	0/2	374	yes	38	27	30
8	25	2½	NA	1/1	53	no	9	47	17
9	25	2	NA	0/2	167	no	14	44	21
10	75	3	NA	0/3	167	no	73	89	82
11	0	3	NA	2/3 1C	618	yes	36	70	47
12	50	3	NA	2/3 1C	618	yes	14	27	17
13	0	3	NA	NA	1,229	yes	77	40	64
14	75	3	NA	NA	1,229	yes	65	97	85
15	75	3	NA	NA	1,229	yes	75	55	69
16	50	2	NA	1/2 1C	198	yes	9	44	17
17	75	3	10	3/3 1C	49	no	40	96	67
18	50	3	NA	2/3 1C	78	no	38	36	34
19	0	3	25	1/3	170	yes	31	27	26
20	25	2	NA	2/2 1C	50	no	15	17	16
21	75	2	25	0/1	226	NA	79	21	56
22	75	3	NA	NA	440	yes	77	91	86
23	100	1	34	1/1	75	no	92	86	94
24	75	3	NA	0/3	1,420	yes	43	66	51
25	75	3	NA	0/3	1,420	yes	36	70	47
26	50	3	26	0/1	152	yes	41	66	49
27	50	2	17	1/2	211	yes	43	70	63
28	0	3	NA	2/3 2C	156	no	34	19	23
29	50	3	49	2/3 2C	84	no	45	91	69
30	25	3	27	0/1	286	no	38	63	46
31	50	3	16	2/3 2C	217	no	58	30	44

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
32	50	2	NA	NA	249	no	53	79	64
33	25	2	21	2/2 1C	163	no	45	47	44
34	0	2	NA	NA	560	yes	36	33	32
35	50	2	NA	NA	560	yes	82	79	83
36	50	3	NA	NA	560	yes	43	27	33
37	75	3	NA	NA	404	yes	27	44	30
38	0	3	28	1/1	57	no	25	66	38
39	0	1	NA	0/1	1,493	yes	12	40	18
40	25	3	47	0/2	88	no	71	66	70
41	50	2	32	1/2	62	no	41	96	72
42	25	4	NA	NA	2,562	yes	33	36	33
43	50	2	NA	NA	2,562	yes	27	44	30
44	100	3	NA	NA	2,536	yes	75	66	73
45	75	3½	NA	NA	2,536	yes	91	90	91
46	25	3	NA	NA	2,452	yes	71	95	86
47	75	3½	NA	NA	2,452	yes	41	17	26
48	0	2½	NA	NA	2,452	yes	15	27	17
49	50	1	32	1/1	60	no	21	76	39
50	50	2	26	1/2	627	yes	36	59	42
51	25	3	23	1/3	50	no	23	55	32
52	50	3	NA	1/3 1C	173	yes	11	59	23
53	75	3	NA	1/3 1C	173	yes	27	40	28
54	0	2½	25	2/3 1C	231	yes	63	17	39
55	75	3	NA	1/3 1C	231	yes	92	76	91
56	25	2	28	0/1	138	no	63	73	67

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
57	25	1	NA	1/1	47	no	27	24	22
58	50	2	48	0/2	511	yes	71	70	72
59	0	2	48	1/2	511	yes	21	24	18
60	50	4½	NA	0/3	652	yes	63	27	46
61	100	3	NA	0/3	652	yes	55	55	54
62	50	3	NA	0/3	652	yes	89	58	80
63	50	2½	NA	0/2	652	yes	85	90	90
64	25	3	NA	0/3	652	yes	23	15	16
65	75	2	NA	1/2 1C	129	yes	69	70	70
66	50	4	40	2/2 1C	60	no	43	30	34
67	50	1½	22	2/2 2C	64	no	80	66	77
68	25	1	NA	0/1	1,115	yes	38	21	27
69	50	2	NA	NA	1,115	yes	55	70	60
70	100	2	24	1/2	63	no	86	82	87
71	100	3	NA	3/3 2C	268	no	58	44	51
72	50	3	NA	0/3	294	yes	58	70	63
73	25	3	NA	NA	290	yes	55	70	61
74	25	1½	54	1/2	216	no	31	44	33
75	75	2	NA	2/2 1C	83	no	29	47	33
76	50	3	21	3/3 2C 1P	70	no	29	94	61
77	0	2	23	2/2 1C 1P	70	no	15	63	28
78	0	3	NA	NA	2,185	yes	19	19	16
79	50	2	NA	NA	2,185	yes	50	59	53
80	0	2	NA	NA	2,185	yes	15	70	32
81	0	2	NA	NA	2,185	yes	27	21	21

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
82	25	1	NA	NA	2,185	yes	65	24	46
83	25	2	NA	NA	2,185	yes	71	82	77
84	75	2	NA	NA	2,185	yes	65	76	70
85	25	2	NA	NA	2,185	yes	77	93	87
86	75	2	NA	1/2	884	yes	55	84	69
87	75	1	NA	0/1	884	yes	55	86	70
88	50	1	33	1/1 1C	98	yes	36	79	52
89	0	3	20	2/3	129	no	12	33	17
90	0	2	34	1/1 1C	61	no	31	33	28
91	50	2	NA	0/1	292	yes	25	79	44
92	50	2	NA	NA	226	yes	63	21	42
93	50	2	NA	NA	226	yes	23	44	27
94	25	2	39	0/1	193	no	25	76	42
95	75	2	50	1/2	599	yes	47	55	47
96	50	2	47	0/2	679	yes	21	63	33
97	0	3	25	1/3 1C	111	no	45	40	41
98	25	4	NA	0/2	379	yes	31	86	54
99	75	2	25	2/2 1C	117	no	58	86	72
100	25	2	26	0/1	179	no	41	27	32
101	50	2	26	0/1	179	no	29	17	19
102	75	3	NA	1/2	64	no	36	27	28
103	50	2	19	1/1 1C	135	no	50	51	49
104	0	4	25	2/2 1C	44	no	34	55	39
105	50	3	NA	NA	1,327	yes	14	36	18
106	50	3	NA	NA	1,327	yes	43	66	51

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
107	50	3	NA	NA	1,327	yes	10	44	17
108	75	3	NA	NA	1,327	yes	34	27	27
109	50	3	26	3/3 3C	190	yes	58	33	46
110	25	4	NA	3/4 1or2C	186	no	75	79	79
111	25	1	64	0/1	683	yes	14	63	27
112	50	2	28	0/1	48	no	31	73	46
113	25	3	NA	1/1 1C	113	yes	21	36	23
114	25	2	NA	NA	272	yes	36	47	38
115	50	2	37	1/2 1P	161	no	45	70	54
116	100	3	NA	2/2 2C	44	no	25	24	21
117	25	3	NA	1/3 1C	151	no	31	17	21
118	0	3	25	0/1	231	yes	27	84	49
119	0	3	18	2/3 2C	59	no	17	36	21
120	75	4	26	1/4 1C	152	no	58	4	19
121	25	2	NA	NA	566	yes	58	66	61
122	50	3	NA	NA	1,186	yes	85	73	83
123	25	2	NA	NA	1,186	yes	5	63	16
124	50	2	NA	NA	1,186	yes	43	47	42
125	50	1	NA	NA	1,186	yes	25	44	28
126	50	2	32	1/1	73	no	38	51	41
127	25	4	NA	NA	145	yes	9	44	17
128	50	1	NA	NA	330	yes	31	51	36
129	75	4	33	3/4 1C 1P	194	no	82	90	88
130	50	3	NA	NA	250	no	19	19	16
131	25	3	NA	NA	416	yes	41	82	58

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
132	50	1	NA	0/1	1,520	yes	25	51	32
133	75	1	NA	0/1	1,520	yes	43	33	36
134	0	2	NA	NA	327	yes	67	77	73
135	25	3	NA	NA	327	yes	43	51	43
136	75	2	NA	NA	264	no	84	84	86
137	0	2	20	1/2 1P	384	yes	7	55	17
138	25	2	NA	NA	2,555	yes	84	79	84
139	50	2	NA	NA	2,555	yes	27	47	32
140	25	3	NA	NA	2,430	yes	45	6	17
141	0	2	NA	NA	2,430	yes	36	70	47
142	75	3½	NA	NA	2,430	yes	79	70	77
143	0	2	NA	NA	2,430	yes	14	86	39
144	0	3	NA	NA	630	yes	50	44	46
145	25	2	NA	NA	630	yes	7	47	16
146	25	2	NA	NA	630	yes	73	90	83
147	50	2½	NA	NA	630	yes	36	21	26
148	75	2½	NA	0/2	391	yes	41	44	39
149	50	3	NA	0/2	175	yes	55	70	61
150	50	3	NA	0/2	175	yes	4	96	33
151	25	3	NA	0/2	175	yes	31	30	27
152	25	3	43	2/3 1C	219	yes	34	44	34
153	50	2	NA	NA	70	yes	67	84	76
154	25	4½	27	0/1	31	no	25	36	26
155	0	3	31	1/3 1C	105	no	23	47	28
156	0	3	NA	1/3 1C	652	yes	58	59	58

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
157	50	3	NA	1/3 1C	652	yes	58	36	47
158	50	3	NA	1/3 1C	652	yes	34	79	51
159	0	3	NA	1/3 1C	652	yes	55	73	63
160	50	1	NA	0/1	717	yes	19	63	32
161	75	2	32	1/1 1C	147	no	50	66	56
162	25	2	NA	NA	390	yes	43	51	43
163	25	2	NA	1/2 1C	156	no	8	82	28
164	50	3	36	3/3 2C	269	no	45	33	38
165	25	1	37	0/1	718	yes	50	55	50
166	75	3	23	1/2 1C	157	no	71	33	56
167	100	3	NA	NA	3,842	yes	99	84	99
168	100	2	NA	NA	3,842	yes	85	44	73
169	25	1	NA	NA	3,842	yes	27	93	58
170	50	3	NA	NA	3,842	yes	82	44	70
171	25	2	NA	NA	3,842	yes	69	99	91
172	75	2	NA	NA	3,842	yes	15	63	28
173	25	3	28	0/2	209	no	23	79	42
174	25	3	NA	0/1	62	yes	79	6	36
175	50	1	NA	NA	2,133	yes	29	66	41
176	50	1	NA	NA	2,133	yes	48	70	56
177	25	2	NA	NA	2,133	yes	34	19	23
178	25	1	NA	NA	2,133	yes	17	27	17
179	50	1	NA	NA	2,133	yes	90	93	95
180	25	2	NA	NA	2,133	yes	65	44	56
181	50	1	NA	0/1	280	yes	73	86	81

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
182	25	2	NA	1/2	878	yes	38	70	49
183	50	2	28	1/1	67	no	41	84	59
184	50	1	20	0/1	334	yes	34	36	32
185	50	3½	24	1/2 1C	334	yes	4	76	17
186	25	3	22	2/3 2C	374	yes	14	51	23
187	25	3	30	2/2 1C 1P	30	no	7	73	22
188	50	3	NA	1/?	193	no	10	63	23
189	50	3	32	1/1 1C	44	no	21	17	16
190	50	2	NA	NA	48	no	38	36	34
191	25	2	NA	1/2 1P	275	yes	82	84	84
192	50	3	14	2/2 1C	88	no	41	12	22
193	75	3	25	0/3	144	yes	38	44	38
194	50	2	28	1/1	72	no	23	15	16
195	25	2	NA	NA	602	yes	12	76	32
196	25	2	38	1/2	694	yes	55	17	34
197	100	2	38	1/2	694	yes	86	82	87
198	50	1	26	1/1 1C	123	no	45	63	51
199	0	3	60	1/2	236	yes	50	94	75
200	50	3	NA	1/3	42	no	53	27	39
201	25	2	NA	0/?	299	yes	36	79	53
202	75	3	NA	NA	413	yes	67	84	76
203	50	3	NA	1/3 1C	413	yes	55	66	59
204	75	3	NA	0/3	413	yes	86	90	91
205	100	3	NA	NA	441	yes	43	63	51
206	25	3	NA	NA	1,425	yes	41	51	22

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
207	0	3	35	2/2 2C	29	no	11	33	16
208	50	3	NA	NA	NA	no	58	40	49
209	0	1	24	0/1	437	yes	7	51	17
210	0	2	46	1/2 1C	686	yes	21	33	22
211	100	1	32	1/1 1C	82	no	88	97	96
212	50	2	43	2/2 2C	119	no	53	4	17
213	25	2	20	1/2 1C	135	no	27	24	22
214	75	2	NA	NA	184	yes	53	73	61
215	50	4	22	2/3 2C	149	no	27	19	19
216	0	1	NA	NA	1,212	yes	11	59	23
217	75	2	NA	NA	1,212	yes	58	40	49
218	100	2	NA	NA	1,212	yes	88	84	90
219	75	3	NA	NA	95	no	88	92	94
220	50	3	NA	3/3 1or2C	200	no	38	44	38
221	25	1	20	0/1	439	yes	25	76	42
222	0	3	28	2/3 1C	92	no	27	21	21
223	0	1	40	1/1	145	no	53	36	44
224	50	1	NA	0/1	1,531	yes	55	18	36
225	50	1	NA	0/1	1,531	yes	82	47	72
226	75	2	NA	0/2	335	yes	21	51	28
227	0	3	NA	1/3	75	no	50	40	44
228	0	1	29	0/1	303	yes	15	44	22
229	0	2	29	0/1	303	yes	14	63	27
230	0	3	34	0/2	262	no	41	40	38
231	50	4	NA	NA	2,756	yes	86	79	86

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
232	50	1½	NA	NA	2,756	yes	82	44	70
233	0	2	NA	NA	2,756	yes	38	55	42
234	25	3	NA	NA	2,496	yes	55	82	57
235	25	1	NA	NA	2,496	yes	29	19	21
236	0	2	NA	NA	2,496	yes	43	19	28
237	75	2	NA	NA	2,425	yes	77	70	76
238	50	3	NA	NA	2,425	yes	43	47	42
239	50	2	NA	NA	2,425	yes	41	82	58
240	50	2	NA	NA	2,425	yes	41	63	47
241	0	3	NA	NA	2,425	yes	75	94	87
242	75	2	NA	NA	2,425	yes	86	55	79
243	50	3	NA	NA	2,425	yes	67	90	80
244	75	2	NA	NA	2,425	yes	53	91	73
245	75	3	NA	NA	2,425	yes	48	36	41
246	50	2	NA	NA	633	yes	58	86	72
247	50	2	NA	NA	633	yes	67	73	70
248	25	3	NA	NA	633	yes	41	51	42
249	75	3	19	0/3	574	yes	79	84	83
250	50	2½	NA	0/2	408	yes	27	19	19
251	50	2½	NA	0/2	408	yes	75	66	73
252	25	3	30	1/1 1C	48	no	43	36	38
253	0	2	NA	0/2	180	yes	69	93	83
254	0	2	NA	0/1	299	yes	43	14	24
255	25	2½	NA	3/3 1P	179	yes	60	79	69
256	25	3	NA	0/1	293	yes	53	36	44

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
257	50	2	NA	0/1	293	yes	36	40	34
258	50	2	47	2/2	512	yes	14	86	39
259	50	2½	47	2/2	512	yes	25	63	36
260	50	2	23	1/1	126	no	17	33	19
261	75	4	NA	NA	685	yes	21	51	28
262	75	3	NA	0/3	685	yes	55	66	59
263	0	3	NA	0/3	685	yes	21	33	22
264	50	3	NA	0/3	685	yes	85	90	90
265	0	1½	NA	0/2	685	yes	8	51	17
266	0	2	47	0/2	564	yes	14	44	21
267	50	2	NA	0/2	1,064	yes	45	73	56
268	25	4	NA	NA	404	yes	25	95	59
269	0	1	68	1/1 1C	138	yes	10	40	17
270	75	1	68	1/1 1C	138	yes	45	55	47
271	50	3	NA	2/3 2C	138	yes	14	47	22
272	0	3	34	0/1	111	no	31	66	42
273	25	2	11	2/2 2C	152	no	15	63	28
274	25	2	14	2/2 2C	152	no	29	82	49
275	50	2½	NA	NA	764	yes	71	73	73
276	25	3	34	1/2 1C	168	no	45	33	38
277	0	4	NA	2/4 2C	324	yes	45	66	53
278	50	2	49	0/2	228	NA	15	63	28
279	75	2	NA	NA	326	no	82	79	83
280	50	2	24	2/2 1C	177	no	63	79	70
281	25	2½	NA	NA	729	yes	50	47	47

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
282	25	1	NA	NA	4,088	yes	87	89	91
283	50	2	NA	NA	4,088	yes	60	51	56
284	50	2	NA	NA	4,088	yes	36	55	41
285	25	2	NA	NA	4,088	yes	38	89	61
286	50	2	NA	NA	4,088	yes	38	40	36
287	25	2	NA	NA	2,149	yes	38	19	26
288	0	1	NA	NA	2,149	yes	63	24	44
289	25	1	NA	NA	2,149	yes	9	79	28
290	25	2	NA	NA	2,149	yes	31	66	42
291	25	1	NA	NA	2,149	yes	38	73	51
292	0	2	NA	NA	211	no	60	40	51
293	25	1	26	1/1 1C	211	no	34	73	47
294	75	2	NA	1/2	900	yes	77	90	85
295	25	2	34	1/1 1P	107	yes	53	33	42
296	50	3	NA	2/3 1P	30	no	36	63	44
297	100	3	26	2/2 1C	168	yes	95	90	96
298	0	3	22	1/1 1C	104	no	21	30	21
299	25	4	19	2/3 1P	34	no	38	27	30
300	50	2	59	0/1	636	yes	63	63	63
301	50	3	20	3/3 3C	108	no	19	47	26
302	25	3	25	1/1	74	no	21	51	28
303	75	3	NA	1/?	705	yes	36	15	22
304	50	2	NA	NA	705	yes	7	86	30
305	25	2	42	2/2	184	yes	19	30	19
306	75	2	23	1/2	399	NA	84	96	93

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
307	100	3	29	1/3 1C	327	yes	36	14	21
308	25	2	NA	1/? NA-C	714	yes	79	59	73
309	50	2	NA	1/? NA-C	714	yes	21	36	23
310	25	2	NA	1/? 1C	714	yes	41	70	51
311	100	2	NA	NA	445	yes	97	86	96
312	50	2	23	1/2 1C	119	no	45	21	32
313	0	2	30	1/1 1C	136	no	69	30	53
314	25	3	NA	2/2 1C 1P	91	no	15	93	47
315	25	3	NA	2/2 2C	91	no	8	63	21
316	50	3	NA	NA	1,385	yes	63	47	56
317	50	3	NA	1/3 1C	183	yes	86	27	67
318	25	2	NA	1/2 1C	183	yes	34	79	51
319	25	4	25	3/4 2C	251	no	15	66	30
320	75	1	64	0/1	696	yes	31	84	53
321	75	2	NA	1/? NA-C	107	no	71	82	77
322	75	3	NA	1/2 1C	36	no	55	59	55
323	0	2	49	1/2 1C	225	yes	34	56	40
324	50	NA	NA	NA	59	no	41	85	61
325	0	2	23	1/2	87	no	23	27	21
326	25	3	34	1/1	28	no	12	55	23
327	75	3	NA	NA	44	no	94	40	83
328	50	2	NA	NA	1,244	yes	67	55	63
329	25	2	NA	NA	1,244	yes	17	89	44
330	0	3	18	3/3 1C 2P	73	no	27	17	18
331	50	3	33	1/1	105	no	41	30	33

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
332	75	2	NA	2/2 1C	233	no	14	47	22
333	75	2	NA	1/2 1C	192	no	50	63	54
334	50	1	NA	1/1 1P	204	no	55	24	39
335	50	3	NA	3/3 1C 2P	426	yes	77	36	63
336	50	3	31	0/2	154	yes	25	55	33
337	50	1	NA	0/1	1,555	yes	45	70	54
338	75	1	NA	0/1	1,555	yes	60	59	59
339	75	2	NA	NA	1,555	yes	80	47	70
340	75	3	NA	1/?	345	yes	45	86	64
341	100	2	34	0/2	316	no	60	99	89
342	75	3	NA	NA	2,407	yes	85	51	76
343	50	3	NA	NA	2,407	yes	45	66	53
344	50	3	NA	NA	2,407	yes	63	79	70
345	25	2	NA	NA	2,407	yes	38	27	30
346	50	3	NA	NA	2,407	yes	41	27	32
347	50	3	NA	NA	2,407	yes	75	90	84
348	0	2	24	0/2	612	NA	36	79	53
349	0	3	30	0/3	612	NA	27	39	28
350	100	2½	NA	0/2	421	yes	65	44	56
351	25	3	NA	0/2	421	yes	11	40	17
352	50	4	27	2/2 1C	44	no	77	59	72
353	50	2	NA	0/2	306	yes	41	51	42
354	25	2	NA	0/2	306	yes	43	27	33
355	75	2	NA	0/1	300	yes	79	90	86
356	50	2	NA	0/1	300	yes	19	47	26

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
357	25	3	NA	2/2	60	no	21	17	16
358	50	2	NA	1/2 NA-C	513	yes	19	73	36
359	25	3	NA	1/? NA-C	513	yes	25	21	19
360	50	2	NA	1/? NA-C	513	yes	29	84	51
361	50	3	NA	2/2	41	no	67	15	41
362	75	2	15	1/2 1C	111	no	85	66	81
363	50	2½	NA	1/3 1C	722	yes	29	24	23
364	25	4	NA	1/3 1C	722	yes	29	59	38
365	75	3	NA	1/3 1C	722	yes	60	88	73
366	25	2	NA	NA	745	yes	50	66	44
367	0	2½	26	1/2 1P	84	no	29	24	23
368	0	1	NA	0/1	1,096	yes	73	97	89
369	0	3	29	1/2	40	no	48	59	51
370	50	2	32	1/2	81	no	80	55	73
371	50	3	25	1/1 1P	72	no	75	66	73
372	25	2	NA	1/2	821	yes	29	59	38
373	100	2½	NA	1/3	821	yes	87	93	93
374	100	1	NA	0/1	821	yes	29	84	51
375	75	2	NA	S/? 1C	274	yes	98	36	90
376	25	3½	NA	3/3 3P	183	yes	29	70	42
377	25	1	NA	NA	4,191	yes	11	70	27
378	25	2	NA	NA	4,191	yes	27	63	38
379	75	2	NA	NA	4,191	yes	84	99	97
380	50	2	NA	NA	4,191	yes	75	73	76
381	25	2	NA	NA	4,191	yes	63	89	76

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
382	50	1	NA	NA	4,191	yes	7	55	17
383	25	3	53	0/2	212	no	84	55	76
384	50	2	NA	NA	2,248	yes	12	40	18
385	0	1	NA	NA	956	yes	26	55	34
386	0	2	NA	S/? 1C	956	yes	69	70	70
387	25	1	NA	NA	956	yes	77	96	90
388	50	3	24	1/2 1C	346	yes	34	47	36
389	25	3	NA	2/3 1C	46	no	15	22	16
390	50	3	29	0/1	154	no	71	55	66
391	50	2	NA	1/2	707	yes	25	79	44
392	50	3	28	1/1 1C	65	no	75	15	47
393	0	2	NA	0/2	360	yes	34	63	42
394	50	3	34	2/2	38	no	7	47	16
395	50	1	NA	NA	1,309	yes	29	84	51
396	75	3	NA	NA	358	yes	71	14	42
397	50	2	30	1/1 1P	71	no	43	91	67
398	0	1	34	1/1 1C	725	yes	23	33	23
399	0	3	NA	NA	1,414	yes	58	40	49
400	75	3	NA	NA	1,414	yes	45	63	51
401	50	2	NA	NA	1,414	yes	79	66	76
402	75	3	NA	NA	1,414	yes	41	17	26
403	25	3	28	3/3 2C	30	no	27	84	49
404	50	3	14	0/1	179	no	12	47	21
405	25	2	40	1/2 1C	696	yes	11	33	16
406	0	3	49	1/2 1C	696	yes	31	82	51

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
407	0	2	NA	1/1 1C	110	yes	73	33	58
408	0	3	24	3/3 2C	146	no	21	55	30
409	75	2	49	0/2	320	no	77	70	76
410	50	2	NA	NA	633	yes	55	90	73
411	50	1	NA	0/1	174	yes	73	4	27
412	50	3	NA	NA	1,288	yes	23	44	27
413	25	2	NA	NA	1,288	yes	27	79	46
414	50	2	NA	NA	1,288	yes	43	91	67
415	100	2	NA	NA	1,288	yes	41	86	61
416	75	2	NA	NA	1,288	yes	21	27	19
417	25	2	27	2/2	95	no	38	40	36
418	50	3	31	0/1	304	yes	12	63	26
419	25	2	21	2/2 1C	169	no	41	36	36
420	50	2	NA	NA	323	yes	31	59	39
421	50	3	26	2/2 1C	57	no	34	44	34
422	25	2	NA	1/2 NA-C	559	yes	67	36	54
423	25	1	NA	0/1	559	yes	71	86	80
424	25	1	NA	0/1	559	yes	38	63	46
425	50	1	32	0/1	64	no	38	73	51
426	100	2	NA	2/2 2C	212	no	99	91	98
427	50	3	18	1/1 1C	212	no	14	63	27
428	75	2½	39	3/3 2C	125	no	71	89	81
429	50	2	25	1/1	138	no	25	84	47
430	50	2	27	1/2	138	no	12	36	17
431	75	2½	34	0/2	308	yes	73	82	79

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
432	50	2	NA	NA	1,541	yes	48	24	34
433	75	3½	NA	NA	2,305	yes	69	33	54
434	0	3	NA	NA	2,305	yes	77	84	82
435	50	3	NA	NA	2,305	yes	73	70	73
436	50	3	NA	NA	2,305	yes	23	63	34
437	50	2	NA	NA	2,305	yes	38	47	39
438	0	3	NA	NA	2,305	yes	27	33	26
439	100	2½	NA	NA	2,305	yes	55	95	79
440	50	2	NA	NA	2,305	yes	53	47	49
441	75	2	NA	NA	2,305	yes	45	51	46
442	50	3	NA	NA	2,305	yes	21	36	23
443	25	3½	NA	NA	2,305	yes	67	44	58
444	50	2	NA	NA	656	yes	67	63	66
445	0	2	NA	NA	656	yes	31	70	44
446	75	3	29	0/3	642	yes	75	36	70
447	25	1	NA	0/1	514	yes	25	70	39
448	25	1	NA	0/1	606	yes	27	59	36
449	0	2	NA	0/2	198	yes	53	51	51
450	0	4	NA	2/3 1C	215	yes	23	27	17
451	50	2	49	0/2	620	yes	48	47	46
452	75	3	NA	0/?	313	yes	85	86	88
453	0	2	NA	1/2 NA-C	537	yes	7	82	26
454	25	2	19	1/2	123	no	41	95	70
455	0	1	43	0/1	754	yes	14	51	23
456	25	3½	NA	1/4	754	yes	50	24	36

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
457	100	1	43	0/1	754	yes	82	27	63
458	75	4	NA	1/4	754	yes	63	79	70
459	75	2	NA	0/1	124	yes	10	76	28
460	75	2	NA	1/2 1P	784	yes	58	82	78
461	75	2	NA	1/2 1P	784	yes	75	70	75
462	25	2	47	0/2	597	yes	77	33	61
463	0	NA	NA	1/2 1C	1,117	yes	58	59	58
464	75	2	NA	1/2 1P	1,117	yes	45	15	27
465	0	1	NA	NA	221	yes	69	94	84
466	0	3	NA	1/3 1C	873	yes	29	44	31
467	0	1	NA	NA	4,271	yes	8	59	19
468	50	2	NA	NA	4,271	yes	72	73	74
469	0	2	NA	NA	4,271	yes	31	30	27
470	0	1	NA	NA	4,271	yes	45	40	41
471	75	2	NA	NA	4,271	yes	73	93	85
472	50	2	NA	NA	4,271	yes	34	84	54
473	50	2	NA	NA	4,271	yes	17	90	46
474	25	2	NA	NA	954	yes	29	70	42
475	25	2	NA	NA	2,486	yes	53	47	49
476	50	2	NA	NA	2,486	yes	38	82	56
477	50	1	NA	NA	2,486	yes	58	76	66
478	25	2	NA	NA	2,486	yes	38	36	34
479	50	2	NA	NA	2,486	yes	38	17	24
480	50	2	26	1/1 1C	222	no	43	70	53
481	0	3	NA	0/1	278	yes	48	55	49

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
482	75	2	NA	0/1	278	yes	36	47	38
483	50	1	NA	NA	1,028	yes	38	40	36
484	50	3	NA	NA	1,028	yes	31	17	21
485	25	2	NA	0/2	163	yes	38	19	26
486	25	2	NA	1/2 1P	72	no	27	30	24
487	50	1	NA	NA	52	no	44	79	59
488	50	3	28	0/1	227	yes	50	70	58
489	0	2	29	0/1	154	no	38	84	58
490	50	2	35	3/3 3C	105	NA	34	63	42
491	50	1	36	1/1 1C	105	NA	60	94	80
492	50	2	NA	2/2 2C	542	yes	36	40	34
493	25	3	26	3/3 1C	542	yes	73	24	53
494	25	3	52	1/1 1C	65	no	43	24	32
495	25	2	47	1/2 1C	394	yes	21	36	23
496	75	1	NA	0/1	668	yes	60	63	61
497	25	1	NA	0/1	668	yes	41	76	54
498	25	1	58	0/1	700	yes	89	99	97
499	50	2	39	1/2	596	yes	38	76	53
500	25	2	29	0/2	389	yes	25	76	42
501	25	2	NA	2/2 1C	61	no	41	47	41
502	25	2	NA	2/2 1C	61	no	23	73	39
503	100	1	34	1/1 1C	745	yes	65	44	56
504	0	2	25	0/2	90	no	15	36	19
505	50	1	NA	1/1 NA-C	452	yes	15	40	21
506	50	2	NA	1/2 NA-C	452	yes	38	17	24

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
507	75	1½	26	0/1	169	no	23	51	30
508	75	2	NA	2/2 2P	53	no	41	97	73
509	25	2	26	0/2	72	no	38	36	34
510	25	3	NA	NA	1,444	yes	36	19	24
511	50	3	NA	NA	1,444	yes	45	55	47
512	50	3	NA	NA	1,444	yes	15	73	33
513	75	3	NA	NA	1,444	yes	15	36	19
514	0	3	NA	NA	1,444	yes	60	76	67
515	25	3	NA	NA	1,444	yes	14	40	19
516	100	3	NA	NA	1,444	yes	31	33	28
517	0	2	NA	0/2	74	no	53	90	72
518	75	3	43	3/3 3C	42	no	87	70	84
519	25	2	NA	S/? NA-C	40	no	17	47	24
520	50	3	NA	NA	261	NA	38	33	33
521	50	4	19	1/2	61	no	34	36	32
522	75	1	NA	0/1	69	no	41	90	64
523	25	2	NA	1/2	69	no	36	66	46
524	25	2	46	1/2 1C	701	yes	29	21	22
525	0	1	18	1/1	176	yes	27	23	27
526	50	1	NA	1/1	87	no	60	63	61
527	50	2	NA	1/1	87	no	11	73	28
528	50	3	NA	3/3 2C	46	no	27	27	23
529	50	3	NA	3/3 2C	44	no	25	55	33
530	50	2	NA	0/1	226	yes	19	51	27
531	75	2	NA	0/1	226	yes	34	40	33

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
532	75	3	NA	0/3	1,334	yes	36	73	49
533	75	2	NA	0/2	1,334	yes	50	86	57
534	100	2	NA	NA	97	no	31	27	26
535	0	3	31	1/2 1P	194	no	23	79	42
536	75	2½	NA	1/? 1C	334	yes	15	44	22
537	50	2½	NA	1/? 1C	334	yes	36	27	28
538	100	2	NA	1/? 1C	227	no	73	76	76
539	25	2	21	1/2	224	no	45	55	47
540	25	3	21	1/2	224	no	34	44	34
541	50	3	22	1/2 1C	127	no	15	55	26
542	25	2	NA	NA	578	yes	53	19	34
543	50	1	29	1/1	135	yes	77	27	58
544	75	2	26	2/2 1P	87	no	19	40	23
545	0	1	18	1/1 1C	214	no	15	76	34
546	75	3	8	1/1 1C	29	no	79	93	88
547	25	2	21	0/2	328	yes	45	70	54
548	25	4	21	0/2	328	yes	29	70	42
549	25	2	18	2/2 1P	215	yes	34	66	43
550	50	1	23	0/1	NA	NA	38	55	42
551	50	3	39	1/1	276	yes	80	55	73
552	50	2	NA	1/2 1P	167	yes	34	63	42
553	100	2	28	2/2	145	no	90	96	96
554	75	4	22	1/3 1C	165	yes	14	66	28
555	50	1	NA	0/1	1,307	yes	41	55	44
556	100	2	NA	0/?	1,307	yes	89	99	97

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
557	75	1	NA	0/1	1,307	yes	53	84	67
558	50	2	20	2/2 1C	101	no	21	91	51
559	75	2	29	0/2	365	yes	55	99	87
560	75	3	NA	0/1	285	no	67	70	69
561	50	2	23	1/2 1C	127	yes	10	47	18
562	100	3	23	1/2 1C	127	yes	71	73	73
563	100	2	23	1/2 1C	127	yes	93	89	95
564	75	1	NA	0/1	956	no	79	82	82
565	75	3	NA	0/2	319	no	89	89	92
566	75	2	NA	0/2	319	no	55	33	44
567	75	3	NA	0/2	319	no	90	82	91
568	50	2	NA	NA	2,129	yes	69	73	72
569	75	2	NA	NA	2,373	yes	21	59	32
570	0	3	NA	NA	2,373	yes	34	40	33
571	25	2	NA	NA	2,373	yes	36	82	54
572	25	3	NA	NA	2,373	yes	27	57	33
573	25	3	NA	NA	2,373	yes	65	51	59
574	75	3	NA	NA	2,373	yes	41	9	19
575	75	3	NA	NA	2,373	yes	60	17	37
576	75	3	NA	1/3 NA-C	687	yes	38	79	54
577	25	3	NA	1/3 NA-C	687	yes	31	15	19
578	100	2	NA	1/2 NA-C	687	yes	77	33	61
579	50	2	NA	1/2 NA-C	687	yes	53	84	67
580	50	2	NA	0/2	600	yes	71	93	84
581	50	2	NA	NA	600	yes	17	30	18

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
582	75	3	NA	NA	600	yes	73	73	75
583	50	2½	NA	0/?	451	yes	75	51	67
584	0	1	48	0/1	141	no	23	63	34
585	25	1	48	0/1	141	no	63	94	81
586	25	1	NA	0/1	606	yes	25	51	32
587	75	2	NA	0/?	606	yes	87	89	91
588	50	1	NA	0/1	606	yes	41	63	47
589	50	2	27	0/2	74	no	27	47	32
590	75	2	NA	1/? 1C	214	yes	21	89	47
591	50	3	NA	1/? NA-C	225	yes	48	90	69
592	0	3	NA	0/?	301	yes	67	14	39
593	25	3	NA	0/?	301	yes	73	24	53
594	75	2	NA	1/2 NA-C	545	yes	87	27	69
595	0	2	NA	1/? NA-C	545	yes	29	70	42
596	50	2	NA	1/? NA-C	545	yes	15	47	23
597	0	3	NA	2/3 1C	110	no	17	40	22
598	75	2	36	1/2 1C	787	yes	36	47	38
599	75	3	NA	1/3 1C	787	yes	45	51	46
600	50	2	36	1/2 1C	787	yes	43	30	34
601	75	2	NA	0/2	787	yes	29	30	26
602	75	2	NA	0/1	417	yes	43	59	47
603	50	2	NA	NA	817	yes	50	91	72
604	75	4	NA	NA	596	yes	88	76	87
605	50	3	NA	NA	596	yes	23	90	51
606	25	1	29	0/1	1,146	yes	50	63	54

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
607	50	1	29	0/1	1,146	yes	90	84	91
608	75	1	29	0/1	1,146	yes	60	51	56
609	75	1	31	0/1	244	no	79	90	86
610	100	3	NA	NA	436	yes	63	44	54
611	0	2	44	2/2 1C	143	no	15	59	27
612	25	1½	42	1/2 1C	532	yes	45	27	34
613	50	2	42	1/2 1C	532	yes	27	76	44
614	25	2	NA	1/? 1C	107	no	21	51	28
615	50	3	NA	0/?	924	yes	53	30	41
616	25	2	NA	1/? 1C	924	yes	45	79	59
617	50	3	NA	1/? 1C	924	yes	36	76	51
618	50	2	NA	1/? 1C	924	yes	86	82	87
619	75	2	NA	2/2 1C	47	no	19	30	19
620	75	1	25	1/1	134	yes	17	70	33
621	100	4	30	2/2 1C 1P	30	no	65	91	80
622	50	2½	NA	NA	811	yes	27	36	27
623	25	3	NA	NA	4,384	yes	34	36	32
624	50	1	NA	NA	4,384	yes	73	73	75
625	25	2	NA	NA	4,384	yes	36	82	54
626	75	3	NA	NA	4,384	yes	91	66	87
627	25	2	NA	NA	4,384	yes	9	47	17
628	50	2	NA	NA	4,384	yes	34	40	33
629	75	2	NA	NA	4,384	yes	71	82	77
630	25	2	NA	NA	4,384	yes	75	47	66
631	50	1	NA	NA	4,384	yes	95	84	95

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
632	50	3	NA	NA	4,384	yes	69	30	53
633	0	1	NA	0/1	1,035	yes	38	44	38
634	25	1	NA	NA	1,035	yes	75	86	82
635	75	1	NA	NA	2,731	yes	36	91	63
636	50	2	NA	NA	2,731	yes	7	70	22
637	75	2	NA	NA	2,731	yes	65	76	70
638	25	2	NA	NA	2,731	yes	31	44	33
639	100	1	NA	NA	2,731	yes	73	33	58
640	50	2	NA	NA	2,731	yes	25	51	32
641	50	2	NA	NA	2,731	yes	48	40	42
642	25	2	NA	NA	2,731	yes	29	89	54
643	25	2	NA	NA	2,731	yes	19	47	26
644	25	2	NA	NA	2,731	yes	31	47	34
645	0	1	NA	NA	2,731	yes	25	55	33
646	50	2	NA	NA	2,731	yes	15	47	23
647	50	2	NA	NA	2,731	yes	34	66	28
648	50	1	26	1/1 1C	207	no	29	36	28
649	25	2	NA	1/2 1C	1,309	yes	45	44	42
650	75	2	NA	1/2 1C	1,309	yes	27	86	51
651	50	1½	NA	1/2 1C	1,309	yes	14	79	34
652	100	1	NA	NA	1,309	yes	91	90	94
653	50	2	NA	1/2 1C	1,309	yes	19	51	27
654	25	1	NA	NA	1,309	yes	31	86	54
655	25	2	NA	1/2 1C	1,309	yes	21	59	32
656	75	1	NA	NA	1,309	yes	38	90	59

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
657	75	1	NA	NA	1,309	yes	73	63	70
658	50	1	NA	NA	1,309	yes	58	17	36
659	75	4	NA	2/3 2C	91	yes	60	66	63
660	100	2	NA	0/2	226	yes	50	79	63
661	75	3	24	1/2 1P	342	yes	88	86	91
662	50	3	24	1/2 1C	342	yes	60	82	70
663	50	2	27	2/2 1P	58	no	34	94	64
664	100	1	38	0/1	189	no	60	66	63
665	75	2	30	1/2 1C	389	yes	41	84	59
666	50	2	30	1/2 1C	389	yes	79	82	82
667	75	2	30	1/2 1C	84	no	34	40	33
668	75	2	NA	2/2 2C	76	no	86	90	91
669	25	1	12	1/1 1C	55	no	38	66	46
670	25	3	29	0/1	181	no	47	79	58
671	50	4	24	1/2	181	no	34	33	30
672	75	2	NA	NA	349	yes	36	5	32
673	75	2	27	0/2	152	yes	95	79	94
674	25	2	NA	2/2 2C	564	yes	45	89	66
675	50	3	33	1/4	716	yes	36	19	24
676	100	2	31	0/3	716	yes	90	24	72
677	25	4	NA	3/3 3C	35	no	50	90	70
678	75	3	NA	1/? 1C	351	yes	53	66	58
679	25	3	35	1/2 1C	351	yes	77	47	67
680	25	1½	NA	NA	784	yes	69	82	76
681	75	3	NA	1/2 1P	214	yes	14	73	32

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
682	0	2	27	1/2	56	no	36	9	17
683	50	2	NA	2/2 2C	78	no	69	47	61
684	50	2	31	1/2 1C	126	no	12	55	23
685	50	3	31	2/2 2P	56	no	63	82	72
686	100	2	NA	NA	1,499	yes	90	84	91
687	50	2	NA	NA	1,499	yes	15	89	42
688	75	3	NA	NA	1,499	yes	90	99	97
689	100	2	NA	1/? 1C	195	yes	75	89	83
690	75	2	36	1/1 1C	267	no	58	79	67
691	100	2	36	1/1 1C	267	no	55	79	66
692	50	2	65	1/1 1C	96	no	19	79	39
693	50	1	NA	NA	710	yes	5	66	17
694	25	NA	NA	NA	710	yes	48	70	56
695	25	1	NA	NA	710	yes	77	33	61
696	100	2	NA	0/1	110	yes	75	79	79
697	25	3	33	1/2	61	no	45	27	34
698	25	3	NA	S/? 1C	481	yes	15	27	17
699	50	3	NA	S/? 1C	481	yes	38	47	39
700	75	2	NA	NA	669	yes	12	70	28
701	75	2	NA	NA	1,326	yes	65	89	77
702	50	2	NA	NA	1,326	yes	36	99	79
703	100	3	26	0/3	137	yes	77	79	80
704	25	2	19	0/1	226	yes	31	33	28
705	50	4	17	1/2	226	yes	63	70	66
706	50	2	NA	2/2 2P	46	no	38	40	36

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
707	25	1	35	1/1 1C	177	no	50	15	30
708	50	1	24	1/1 1P	232	no	53	96	79
709	25	1	NA	0/1	598	yes	60	73	66
710	25	2	30	1/2 1P	602	yes	23	33	23
711	50	2	30	1/2 1P	602	yes	41	11	21
712	100	2	30	1/2 1P	602	yes	94	86	95
713	50	2	25	1/1	140	no	29	70	42
714	50	1	NA	0/1	1,598	yes	14	36	18
715	50	4	24	3/3 1P	91	no	38	97	72
716	100	2	18	1/1 1C	50	no	95	86	95
717	25	3	43	0/2	376	yes	15	40	21
718	25	3	43	0/2	376	yes	15	30	17
719	50	2	NA	0/?	260	yes	73	63	70
720	25	1	28	0/1	465	yes	27	40	28
721	50	2	NA	1/2 1P	1,008	no	48	76	59
722	25	1	NA	0/1	2,794	yes	17	90	46
723	75	2	NA	NA	2,794	yes	63	44	54
724	0	3	NA	NA	1,923	yes	82	40	68
725	50	2	NA	NA	1,923	yes	55	51	53
726	50	3	NA	NA	1,923	yes	82	79	83
727	50	3	NA	NA	2,559	yes	25	14	16
728	50	3	NA	NA	2,559	yes	60	59	59
729	50	3	NA	NA	2,559	yes	43	47	42
730	25	2	NA	NA	2,559	yes	50	66	56
731	75	NA	NA	NA	650	yes	65	93	81

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
732	50	3	NA	S/? NA-C	743	yes	50	27	38
733	25	3	NA	NA	743	yes	31	82	51
734	100	2	NA	0/2	670	yes	82	47	72
735	0	2	NA	0/?	670	yes	17	44	23
736	100	2	NA	0/?	670	yes	69	51	63
737	75	2	NA	0/?	670	yes	65	73	69
738	100	3	NA	0/?	480	yes	8	47	17
739	25	3	NA	0/2	480	yes	14	51	23
740	50	2	NA	0/?	632	yes	77	63	73
741	0	2	NA	0/?	632	yes	31	55	38
742	25	2	54	0/1	315	yes	15	73	33
743	50	2	28	2/2 2P	181	yes	31	12	17
744	25	1	66	1/1 1C	198	yes	23	84	46
745	0	2	NA	NA	232	yes	58	63	59
746	0	2	NA	1/2 NA-C	557	yes	53	59	54
747	25	2	16	2/2 2C	116	no	12	47	21
748	75	3	NA	NA	802	yes	91	98	97
749	0	2	NA	NA	802	yes	66	65	66
750	75	3	27	2/2 1C	120	yes	73	84	80
751	75	2	45	0/2	602	yes	36	33	32
752	50	2	45	0/2	602	yes	12	47	21
753	75	2	NA	NA	1,176	yes	91	73	89
754	25	2	29	0/1	1,176	yes	11	33	16
755	50	1	29	0/1	1,176	yes	21	59	32
756	50	2	NA	1/2	246	no	95	59	90

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
757	75	2	45	1/2 1C	542	yes	58	89	73
758	50	2½	56	1/3 1C	542	yes	21	17	16
759	25	2	NA	0/2	986	yes	29	84	51
760	0	3½	NA	S/? 3C	304	yes	55	30	42
761	50	2½	NA	NA	867	yes	34	82	53
762	50	1	NA	NA	4,490	yes	86	98	96
763	25	1	NA	NA	4,490	yes	3	86	19
764	0	1	NA	NA	4,490	yes	73	66	72
765	50	1	NA	NA	4,490	yes	21	44	26
766	75	2	NA	NA	4,490	yes	31	70	44
767	0	2	NA	NA	4,490	yes	17	27	17
768	25	2	NA	NA	1,104	yes	29	17	19
769	25	2	NA	NA	1,104	yes	60	44	53
770	50	2	NA	NA	1,104	yes	63	63	63
771	25	2	NA	NA	1,104	yes	55	90	73
772	75	2	NA	NA	2,953	yes	84	86	87
773	75	1	NA	NA	2,953	yes	82	51	73
774	75	2	NA	NA	2,953	yes	69	55	64
775	0	2	NA	NA	2,953	yes	31	40	32
776	50	2	NA	NA	2,953	yes	15	47	23
777	0	2	NA	NA	2,953	yes	11	36	17
778	50	1	NA	NA	2,953	yes	36	51	39
779	100	3	NA	NA	1,225	yes	58	33	41
780	50	3	NA	NA	1,225	yes	48	51	47
781	100	2	NA	NA	1,225	yes	85	66	81

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
782	50	1	17	1/1 1C	162	yes	28*	31	26
783	100	3	NA	S/? 1C	360	yes	48	45	53
784	50	3	NA	S/? 1C	360	yes	49	36	46
785	50	2½	42	0/2	145	no	11	58	57
786	50	3	30	1/4	735	yes	40	85	66
787	75	2	24	1/2 1C	384	yes	78	74	81
788	50	1	23	1/1 1C	151	no	27	86	60
789	0	2	NA	NA	336	yes	20	35	26
790	25	2	32	1/1 1C	139	no	22	45	33
791	75	4	NA	S/? 1C	823	yes	42	68	59
792	50	2	NA	0/3	222	yes	29	59	46
793	50	3	NA	1/? NA-C	230	yes	15	24	16
794	25	2	20	1/2 1C	73	no	20	64	38
795	50	3	NA	NA	1,552	yes	20	45	30
796	25	3	NA	NA	1,552	yes	18	20	17
797	75	2	38	1/1	36	no	15	45	26
798	50	3	26	0/3	546	yes	8	38	18
799	50	1	64	0/1	737	yes	27	63	45
800	25	2	25	2/2 1C	173	yes	5	75	34
801	25	3	NA	0/1	107	yes	8	34	16
802	25	2	8	1/1 1C	167	yes	15	31	21
803	25	3	NA	1/2 1C	82	no	14	56	32

*For cases 782 through 861 this column gives the V Score made on the School, College Ability Test. Cases 862 and 863 are inserts from an earlier year and revert to the L Score.

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
804	100	2	NA	NA	1,302	yes	66	79	77
805	75	3	NA	S/? NA-C	243	no	65	56	66
806	50	2½	29	2/2 2P	153	no	83	80	86
807	75	2	32	1/2 1C	136	no	34	79	57
808	50	2	46	0/1	333	yes	56	35	49
809	50	1	NA	NA	1,649	yes	48	99	86
810	100	2	33	0/2	405	yes	56	56	60
811	25	3½	NA	3/3 3C	1,063	no	65	91	82
812	75	1	NA	1/1 1C	464	no	45	26	34
813	50	3	NA	NA	733	yes	39	74	60
814	25	3	NA	NA	733	yes	18	38	24
815	0	3½	NA	NA	733	yes	54	32	44
816	25	2	NA	NA	2,490	yes	22	19	17
817	100	3	NA	NA	2,490	yes	73	73	78
818	50	2	NA	NA	2,490	yes	27	93	68
819	50	3	NA	NA	2,490	yes	57	32	47
820	25	2	NA	NA	643	yes	5	66	25
821	75	2	31	1/2 1C	136	yes	30	28	27
822	50	3	NA	1/3	224	yes	75	74	78
823	0	2½	28	2/3 1C	224	yes	72	91	87
824	25	1	54	0/1	340	yes	14	45	26
825	100	2	NA	NA	728	yes	71	70	72
826	50	2	NA	NA	728	yes	22	74	46
827	50	2	NA	NA	361	no	29	23	24
828	25	2	17	1/1 1C	116	no	57	90	78

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
829	0	3	30	1/3 1P	110	no	53	33	45
830	50	2½	NA	1/3 1C	821	yes	85	97	96
831	25	3½	NA	NA	821	yes	34	39	35
832	25	2½	NA	NA	821	yes	13	23	16
833	50	2	NA	NA	821	yes	26	34	27
834	50	2	36	1/1 1P	97	no	13	35	23
835	75	3	NA	NA	115	no	84	90	92
836	50	2	NA	NA	NA	NA	35	79	58
837	25	2	NA	2/2 1C 1P	152	yes	46	35	40
838	50	2	29	2/2 2C	146	no	88	80	89
839	25	2	NA	NA	970	yes	40	10	21
840	75	2½	23	1/2 1C	166	yes	39	53	45
841	50	1½	33	1/1 1C	166	yes	20	76	20
842	50	2½	23	1/2 1C	166	yes	49	36	44
843	0	3½	NA	S/? 1C	166	yes	48	46	50
844	50	1	NA	NA	4,566	yes	14	34	22
845	25	3	NA	NA	4,566	yes	39	76	60
846	0	4	NA	NA	4,566	yes	29	66	49
847	100	2	NA	NA	4,566	yes	93	74	91
848	50	2	NA	1/?	255	no	64	51	62
849	0	2	NA	NA	1,165	yes	2	58	18
850	25	2	NA	NA	3,207	yes	80	87	87
851	50	3½	NA	NA	3,207	yes	70	75	78
852	25	2	NA	NA	3,207	yes	13	52	28
853	25	2	NA	NA	3,207	yes	15	59	32

Students	Grades	C Units	T Hours	NID	Size	NC	L	Q	T
854	50	2½	NA	NA	3,207	yes	42	28	33
855	0	2	NA	NA	3,207	yes	56	34	45
856	0	2	NA	NA	3,207	yes	29	64	46
857	100	2	NA	NA	3,207	yes	86	80	87
858	50	2	NA	NA	1,364	yes	39	70	55
859	100	2	NA	NA	1,364	yes	71	87	84
860	25	3½	NA	NA	1,364	yes	8	64	28
861	50	2½	25	2/2 1C	387	yes	14	89	53
862	25	3	NA	S/? 1C	612	yes	17	4	22
863	75	3	NA	NA	NA	NA	63	47	56

APPENDIX B

Achievement in Basic Courses of Students Whose T Scores on the General Ability Tests Were Below Sixteen

ACHIEVEMENT IN BASIC COURSES OF STUDENTS WHOSE T SCORES ON THE GENERAL ABILITY TESTS WERE BELOW SIXTEEN

Data gathered for this study revealed some evidence that physical and mental maturity plus experience gained in university study enabled students to accomplish acceptable achievement in the basic history and political science courses at Oklahoma State University even though their T Scores on the general ability tests were below sixteen. The evidence should be regarded as rather tentative as the number of samples contributing the evidence was small.

The mean grade of all 863 student samples used in the study was 44.70. There were 471 students deleted from the study because their T Scores were below sixteen. The mean grade of these 471 students was 24.26 which was significantly lower than the mean score of the 863 student samples used in the study, whose T Scores were all sixteen or higher.

Of the 471 deleted students, 447 were determined to be first semester freshmen and the mean grade in the basic courses of those 447 was 23.77. Twenty-four of the 471 were also ineligible for the study because of their class status. Of these twenty-four, fifteen were determined to probably have been second semester freshmen. The mean grade of these fifteen was 28.33. An additional nine were determined definitely to have been sophomores, juniors or seniors and the mean grade of this group was 52.78.

Although the number of samples in the two non-first semester groups was small, additional maturity and university experience seem to have been paralleled by an increase in the grade achievements of these students. The fifteen second semester freshmen group had a 4.56 higher grade mean than did the 447 first semester freshmen group and the nine upper class students had a 24.45 higher grade mean than did the second semester freshmen group. In fact, the mean grade of the sophomore, junior, senior group was 8.08 higher than the mean grade of 44.70 made by the 863 first semester freshmen, with T Scores of sixteen and higher, who were included in the study.

The difference between the 23.77 mean of the first semester group and the 28.33 mean of the second semester group did not prove to be statistically significant, a computed ratio being .94 with a 1.96 ratio needed for significance at the .05 level of probability. However, the difference between the means of both of these groups and the 52.78 mean of the upper class group did prove to be statistically significant. The 29.01 difference between the means of the upper class and first semester freshmen groups produced a critical ratio of 4.82 with a 1.96 needed for significance at the .05 level of probability. The 24.45 difference between the means of the second semester freshmen and upper class groups produced a critical ratio of 3.16. In this case there were only 22 degrees of freedom and a critical ratio of 2.07 was needed for significance at the .05 level

of probability. Actually, these latter two critical ratios were significant at the .01 level of probability as well as at the .05 level.

The fact that statistical significance existed for the differences between these means indicates that the differences did not occur by chance and it seems reasonable, therefore, to accept this as additional indication that maturity and experience had effects which tended to overcome student deficiencies indicated by low T Scores made on the general ability tests taken at the time of entering the University.

APPENDIX C

List of High Schools, by County, for Which Data Were Used in This Study

LIST OF HIGH SCHOOLS, BY COUNTY, FOR WHICH DATA WERE USED IN THIS STUDY*

POST OFFICE	NAME OF SCHOOL
Adair County	
Westville	Westville
Alfalfa County	
Cherokee	Cherokee
Goltry	Goltry
Helena	Helena
Jet	Jet
Beaver County	
Balko	Balko
Beaver	Beaver
Forgan	Forgan
Beckham County	
Delhi	Delhi
Elk City	Elk City
Erick	Erick
Sayre	Sayre
Sweetwater	Sweetwater

*There were 264 high schools for which data were gathered for use in this study. They were located in all Oklahoma counties except Atoka and Jefferson. Some of the high schools included in this list have ceased to exist since the period for which data were gathered for them.

POST OFFICE	NAME OF SCHOOL
Blaine County	
Canton	Canton
Geary	Geary
Okeene	Okeene
Southard	Southard
Bryan County	
Durant	Durant
Caddo County	
Alfalfa	Alfalfa
Anadarko	Anadarko
Lookeba	Sickles-Lookeba
Canadian County	
Calumet	Calumet
El Reno	El Reno
Mustang	Mustang
Union City	Union City
Carter County	
Ardmore	Ardmore
Ardmore	Plainview
Wilson	Wilson
Cherokee County	
Tahlequah	Tahlequah

POST OFFICE	NAME OF SCHOOL
Choctaw County	
Fort Towson	Fort Towson
Hugo	Hugo
Cimarron County	
Boise City	Boise City
Keyes	Keyes
Cleveland County	
Moore	Moore
Coal County	
Clarita	Clarita
Comanche County	
Faxson	Faxson
Lawton	Lawton
Cotton County	
Temple	Temple
Craig County	
Vinita	Sacred Heart Academy
Vinita	Vinita
Creek County	
Bristow	Bristow
Drumright	Drumright
Kellyville	Kellyville

POST OFFICE	NAME OF SCHOOL
Creek County Contd.	
Kiefer	Kiefer
Mannford	Mannford
Sapulpa	Sapulpa
Custer County	
Butler	Butler
Clinton	Clinton
Thomas	Thomas
Weatherford	Weatherford
Delaware County	
Grove	Grove
Dewey County	
Camargo	Camargo
Seiling	Seiling
Taloga	Taloga
Vici	Vici
Ellis County	
Arnett	Arnett
Fargo	Fargo
Gage	Gage
Shattuck	Shattuck
Garfield County	
Covington	Covington

POST OFFICE	NAME OF SCHOOL
Garfield County Contd.	
Drummond	Drummond
Enid	Enid
Enid	Memorial
Garber	Garber
Hunter	Hunter
Kremlin	Kremlin
Lahoma	Lahoma
Waukomis	Pioneer
Waukomis	Waukomis
Garvin County	
Lindsay	Lindsay
Maysville	Maysville
Pauls Valley	Pauls Valley
Pernell	Pernell
Wynnewood	Wynnewood
Grady County	
Alex	Alex
Amber	Amber
Chickasha	Chickasha
Minco	Minco
Pocasset	Pocasset
Verden	Verden

POST OFFICE	NAME OF SCHOOL
Grant County	
Jefferson	Gore
Medford	Medford
Nash	Nash
Pond Creek	Pond Creek
Wakita	Wakita
Greer County	
Granite	City View
Granite	Granite
Mangum	Mangum
Harmon County	
Hollis	Arnett
Hollis	Hollis
Vinson	Vinson
Harper County	
Laverne	Laverne
Rosston	Rosston
Haskell County	
Keota	Keota
Stigler	Stigler
Hughes County	
Dustin	Dustin
Wetumka	Wetumka

POST OFFICE	NAME OF SCHOOL
Jackson County	
Altus	Altus
Altus	Friendship
Duke	Duke
Eldorado	Eldorado
Humphreys	Humphreys
Olustee	Olustee
Johnston County	
Tishomingo	Tishomingo
Kay County	
Blackwell	Blackwell
Kaw City	Kaw City
Newkirk	Newkirk
Ponca City	Ponca City
Kingfisher County	
Dover	Dover
Hennessey	Hennessey
Kingfisher	Kingfisher
Loyal	Loyal
Okarche	Holy Trinity
Okarche	Okarche
Kiowa County	
Hobart	Hobart

POST OFFICE	NAME OF SCHOOL
Kiowa County Contd.	
Roosevelt	Roosevelt
Snyder	Snyder
Latimer County	
Wilburton	Wilburton
LeFlore County	
Bokoshe	Bokoshe
Heavener	Heavener
Poteau	Poteau
Spiro	Spiro
Talihina	Talihina
Lincoln County	
Chandler	Chandler
Kendrick	Kendrick
Meeker	Meeker
Prague	Prague
Stroud	Stroud
Wellston	Wellston
Logan County	
Guthrie	Guthrie
Mulhall	Mulhall
Love County	
Marietta	Marietta

POST OFFICE	NAME OF SCHOOL
Major County	
Ames	Ames
Fairview	Fairview
Orienta	Cheyenne Valley
Marshall County	
Madill	Madill
Mayes County	
Pryor	Pryor
McClain County	
Purcell	Purcell
Wayne	Wayne
McCurtain County	
Broken Bow	Broken Bow
Haworth	Haworth
Idabel	Idabel
Valliant	Valliant
Wright City	Wright City
McIntosh County	
Checotah	Checotah
Checotah	Onapa
Murray County	
Davis	Davis

POST OFFICE	NAME OF SCHOOL
Murray County Contd.	
Sulphur	Sulphur
Muskogee County	
Fort Gibson	Fort Gibson
Haskell	Haskell
Muskogee	Central
Noble County	
Billings	Billings
Morrison	Morrison
Perry	Perry
Red Rock	Red Rock
Nowata County	
Delaware	Delaware
Nowata	Nowata
Okfuskee County	
Okemah	Okemah
Weleetka	Weleetka
Oklahoma County	
Bethany	Bethany
Choctaw	Choctaw
Edmond	Edmond
Midwest City	Dell City
Midwest City	Midwest City

POST OFFICE	NAME OF SCHOOL
Oklahoma County Contd.	
Oklahoma City	Capitol Hill
Oklahoma City	Catholic
Oklahoma City	Central
Oklahoma City	Classen
Oklahoma City	John Marshall
Oklahoma City	Northeast
Oklahoma City	Northwest Classen
Oklahoma City	Putnam City
Oklahoma City	Southeast
Okmulgee County	
Henryetta	Henryetta
Henryetta	Saint Michaels
Henryetta	Wilson
Morris	Morris
Okmulgee	Okmulgee
Okmulgee	Saint Anthony
Schulter	Schulter
Osage County	
Barnsdall	Barnsdall
Fairfax	Fairfax
Hominy	Hominy
Pawhuska	Pawhuska
Shidler	Webb City

POST OFFICE	NAME OF SCHOOL
Osage County Contd.	
Skiatook	Skiatook
Wynona	Wynona
Ottawa County	
Afton	Afton
Miami	Miami
Pawnee County	
Cleveland	Cleveland
Hallet	Hallet
Maramec	Maramec
Pawnee	Pawnee
Ralston	Ralston
Payne County	
Cushing	Cushing
Cushing	Norfolk
Glencoe	Glencoe
Perkins	Perkins
Ripley	Ripley
Stillwater	Stillwater
Yale	Yale
Pittsburg County	
Canadian	Canadian
McAlester	McAlester

POST OFFICE	NAME OF SCHOOL
Pontotoc County	
Ada	Ada
Ada	Byng
Pottawatomie County	
Dale	Dale
Earlsboro	Earlsboro
Shawnee	Saint Benedict
Shawnee	Shawnee
Pushmataha County	
Albion	Albion
Antlers	Antlers
Roger Mills County	
Cheyenne	Cheyenne
Rogers County	
Chelsea	Chelsea
Claremore	Claremore
Claremore	Oklahoma Military Academy
Inola	Inola
Seminole County	
Bowlegs	Bowlegs
Cromwell	Cromwell
Seminole	Seminole

POST OFFICE	NAME OF SCHOOL
Seminole County Contd.	
Seminole	Varnum
Seguoyah County	
Roland	Roland
Stephens County	
Comanche	Comanche
Duncan	Duncan
Marlow	Marlow
Velma	Velma-Alma
Texas County	
Adams	Adams
Guymon	Guymon
Hooker	Hooker
Tillman County	
Frederick	Frederick
Loveland	Loveland
Tipton	Tipton
Tulsa County	
Bixby	Bixby
Broken Arrow	Broken Arrow
Collinsville	Collinsville
Jenks	Jenks
Owasso	Owasso

POST OFFICE	NAME OF SCHOOL
Tulsa County Contd.	
Sand Springs	Sand Springs
Tulsa	Berryhill
Tulsa	Booker T. Washington
Tulsa	Cascia Hall
Tulsa	Central
Tulsa	East Central
Tulsa	Holy Family
Tulsa	Marquette
Tulsa	Monte Cassino
Tulsa	Webster
Tulsa	Will Rogers
Wagoner County	
Coweta	Coweta
Wagoner	Wagoner
Washington County	
Bartlesville	College
Copan	Copan
Dewey	Dewey
Ochelata	Ochelata
Ramona	Ramona
Washita County	
Burns Flat	Burns Flat
Sentinel	Port

POST OFFICE	NAME OF SCHOOL
Woods County	
Alva	Alva
Freedom	Freedom
Waynoka	Waynoka
Woodward County	
Mooreland	Mooreland
Mutual	Mutual
Quinlan	Quinlan
Woodward	Tangier
Woodward	Woodward

VITA

Robert William Jacob

Candidate for the Degree of

Doctor of Education

Thesis: AN INQUIRY INTO SELECTED FACTORS OF SECONDARY EDUCATION BEARING ON STUDENT ACHIEVEMENT IN BASIC HISTORY AND POLITICAL SCIENCE COURSES AT OKLAHOMA STATE UNIVERSITY

Major Field: Higher Education

Minor Field: History

Biographical:

Personal Data: Born in Kirksville, Missouri, May 29, 1926, the son of Hilton R. and Nellie Maud Jacob.

Education: Attended grade school in Glenwood, Iowa, Omaha, Nebraska, Steubenville, Ohio and in Breckenridge and Kirksville, Missouri; graduated from high school at Paris, Missouri in 1944; received the Bachelor of Arts degree from Tarkio College, with a major in history, in 1949; received the Master of Arts degree from the Oklahoma State University, with a major in political science, in May, 1951; completed requirements for the Doctor of Education degree in 1962.

Professional experience: Taught history and government in high school at Tarkio, Missouri during 1952 and 1953. Was graduate assistant at Oklahoma State University from 1949 to 1951 and from 1955 to 1958. Is now associate professor of history and political science at Central Methodist College and has been on the faculty of that college since 1958.

Professional organizations: American Historical Association, American Political Science Association, Missouri Political Science Association, National Education Association, Phi Alpha Theta, Phi Kappa Phi, Pi Gamma Mu.