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An Investigation of Attitudes Towards the Objectives of and the Preparation for Junior High School Teaching as Expressed by Selected Central Washington State College Graduates

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AN INVESTIGATION OF ATTITUDES TOWARDS THE OBJECTIVES OF AND THE PREPARATION FOR JUNIOR HIGH SCHOOL TEACHING AS EXPRESSED BY SELECTED CENTRAL WASHINGTON STATE COLLEGE GRADUATES

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS

The junior high school movement has been taking place in the United States for sixty years. During these years its major objectives and functions have changed greatly. While the movement began in an effort to save time in the school program, the junior high is justified currently by various purposes including "to make possible a program more suited to the nature of early adolescents" (48:34).

Almost from the inception of the separate-school-for-adolescents idea, the importance of the teacher has been recognized. During the early reorganization of school districts, in-service programs were usually used to prepare the elementary school teachers for the junior high school work. By 1929 educational leaders were prescribing the needed class content for the special training of junior high school teachers. The need for special training is still being discussed today.

While educational leaders have been listing the requirements for good preparation of junior high teachers, most colleges have been slow to recognize this need in their curricular offerings. Although Central Washington State College has not developed a complete program for junior high teachers, Central has included in its offerings some

classes specially aimed at junior high teaching, in addition to developing three broad field majors recommended for junior high teaching. It should be pointed out that the special classes for the junior high school are offered primarily in the summer sessions and are missed by most undergraduates.

I. THE PROBLEM

Statement of the Problem

It was the original purpose of this study to determine the attitudes of the 1962-1966 Central Washington State College graduates, who were placed in junior high school teaching positions, towards the preparation they received for junior high teaching at Central Washington State College. A teacher's attitude towards junior high teaching will depend upon his or her perception of the junior high school's purpose or function. For example, a teacher may have developed a concept of junior high education that is entirely inconsistent with the concept of junior high education as developed by educational leaders, at the same time expressing a very favorable attitude towards the preparation he received at Central Washington State College. This favorable attitude, if taken without reference to his concept of the junior high school's function, may erroneously reflect that the teacher was well prepared for junior high

teaching when in fact he was not. Consequently, the purpose of this study became twofold: first, to determine the attitude towards the objectives and functions of the junior high school, and second, to determine the attitude toward the preparation for junior high teaching as received at Central Washington State College.

Assumptions of the Study

One of the basic assumptions underlying this study is that the most desirable functions of the junior high school and the best methods of preparing junior high teachers are expressed by the following authors in the field of junior high education: Nelson L. Bossing, Gertrude Noar, Roland C. Faunce, William T. Gruhn, Leonard V. Koos, Anne McGregor, William Van Til, R. P. Brimm, Morrel J. Clute, Harl R. Douglass, Gordon F. Vars, and John H. Lounsbury. This researcher was also aware of the important ideas being discussed concerning the proper scope and control of teacher education as expressed by James B. Conant (6), Myron Lieberman (27:101), and others. The theoretical nature of these ideas makes their testing beyond the scope of this study.

A second basic assumption underlying this study was that Central Washington State College was trying to prepare teachers for the junior high level by including the necessary special training within those professional education

courses required for teaching in the secondary schools.

Hypotheses of the Study

1. The null hypothesis will be tested to determine if there is a significant relationship between the teachers' attitudes toward the preparation for junior high teaching, as received at Central Washington State College, and the teachers' attitudes toward the functions of the junior high school, as expressed by the educational leaders in the junior high school movement.

2. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between male and female teachers.

3. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers who prefer to teach at the junior high level and those teachers who prefer to teach at other levels.

4. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers prepared to teach at the secondary level and those teachers prepared to teach at the elementary level.

5. The null hypothesis will be tested to determine if there is any significant difference in attitude toward

the functions of the junior high school between those teachers who did their student teaching at the junior high level and those teachers who did their student teaching at another level.

6. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers who have taught three or more years and those teachers with less than three years of experience.

7. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers who have taught three or more years at the junior high school level and those teachers with less than three years experience at the junior high school level.

8. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching science and those teachers teaching some other subject.

9. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching language arts and those teachers teaching some other subject.

10. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching music and those teaching some other subject.

11. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching art and those teaching some other subject.

12. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching social studies and those teaching some other subject.

13. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching foreign language and those teaching some other subject.

14. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching mathematics and those teaching some other subject.

15. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching industrial arts and those teaching some other subject.

16. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching physical education and those teaching some other subject.

17. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between male and female teachers.

18. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who prefer to teach at the junior high level and those teachers who prefer to teach at other levels.

19. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers

prepared to teach at the secondary level and those teachers prepared to teach at the elementary level.

20. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who did their student teaching at the junior high level and those teachers who did their student teaching at another level.

21. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who have taught three or more years and those teachers with less than three years of experience.

22. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who have taught three or more years at the junior high school level and those teachers with less than three years experience at the junior high level.

23. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at

Central Washington State College between those teachers currently teaching science and those teachers teaching some other subject.

24. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching language arts and those teaching some other subject.

25. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching music and those teaching some other subject.

26. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching art and those teaching some other subject.

27. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching social studies and those teaching some other subject.

28. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching foreign language and those teaching some other subject.

29. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching mathematics and those teaching some other subject.

30. The null hypothesis will be tested to determine if there is any significanct difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching industrial arts and those teaching some other subject.

31. The null hypothesis will be tested to determine if there is any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching physical education and those teaching some other subject.

Importance of the Study

As the junior high school movement continues, the need for specially trained teachers will become even more acute. Even if the junior high school should give way to the newer intermediate school plan of organization, the need for specially trained teachers will still be felt. As James B. Conant stated: "I conclude that the place of grades 7, 8, and 9 in the organization of a school system is of less importance than the program provided for adolescent youth" (9:12). It is hoped that this thesis will provide some evidence on the teacher preparation program at Central Washington State College and that this evidence will lead to improvement in the preparation of junior high school teachers at Central Washington State College if such improvement appears to be necessary.

II. DEFINITION OF TERMS USED

Attitude

An attitude is a generalized tendency, or predisposed response to one or a group of objects, persons, or statements.

Junior High School Teacher

A teacher who is teaching in a separate facility for grades seven, eight, and nine or who is teaching in an organizational plan which separates grades seven, eight, and nine from other levels of the school system.

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

Chapter II, review of literature, will trace the development of the junior high school in organizational plans of school systems, the development of the objectives and functions of the junior high school, and the development of the need for specially trained teachers for the junior high school. Chapter III will cover the construction of the attitude scales and the construction of the questionnaire. Chapter IV will include the results of the questionnaire and the testing of the hypothesis of the study. Chapter V will cover the conclusions, summary, and implications of the study.

CHAPTER II

REVIEW OF THE LITERATURE

For nearly fifty years the junior high school movement has been developing in the United States. The growth of the junior high school in organizational plans has been molded by various educational pressures including building needs, dissatisfaction with student progress, the apparent waste of time in the educational program, and the abrupt change from elementary school methods to the practices of the secondary school. For the purpose of this thesis, the junior high movement has been presented by examining three different aspects: development of the junior high in school organizational plans, development of objectives and functions of the junior high school, and development of the need for specially trained teachers.

I. DEVELOPMENT OF THE JUNIOR HIGH IN SCHOOL ORGANIZATIONAL PLANS

During the early years of American education, the need for the most satisfactory plan of organization for the schools was overshadowed by the problems of trying to raise attendance and the increasing number of small school districts. As these early problems were solved in the decade of 1840 to 1850, the eight-four organizational plan

developed under the leadership of Horace Mann and Henry Barnard (23:5). During the next twenty years the organizational plan began to jell so that by the 1870's, the elementary school course consisted of eight years and the secondary school consisted of four, except in New England and the Southern States where the elementary course was nine years in one section and seven in the other (4:145).

The first serious question of school organization was raised by Charles W. Eliott, president of Harvard College, in 1888 when he addressed the Washington meeting of the "Department of Superintendence" (Sic.) of the National Education Association. His speech was titled: "Can the School Program be Shortened and Enriched?" (3:145). In this address he stated:

> The average age of admission to Harvard College has been rising for sixty years past, and has now reached the extravagant limit of eighteen years and ten months. . . . The average college graduate is undoubtedly nearly twenty-three years old at graduation; and . . . must nowadays allow at least three years for his professional education . . . (48:7).

President Eliott went on to propose a solution to this problem when he stated:

> . . . some remedy is urgently demanded; and the first partial remedy that suggests itself is to reduce the average age of admission to college to eighteen. This reduction would save about a year . . . . College men, therefore, are anxiously looking to see if the American school courses can be both shortened and enriched--shortened, so that our boys may come to college at eighteen instead of nineteen, and enriched, in order that they may

> bring to college at eighteen more than they now bring at nineteen, so that the standard of the A.B. may not be lowered (48:7).

Following this first notable attack on the eight-four plan of organization was the appointment of the Committee of Ten on Secondary-School Studies. This committee, headed by president Eliott, was made up primarily of college-oriented men. The Committee of Ten's report, made in 1893, stated:

> . . . several subjects now reserved for high schools . . . should be begun earlier than now, the secondary-school period should be made to begin two years earlier than at present, leaving six years instead of eight for the elementary-school period. Under the present organization, elementary subjects and elementary methods are, in the judgment of the committee, kept in use too long (17:9).

While the Committee of Ten was preparing its report, the "Department of Superintendence" of the National Education Association appointed a Committee of Fifteen. This committee was composed mostly of superintendents of schools. The Committee of Fifteen's report, made in 1895, recommended that some subjects may begin earlier but generally opposed revision of the eight-four type of organization. This committee also stressed the need for "a proper transition to the studies of the secondary school" (48:8).

Following the report of the Committee of Fifteen, a modified grade organization was tried at Richmond, Indiana. During 1896 the Richmond district placed the grades seven and eight in a separate building. In addition to the housing

reorganization, some significant changes in the curriculum were also made. Some of these were in English, mathematics, social studies, music, art, and included the study of practical arts and a foreign language. Other new features were departmentalized teaching, elective courses, promotion by subjects, and the homeroom (17:17).

During the four years of 1895 to 1899, the Committee on College Entrance Requirements was studying the secondary school system. Its recommendation of the six-year high school was based on the idea that

> . . . the seventh grade, rather than the ninth, is the natural turning point in the pupil's life, as the age of adolescence demands new methods and wiser direction (48:9).

Early in the 1900's a movement aimed at changing the secondary schools was taking place at the University of Chicago under the direction of William R. Harper, President of the University of Chicago. At one of the conferences in 1901, John Dewey read a paper on "Current Problems in Secondary Education." In his paper, he stressed that the most important problem facing education was the need for articulation of the secondary school between elementary education and college education (4:173). President Harper's conference generally recommended a saving of time in the secondary school and the introduction of college subjects at an earlier age.

At the same time (1902) as President Harper was presented the results of his conference, the California Teachers' Association was organizing the Committee of Nine. The Committee of Nine's report, given in 1904, advocated among its recommendations that education beyond the six years of elementary school be grouped in periods of two years each, and "the education of the seventh and eighth years belongs to the secondary period" (4:31).

The climate for changing to the six-six organizational plan was further promoted by the publication in 1905 of G. Stanley Hall's work on the adolescent and findings of E. L. Thorndike on his study of retention of students in 1907. Under this climate the school year of 1909-1910 marked the beginning of the junior high movement (17:17).

At a meeting of the Board of Education in Berkeley, California (November 30, 1909), Frank Bunker, superintendent of the School Department of Berkeley, made the following proposal:

> This plan for a proposed reorganization of the school department of Berkeley grows directly out of an urgent need which must be met at an early day by the Board of Education, namely, the need for providing classrooms in sufficient number to meet the prospective growth of the High School . . . The plan which I recommend involves a reorganization and a regrouping of the several grades of our schools. Stated briefly, it is this: to have three groups of schools; one group (the High School Proper) to comprise the tenth, eleventh, and twelfth years only; the second group, which may be called an Introductory High School group, to comprise the seventh,

> eighth, and ninth years only; and a third group of schools (The Elementary School Proper), to comprise all children in the first six years . . . .
>
> An examination of this plan will convince one, I think, that the division of the grades into three groups is a much more natural one than the eight-four arrangement . . . .
>
> In the Introductory High Schools there will be congregated the seventh, eighth, and ninth years. These years comprise another natural group, in as much as children would enter it at the beginning of the period of adolescence, when by nature they crave an opportunity to dip into a wide range of subjects and activities, which is Nature's way of insuring freedom of choice in determining occupation and of exercising somewhat of intelligence in the same (4:3-5).

This experiment in Berkeley, combined with the introduction of a separate school, Indianola Junior High School, in Columbus, Ohio, attracted nation-wide attention to the intermediate school. This attention was given impetus by the reports of Leonard P. Ayers, in 1909, titled "Laggards in Out Schools" and George D. Strayer, in 1911, titled "Age and Grade Census of Schools and Colleges: A Study of Retention and Elimination." These studies, combined with an earlier one by Thorndike, showed that just a little more than a third of public school students ever reached the ninth grade. Only slightly more than one in ten first graders ever completed the high school years. Fifty-three per cent of the first graders had dropped out by the end of the eighth grade (48:13-14).

The junior high school movement was given a great boost by the 1918 report of the Commission on the Reorganization of Secondary Education of the National Education Association. The Commission reported:

> The eight years heretofore given to elementary education have not, as a rule, been effectively utilized. The last two of these years in particular have not been well adapted to the needs of the adolescent . . . . be removed by a new type of secondary education beginning at about 12 or 13 /years/ . . . .
>
> We, therefore, recommend a reorganization of the school system whereby the first six years shall be devoted to elementary education . . . and the second six years to secondary education . . . .
>
> The six years to be devoted to secondary education may well be divided into two periods which may be designated as the junior and senior periods. In the junior period emphasis should be placed upon the attempt to help the pupil explore his own aptitudes and to make at least provisional choice of the kinds of work to which he shall devote himself . . . .
>
> In the junior high school there should be a gradual introduction of departmental instruction; some choice of subjects under guidance, promotion by subjects, prevocational courses, and a social organization . . . (48:11).

As the evidence mounted, a growing dissatisfaction with the eight-four plan of organization continued to develop with many criticisms being expressed. These criticisms were: ". . . school system should naturally conserve the pupil's time and thus effect a gain for both the individual and society . . ." (33:2); ". . . there should be nothing in our educational scheme that would make it difficult for the individual pupil to move forward

without discouragement at any point in his educational career . . ." (33:2); ". . . the school system on every level /should/ meet the changing interests and needs of the pupils . . ." (33:2); "the pretechnical and preprofessional training took too much time and too great an expense; isolated and small grammar schools are uneconomical because they have facilities that are not fully used, they lack specially trained teachers and supervisors, and they do not permit differentiated curricular, departmental teaching, and promotion by subject" (3:7); "the costly building and equipment of the high school are unnecessary for the adequate training of ninth-grade pupils" (3:9); "the work of the elementary school does not prepare for life activities" (3:9); "the progress of pupils in the grammar grades is not marked as in other periods of school life" (3:13); "in early adolescence pupils do not get the needed influence of teachers of both sexes" (3:14); the eight-four plan does not make the necessary provision for the varying needs of pupils due to individual differences (3:16); "there is inadequate provision for personal guidance or direction--social, educational, and vocational--either in the elementary or in the high school" (3:19); and the loss of pupils in the seventh and eighth grades as supported by the studies of Thorndike, Ayers, and Strayer.

The criticisms of the eight-four organizational plan were voiced from within educational ranks as well as from without. The high school teachers accused the elementary school when they criticized that "the work of the elementary school does not satisfactorily prepare for higher schools" (3:12) and that "elementary or childish methods of teaching are too long continued and too suddenly changed" (3:15). The elementary-school teachers countered by advancing that the "elimination in the freshman class of the high school was due to faulty procedures on the part of the high school" (33:4). The elementary teachers further charged that the high school was guilty of "too great a break in subject content, lack of individual attention, want of control, organization not suited to boys and girls of fourteen, an unreasonable daily program, and worst of all, classroom methods and technique not adapted to the age and development of the pupils" (33:4).

Because of the arguments advanced from within the educational ranks, the general dissatisfaction with the eight-four organizational plan was focused at the point of transition causing the remedies to be aimed at the seventh, eighth, and ninth grades. Consequently, the junior high school movement was well underway. School districts began changing their organizational plans to the six-six, six-three-three, six-two-four, or some other plan. By 1920 the

number of changes that had been made seemed to indicate that the division between elementary and secondary was generally recognized after six years of elementary school. Table I illustrates this growth in the junior high movement for reorganization from 1920 to 1952. The reader will note that the number of junior high schools increased from 55 in 1920, to 3227 in 1952, while for the same period the regular high school declined from 13,421 to 10,168. The growth of the junior high school was also illustrated by the fact that seventy-five per cent of all secondary school pupils were enrolled in a reorganized school by 1952 (17:19).

II. DEVELOPMENT OF OBJECTIVES AND FUNCTIONS OF THE JUNIOR HIGH SCHOOL

When the Harvard College President raised the question that is usually agreed upon as the beginning of the junior high school movement, he also indicated that the major purpose of this reorganization would be to save time in the school program (48:7). This recommendation was reinforced by the Committee of Ten in its report of 1894. The Committee of Fifteen recommended that one of the major purposes of the reorganization should be better articulation between the different levels of education (17:9). The Committee on College Entrance Requirements saw the reasons of reorganizing into the six-year high school as:

TABLE I

THE GROWTH OF JUNIOR HIGH SCHOOLS
FROM 1920 TO 1952

Type of School	1920	1930	1938	1946	1952
Junior High	55	1,842	2,372	2,653	3,227
Junior-Senior High	828	3,287	6,203	6,360	8,591
Senior High	22	648	959	1,312	1,760
Regular High	13,421	16,460	15,523	13,797	10,168
Totals	14,326	22,237	25,057	24,122	23,746

This table is taken from research by Walter H. Gaumnitz and J. Dan Hull (14).

> (1) the seventh grade as compared with the ninth grade coincides more closely with change in the growth of the child, (2) the transition from elementary to secondary education could be made more gradually, and (3) there would be greater retention of pupils in the upper-elementary grades and in the high school (17:11).

Other committees followed with similar reasons for the advantages of the six-year program. Consequently, by 1912 J. H. Francis developed the purposes of the junior high as he saw them. They are summarized as:

> I. To furnish a suitable educational environment for the early adolescent. In order to create such an environment it was necessary . . . /to/ give pupils an opportunity--(1) to do some thinking for themselves, (2) to gain enriched experiences . . . (3) to come in contact with superior teachers . . . including . . . men, (4) to explore . . . their interests and capacities . . . and (5) to develop social responsibility and self-responsibility through participation.
>
> II. To provide for a gradual transition from elementary to secondary-school practices.
>
> III. To effect economy of time in education (40:154).

Later in 1915 Calvin O. Davis restated the purposes as stated by J. H. Francis and added the purpose "To help the individual to find himself" (40:156). While many leaders of the junior high movement were making statements on the purposes of the junior high, P. W. Horn summarized many of the purposes as:

> I. To furnish a suitable educational environment for children of junior high age. Such an environment . . . demands among other things: (1) provision for greater elasticity in

> curriculum administration . . . (2) methods of teaching . . . suited to children of this age; (3) superior teachers, including a larger proportion of men; (4) greater emphasis on prevocational activities; and (5) well equiped building especially adapted to junior high activities (40:167).

As the objectives and functions of the junior high school were being developed by the leaders in the field, the Commission on the Reorganization of Secondary Education issued its 1918 report which has become commonly referred to as the "Cardinal Principles of Secondary Education." These Principles are:

Health
Command of fundamentals
Worthy use of leisure
Vocational fitness
Worthy home membership
Civic responsibility
Ethical character (30:115)

This commission went on to list the purposes of the junior high as:

> In the junior high school there should be a gradual introduction of departmental instruction, some choice of subjects under guidance, promotion by subjects, prevocational courses, and a social organization that calls forth initiative and develops the sense of personal responsibility for the welfare of the group (48:11).

In 1920 Thomas H. Briggs conducted a survey to determine the purposes of the junior high school as expressed by the educators of that time. The results of the survey show that the purposes were:

I. To provide a suitable educational environment for children twelve to sixteen years of age.

II. To explore pupil's interests, aptitudes, and capacities.

III. To provide for individual differences.

IV. To provide for a gradual transition to higher schools.

V. To retain pupils in school longer.

VI. To provide vocational curricula for pupils who must assuredly leave school early.

VII. To enable pupils to explore by means of material, in themselves worthwhile, the major academic subjects and certain industries.

VIII. To provide earlier direct preparation for the higher education of pupils likely to continue in school (40:190).

Thomas H. Briggs then went on to state the following purposes of the junior high school as:

I. To continue, in so far as it may seem wise and possible and in a gradually decreasing degree, common integrating education (3:162).

II. To ascertain and reasonably to satisfy the pupil's important immediate and assured future needs (3:163).

III. To explore by means of materials in themselves worth while the interests, aptitudes, and capacities of pupils (3:166).

IV. To reveal to pupils, by material otherwise justifiable, the possibilities in the major fields of learning (3:169).

V. To start each pupil on the career which, as a result of the exploratory courses, he, his parents, and the school are convinced is most likely to be profit to him and to the state (3:174).

Also in 1920, Leonard V. Kees conducted a survey on the purposes of junior high education. While his phrasing was somewhat different than Brigg's survey, his results were very similar. In 1927 William Smith analyzed the statements of educational leaders in the junior high movement on the purposes of junior high school education and found that a shift in emphasis had taken place. This shift is shown in Table II as simplified from Aubrey A. Douglass's book, Modern Secondary Education. This table indicates the percentage of documents which mentioned various junior high functions in 1920 as contrasted with 1927. The reader will note that the original justifications of economy of time, and retention of pupils have suffered the greatest decline while recognition of individual differences, recognizing the nature of adolescence, and exploration and guidance have shown the greatest gains.

In the following decade, the purposes of the junior high school underwent other changes. Thomas Sears Montgomery reached the following conclusions after studying the literature from 1928 to 1937.

1. The junior high school has been relieved of the responsibility of giving definite vocational training . . . .

2. There is a strong tendency to relieve the junior high school of . . . aiding pupils in making vocational choices . . . .

TABLE II

THE SHIFT IN PURPOSES OF THE JUNIOR HIGH SCHOOL FROM 1920 TO 1927

Function	1920* Per Cent	1927* Per Cent	Amount of Shift
Economy of Time	74	6	-68
Retention of Pupils	81	21	-60
Beginning of Vocational Education	55	2.5	-52.5
Providing for Better Teaching	66	32	-34
Securing Better Scholarship	27.5	0	-27.5
Improving Discipline and Socializing Situation	58.5	38	-20.5
Recognition of Adolescent	46	40.5	- 5.5
Recognition of Individual Differences	74	93.5	-19.5
Exploration and Guidance	57.5	84	-26.5

This table is simplified from Aubrey A. Douglass's Book, Modern Secondary Education (48:29).

* The figures on this table indicate the percentage of documents which mentioned various junior high functions.

3. There seems to be a tendency to increase emphasis on . . . giving vocational information in the junior high . . . .

4. There is a strong tendency to relieve the junior high of the responsibility for specialized educational training except for the exploration . . . .

5. . . . there is increasing emphasis upon general education . . . .

6. . . . the junior high is relieved of the responsibility of rounding out a complete unit of training . . . for those who must leave school early (48:30).

During the years that followed 1937 there were three specific developments that greatly influenced the purposes of the junior high school. The first of these three developments was the statement by the Educational Policies Commission of the National Education Association, made in 1938, on the purposes of education in America. In presenting its statements, the commission first presented the over-all purpose of American education as:

> The general end of education in America at the present time is the fullest possible development of the individual within the framework of our present industrialized society. The attainment of this end is to be observed in individual behavior or conduct (17:23).

The commission then expanded the over-all purpose, in more detail and under four groups: the objectives of self-realization, the objectives of human relationships, the objectives of economic efficiency, and the objectives of civic responsibility.

The second of the developments that greatly influenced the purposes of the junior high school was the formulation of the "Ten Imperative Needs of Junior High Youth" by a California committee of junior high school administrators in 1951. This statement of needs is adapted from the original "imperative needs of youth" as stated by the Educational Policies Commission of the National Education Association in 1944 (25:16). The California statement is as follows:

1. All junior high school youth need to explore their own aptitudes and to have experiences basic to occupational proficiency.

2. All junior high school youth need to develop and maintain physical and mental health.

3. All junior high school youth need to be participating citizens of their school and community, with increasing orientation to adult citizenship.

4. All junior high school youth need experiences and understandings, appropriate to their age and development, which are the foundation of successful home and family life.

5. All junior high school youth need to develop a sense of the value of material things and the rights of ownership.

6. All junior high school youth need to learn about the natural and physical environment and its effect on life, and to have opportunities for using the scientific approach in the solution of problems.

7. All junior high school youth need the enriched living which comes from appreciation of and expression in the arts and from experiencing the beauty and wonder of the world around them.

8. All junior high school youth need to have a variety of socially acceptable and personally satisfying leisure-time experiences which contribute either to their personal growth or to their development.

9. All junior high school youth need experiences in group living which contribute to personality and character development; they need to develop respect for other persons and their rights and to grow in ethical insights.

10. All junior high school youth need to grow in their ability to observe, listen, read, think, speak, and write with purpose and appreciation (17:25).

The third development that greatly influenced the purpose of the junior high school was the introduction of the "developmental task" concept by Robert J. Havighurst. Havighurst defines the developmental task as " . . . a task which arises at about a certain period of life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks" (25:27). Havighurst further elaborates, stating that the ten developmental tasks for the adolescence period are:

1. Achieving new and more mature relations with age-mates of both sexes.

2. Achieving a masculine or feminine social role.

3. Accepting one's physique and using the body effectively.

4. Achieving emotional independence of parents and other adults.

5. Achieving assurance of economic independence.

6. Selecting and preparing for an occupation.

7. Preparing for marriage and family life.

8. Developing intellectual skills and concepts necessary for civic competence.

9. Desiring and achieving socially responsible behavior.

10. Acquiring a set of values and an ethical system as a guide to behavior (25:28).

During the period from 1937 to present, the objectives and functions of the junior high school have been stated and restated. However, most authors (12:13, 2:3, 48:31) begin their discussion of the current objectives and functions of the junior high by listing or quoting the statement made by Gruhn and Douglass in their book The Modern Junior High School. They presented the functions of the junior high school as:

FUNCTION I: INTEGRATION

To provide learning experiences in which pupils may use the skills, attitudes, interests, ideals, and understandings previously acquired in such a way that they will become coordinated and integrated into effective and wholesome pupil behavior.

To provide for all pupils in a broad, general, and common education in the basic knowledge and skills which will lead to wholesome, well-integrated behavior, attitudes, interests, ideals, and understandings.

FUNCTION II: EXPLORATION

To lead pupils to discover and explore their specialized interests, aptitudes, and abilities as a basis for decisions regarding educational opportunities.

To lead pupils to discover and explore their specialized interests, aptitudes, and abilities as a basis for present and future vocational decisions.

To stimulate pupils and provide opportunities for them to develop a continually widening range of cultural, social, civic, avocational, and recreational interests.

FUNCTION III. GUIDANCE

To assist pupils to make intelligent decisions regarding present educational activities and opportunities and to prepare them to make future educational decisions.

To assist pupils to make intelligent decisions regarding present vocational opportunities and to prepare them to make future vocational decisions.

To assist pupils to make satisfactory mental, emotional, and social adjustments in their growth towards wholesome, well-adjusted personalities.

To stimulate and prepare pupils to participate as effectively as possible in learning activities, so that they may reach maximum development of their personal powers and qualities.

FUNCTION IV: DIFFERENTIATION

To provide differentiated educational facilities and opportunities suited to the varying backgrounds, interests, aptitudes, abilities, personalities, and needs of pupils, in order that each pupil may realize most economically and completely the ultimate aims of education.

FUNCTION V: SOCIALIZATION

To provide increasingly for learning experiences designed to prepare pupils for effective and satisfying participation in the present complex social order.

To provide increasingly for learning experiences designed to prepare pupils to adjust themselves and contribute to future development and changes in that social order.

FUNCTION VI: ARTICULATION

To provide a gradual transition from preadolescent education to an educational program suited to needs and interests of adolescent boys and girls (48:31).

John H. Lounsbury in 1954 conducted an extensive survey of the educational trends in junior high schools by polling 212 randomly selected junior high school principals and 57 educational leaders who had no direct professional employment or relationship with a junior high school. One part of his study was to evaluate the purposes of the junior high school. These respondents judged the following elements related to the purposes and functions of the junior high school to be valid.

1. To make possible a program more suited to the nature of early adolescents.
2. To continue common education and provide better for integration of varying educational experiences.
3. To provide experiences in sharing, the acceptance of responsibility, and self-direction.
4. To discover the aptitudes, interests, and capacities of individual pupils by testing, counseling, and exploratory work.
5. To provide socializing experiences through social activities, group work, and other informal situations.
6. To enrich the programs of the seventh and eighth grades by providing shops, laboratories, and other special features.
7. To provide more adequately for guidance and counseling.

8. To provide opportunities for seventh and eighth grade pupils to participate in extracurricular activities such as clubs, teams, etc.

9. To improve the holding power of the schools, reduce drop-outs.

10. To provide prevocational training, orientation, and exploration.

11. To provide for the exploration of various subject and interest areas.

12. To reduce the retardation and failures of pupils.

13. To make possible a gradual introduction of the elective system.

14. To provide special classes for retarded and/or advanced pupils.

15. To make possible a gradual transition from elementary school conditions and practices to those of the high school (48:36).

These same respondents went on to judge the following elements as no longer valid.

1. Effecting economy in time through earlier college preparation.

2. Providing for homogeneous or ability grouping.

3. Providing vocational training for early school leavers.

4. Promoting by subjects rather than by grade level.

5. Effecting economy in time by eliminating duplication and repetition.

6. Effecting financial economy.

7. Providing for departmental teaching.

8. Providing for early differentiation in pupil's programs.

9. Segregating early adolescents (48:39).

No discussion on the purposes of the junior high school could be considered complete without referral to the study made by James B. Conant and published in 1960. Conant made some fourteen recommendations for education in the junior high years (7). Several recommendations advocated by Conant are in direct opposition to the view of the principals and educational leaders studied by John H. Lounsbury. The principals and leaders seem to reject the following ideas on the purposes of the junior high as expressed by Conant: (1) "to provide for departmental teaching," (2) to provide for homogeneous or ability grouping," (3) to provide for earlier differentiation in pupil's programs," (4) "to effect economy of time through earlier college preparation" (48:44). On the other hand, there was some agreement between Conant and the principals and supervisors on the elements designed: (1) "to make possible a gradual introduction of the elective system," (2) "to provide socializing experiences . . .," (3) "to discover the aptitudes, interests, and capacities of individual pupils by testing, counseling, and exploratory work," (4) "to provide more adequately for guidance and counseling," and (5) "to make possible a gradual transition from elementary . . . to high school" (48:45). Summing up the Conant report on the junior high school years, one author made the following statement:

> From the time of one Harvard president, Charles W. Eliott, who asked in 1888 for a shortened and enriched secondary education, to that of another Harvard president, James B. Conant, who urged similarly in 1960 the earlier introduction of college preparatory subject matter while recognizing that the students were early adolescents, a degree of disagreement still persists between those who see the junior high school primarily as serving college preparatory ends and those who see it primarily as the best education here and now for the early adolescents (48:46).

III. DEVELOPMENT OF THE NEED FOR SPECIALLY TRAINED TEACHERS

Paralleling the development of the functions and objectives of the junior high school was the need for specially trained teachers. One of the first to recognize the importance of the teacher in the new organization was Frank F. Bunker in his 1909 report to the Board of Education of the City of Berkeley, California. In his report he stated:

> In line with this [he referred to making a smooth transition from elementary school to high school] I should wish teachers assigned to these grades [seventh, eighth, ninth] who have broad culture and wide experience in teaching . . . (4:6).

In order to meet the need for specially trained teachers and to allow for displaced elementary teachers (those who taught grades seven and eight under the eight-four plan), many school districts developed their own in-service educational programs. One such program was developed by Superintendent H. S. Weet at Rochester, New York, in 1916. His program was once described:

> Once it was decided to select experienced grade teachers, the problem of intelligent selection presented itself. Accordingly, one year before the junior high school was to open, a series of Saturday morning institutes was begun. Classes were organized in Latin, German, English, elementary science, and mathematics (3:228).

Also at this time some of the Massachusetts State Normal Schools began to develop a three-year curricula for the training of teachers for junior high schools (3:230). During the years that followed from 1915 to 1922, many educational leaders began to express their opinions on the education needed for junior high school teaching. One such statement of preparation was made by Thomas W. Gosling:

> The standards which have been fixed in the best schools have already been mentioned. They may be summarized as:
>
> (1) Graduation from a reputable college or university.
>
> (2) Professional training in a normal school or in a school of education connected with a university; or in lieu thereof, successful experience in teaching.
>
> (3) Understanding of, and sympathy with, adolescent boys and girls.
>
> (4) A clean, generous, and inspiring personality.
>
> (5) Qualities of real leadership.
>
> (6) A broad social vision and keen sense of social obligations.

In 1922 Herbert H. Foster reported the suggestions of superintendents for training junior high teachers as:

> (1) extra-curricular activities especially of a social character,

(2) vocational guidance,

(3) the psychology of adolescence, individual differences, and personalized instruction (rather than mere subject teaching),

(4) junior-high-school organization,

(5) project teaching,

(6) the socialized recitation, and

(7) supervised study.

Based upon this study and another study in 1925 by Walter H. Gaumnitz, Leonard V. Koos, in his book The Junior High School, indicated that the education of junior high teachers should include the following:

(1) Liberalizing elements recognizing the usual fields, except that the social and natural sciences (especially the biological, including general psychology) will be emphasized rather than foreign language and mathematics.

(2) Specialization in fields represented in the junior-high-school program of studies directed toward departmentalized teaching. Candidates should be prepared in combinations of subjects rather than in a single, narrow field.

(3) Such courses in education as are regarded essential for all teachers; for example, introduction to education and educational psychology.

(4) Special consideration of secondary education and of the junior high school, not excluding problems like guidance and allied activities. If not dealt with in other courses, general or special, the psychology of the junior-high-school pupil (or psychology of adolescence) and of individual differences should be recognized here.

(5) Courses in general methods and in the special methods in the candidates' fields of teaching specialization. The latter should not, however,

be restricted to methods only, but should stress the content to be presented to junior-high-school children until such time as courses in professional content are developed.

(6) Observations and practice (or directed) teaching in bonafide junior high schools, and not merely in the upper grades of an eight-year elementary school. This phase of the work should include experiences in the homeroom plan and in supervising allied activities (24:458).

A more detailed list of professional qualifications was presented by Frank C. Touton and Alice B. Struthers in 1926. They indicated that:

> Subject-matter teacher of the junior high school must have the equivalent of a major in the principal subject taught and a total of academic preparation not less broad in scope than that represented by a bachelor's degree, including the following professional courses in education.
>
> 1. Educational psychology, including a study of the problems of adolescence.
> 2. Educational tests and measurements.
> 3. Educational sociology.
> 4. Essentials of citizenship in a democracy.
> 5. Principles of junior high school teaching.
> 6. Technique of teaching.
> 7. A teacher's course in the principal subject to be taught.
> 8. Practice teaching at least one semester (46:24).

One of the most widely quoted books on junior high education is A. Laura McGregor's book, The Junior High School Teacher, published in 1929. She listed these as the qualifications for junior high teachers:

> The day is long past when a knowledge of content was the only prerequisite for teaching . . . . The following courses are advised as preparatory for junior-high-school positions in addition to subject courses:
>
> Psychology for Adolescence
> Sociology
> General Methods of Teaching (including Classroom Management)
> School Hygiene
> Junior-High-School Theory
> Special Teaching Problems of the Junior High School
> Special Methods in Reading
> Special Methods in the subject to be taught, including educational measurements in that subject (30:271).

During the period from 1930 to present, many statements on desirable training of junior high school teachers were made. These statements generally emphasized broad areas of training and did not offer specific courses of study as did McGregor and others. Also, greater emphasis was placed on the personal qualifications of the prospective teachers. The following is one such statement of qualifications made in 1942.

> Education-- . . . Desirable preparation for all junior-high-school teachers includes basic work in the social and biological sciences, in the growth and development of children, and extensive knowledge of the junior-high-school age. This knowledge may be gained . . . through a study of psychology . . . /in referring to subject matter preparation/ a high degree of specialization in one or two subjects fields is not so important as a broad training in several fields.
>
> Personal Qualities-- . . . In this study /by Charters and Waples in 1929/ six of the most frequently mentioned traits desirable for junior-high-school teachers are attractiveness, considerateness, cooperation, enthusiasm, forcefulness, and good judgment (39).

In studying the current literature on the subject of desired preparation for junior high school teachers, several subject titles appear. While many of these titles, such as History of American Education, Philosophy of Education, and Psychology of Learning, were concerned with preparing teachers for any level, there were several titles that described classes specially aimed at the junior high school. These class titles were:

Growth and Development for Junior High Age.

Curriculum for the Junior High School.

Special Methods for Junior High.

Methods of Teaching Reading.

Broad area of concentration in place of major-minor.

Student Teaching at Junior High Level.

Psychology of Adolescence.

Functions (Theory of) of the Junior High.

Some of the authors who listed the above title emphasized that each of these titles should be taken as a separate class. Other authors expected the above titles to be combined into a few classes but covering all aspects listed under the titles. Because of the few classes offered by Central Washington State College, it is assumed that Central is taking the latter approach of covering the material.

IV. SUMMARY

The major purposes and functions of the junior high school can be summarized into three distinct categories. First is "to attack the common problems faced by young adolescents in our society, employing and improving command of basic skills and knowledge from many sources for this purpose" (12:16). This would include continuing the common education of adolescents as well as integrating the various educational experiences. The second is "to enrich and differentiate learning by exploration of vocational and other individual interests" (12:16). This would include discovering the aptitudes, interests, and capacities of individual students, providing shops, laboratories, and other special features, along with providing prevocational orientation and exploration. The third category is "to assist the early adolescent to make a satisfactory personal-social adjustment" (12:16). This would include experiences in group work, acceptance of responsibility, and self-direction as well as providing for more adequate guidance and counseling. These three major functions will, when implemented, aid in increasing the holding power of the junior high school and allow for a gradual transition from elementary school conditions and practices to those of the high school.

CHAPTER III

PROCEDURES OF THE STUDY

The general procedure for this study was to use a questionnaire containing two attitude scales. The first scale was devised to determine the teacher's attitude toward the objectives and functions of the junior high school. The second attitude scale was constructed to determine the teacher's attitude toward the preparation he or she received for junior high teaching at Central Washington State College.

I. CONSTRUCTION OF THE ATTITUDE SCALE ON FUNCTIONS OF THE JUNIOR HIGH

The method used in constructing the attitude scale was called the Method of Summated Rating as described by Allen L. Edwards in his book Techniques of Attitude Scale Construction.

The initial step in constructing the attitude scale was to collect opinion statements from various leaders in the junior high school movement on how the functions of the junior high school could be realized. A conscious attempt was made to collect these statements that would be in general agreement with most education leaders in the junior high school movement.

These statements, over ninety in number, were then organized under the various functions of the junior high school and classified into two groups: favorable and unfavorable. A definite effort was made to keep the unfavorable statements from being simple reverses of the favorable statements. Next the collection of statements was edited so that the remaining statements had a direct link with a particular function of the junior high school; that is, agreement with the positive statements meant agreement with the function, and disagreement with the negative statements meant agreement with the function.

The statements were further refined by using the following informal criteria:

1. Avoid statements that refer to the past rather than to the present.
2. Avoid statements that are factual or capable of being interpreted as factual.
3. Avoid statements that may be interpreted in more than one way.
4. Avoid statements that are likely to be endorsed by almost everyone or by almost no one.
5. Avoid statements that are irrelevant to the psychological object under consideration.
6. Select statements that are believed to cover the entire range of the affective scale of interest.
7. Keep the language of the statements simple, clear, and direct.
8. Statements should be short, rarely exceeding twenty words.

9. Each statement should contain only one complete thought.

10. Statements containing universals such as all, always, none, and never often introduce ambiguity and should be avoided.

11. Words such as only, just, merely, and others of similar nature should be used with care and moderation in writing statements.

12. Whenever possible, statements should be in the form of simple sentences rather than in the form of compound or complex sentences.

13. Avoid the use of words that may not be understood by those who are to be given the completed scale.

14. Avoid the use of double negatives (10:14).

Another informal method of refining the statements was used next. This method was to have several experienced teachers read the statements to see if they understood what was asked by the statement. Individual items were evaluated only for clearness of expression, and the teacher's agreement or disagreement was not used as a part of the evaluation.

The next step was to design a trial questionnaire. The above statements, sixty-nine in number, were randomly placed on the questionnaire with five possible responses, as recommended by Parten (31:192): strongly agree, agree, undecided, disagree, and strongly disagree.

The trial questionnaire (shown in Appendix A) was administered to seventy-six faculty members from Pacific Junior High School and Chinook Junior High School of the

Highline School District early in the 1967-68 school year. These questionnaires were scored by using the method explained by Edwards (10:155). This method assigns weights of 0, 1, 2, 3, and 4 to the five different responses. In scoring a favorable statement, "strongly agree" receives four points, "agree" scores three points, "undecided" two points, "disagree" one point, and "strongly disagree" receives zero points. In scoring an unfavorable statement, "strongly agree" receives zero points, "agree" scores one point, "undecided" two points, "disagree" three points, and "strongly disagree" scores four points. These points scored on each individual item were summed to produce a total score for each questionnaire. Next a frequency distribution, shown in Appendix A, was constructed. Using these scores, the top twenty-five per cent and the bottom twenty-five per cent were selected to form the two groups of scores used in evaluating the individual statements used on the trial questionnaire. This evaluation was done by using the Individual Item Analysis Charts (shown in Appendix A) which determines the total score of each individual statement from both groups. The evaluation of the individual statements from the trial questionnaire was completed by finding the difference between the mean scores of the two groups on each particular statement. The best statements were selected by using those with the largest difference in mean

scores. The t-score could have been used to evaluate the individual statements, but Edwards (10:155) stated that the t-score method did not produce better results than the mean difference method even though it involved more time. The results of the mean differences of each individual statement are shown in Appendix A.

The best statements were used as the attitude scale on the functions of the junior high school in the final form of the questionnaire. Final structure of this questionnaire will be explained in a later part of this chapter.

II. CONSTRUCTION OF THE ATTITUDE SCALE ON PREPARATION FOR JUNIOR HIGH TEACHING

The method of constructing this attitude scale paralleled the method used to construct the attitude scale on the functions of the junior high school as explained in the preceding section of this chapter. The initial step of collecting some seventy opinion statements and subsequent steps of refining these, including the fourteen informal criteria by Edwards, were exactly the same for both attitude scales.

The first difference in construction technique was in the lack of a trial questionnaire and the lack of a trial group. The use of a trial group was inappropriate because of the nature of the statements. These statements involved

a personal assessment of one's preparation for junior high teaching. Thus the attitude of a trial group, if selected from the population of junior high teachers as was done in the first attitude scale, would not be relevant or related to the attitude of the research sample. Another difference in technique was the use of different responses. The five responses, as recommended by Parten (31:192), were poor, fair, satisfactory, good, and excellent. Consequently, the respondent expressed his or her attitude toward the statements by choosing one of these five choices. In determining a total score for this attitude scale, the five responses were weighted by using 0, 1, 2, 3, and 4 points. A poor rating scored as zero, fair as one, satisfactory as two, good as three, and excellent as four points.

III. IDENTIFICATION AND CONTROL OF THE SAMPLE

The sample was restricted to those 1962-1966 graduates of Central Washington State College who were placed in junior high teaching positions for their first year of teaching experience. This included those teachers who had subsequently left the junior high as well as those who had stayed. This researcher was aware of the importance of the attitudes of those teachers who began at other levels and had moved into the junior high, but due to the unavailability of records, these teachers were omitted from the study.

The process of identifying the members of the sample was begun by procuring the placement records for the 1962 to 1966 period. These records, arranged by time of graduation, indicated the name of the graduate, the teaching area of placement, grade level of placement, and the school district with which the graduate was placed. Including those who were placed out of state, there were 312 placed at the junior high level.

The graduates, excluding those who were placed out of state, were arranged by using the school district name. Each school district was phoned to determine the current status of the graduate. In cases where the teacher was still working for the school district, the name of the building to which the teacher was assigned for the 1967-1968 school year was obtained. In cases where the teacher was no longer working for the school district, the latest information on the graduate was procured. If he or she had moved to another district, the name was added to that school district's list. Working on the assumption that most teachers move from small school districts to large, small districts were called first to eliminate the need for many repeat calls. Using this method, only three districts had to be called a second time. Once a graduate was located, the address was completed by obtaining the school address from the Washington Educational Directory. Those graduates

who moved out of state were again dropped from the study, leaving 268 of the original 312.

All graduates, about whom no information could be obtained from the school districts, were next listed in alphabetical order. This list was checked against the alumni files in hopes of locating the current home address of the graduate. For a double check on the addresses from the alumni files, the addresses were checked with the phone company to see if a phone was listed for the graduate at that address.

Three factors hindered the location of these graduates. The first factor was teacher mobility. It was the exception rather than the rule to find a teacher still with the same school district after five years. The second factor was that most school districts do not keep records on the reasons for teachers leaving or on where the teacher is planning to move. The third factor was that in several instances, upon leaving a school district, the teacher would state he or she was transferring to another specific district. When that district was called, however, they had no record of the teacher being hired.

The over-all process located 177 graduates or 66.0 per cent of those graduates who were thought to be still employed within the state.

IV. DEVELOPING AND MAILING THE QUESTIONNAIRE

The design and handling of the questionnaire followed procedures outlined by Mildred Parten in her book, Surveys, Polls, and Samples: Practical Procedures.

Development of the Questionnaire

The first step was to develop the information needed to test the hypotheses expressed in the first chapter of this thesis. This part of the questionnaire, titled "General Information," included year of graduation, sex, preferred level of teaching, level at which prepared to teach, level at which student teaching was done, total teaching experience, junior high teaching experience, and current teaching area.

Parten stressed several aspects of appearance as being important in the success of a questionnaire. One of these was that the questionnaire should require little writing by the respondent. This recommendation was implemented by making all responses, including the general information section, multichoice, which required that the respondent only check the appropriate blank. Because Parten also stressed the importance of a neat, professional-looking appearance, off-set printing was used for all parts of the questionnaire. Parten also presented evidence showing that the use of colored paper produced a higher percentage of return than white paper. Hence, yellow was selected

from all other colors because, according to Parten, it would produce the highest percentage of return (31:161).

Parten presented evidence that the longer the questionnaire, the lower the percentage of returns (31:385). To produce a balanced questionnaire of exactly four pages, eleven favorable and eleven unfavorable statements were selected as the first attitude scale to determine the graduates' attitude toward the functions of the junior high school. The completed questionnaire is shown in Appendix B.

Mailing the Questionnaire

The first step in preparing the questionnaire for mailing was to design the letter of transmittal, which was included with the questionnaire in the first mailing. The following general recommendations, made by Parten (31:386), were used in designing this letter: include a paragraph stressing the importance of the study, include a paragraph explaining how the questionnaire would be used, include a statement on how the individual remarks will be handled and permit a waiver of signature, and make the respondent feel that his response is an important part of the study. Parten's additional recommendation that the letter of transmittal be written on official stationary of the sponsoring agency was implemented by obtaining and using Central Washington State College letterhead. Parten went on to recommend that a personal note or signature would increase the

percentage of return. Off-set printing made the signature appear as if personally signed. Personal notes were included on letters to graduates who had personal contact with this researcher. The completed letter of transmittal is shown in Appendix B.

The date of the first mailing, October 1, 1967, was selected on the assumption that teachers would be more responsive a few weeks after the beginning of the school year. This mailing, containing the questionnaire and the letter of transmittal, produced 115 (64.9 per cent) returns.

Parten recommended a short note or postcard be mailed from fourteen to sixteen days after the first mailing. This card should remind the respondent that he or she has not returned the questionnaire. Parten's suggestion that a tactful comment, such as "the reply may be one the way; in this case disregard the reminder" (31:398), was employed in the follow-up card. This card, shown in Appendix B, was mailed on October 15 and brought the total returns to 142 or 85.2 per cent.

The third mailing, recommended by Parten, consisted of a follow-up letter and a second questionnaire. This follow-up letter (shown in Appendix B) was essentially the same as the letter of transmittal with two additions. The first addition was an increased emphasis on the importance of the teacher's response to the questionnaire. The second

addition was a statement explaining the approximate number of questionnaires that had been returned by that time. The third mailing took place on November 1, 1967.

All questionnaires were numbered so that once the graduate responded, he or she did not receive the next mailing. Of the questionnaires mailed, 158 were usable returns, 6 returns indicated that the respondent had no junior high teaching experience, and 1 was returned indicating that the graduate could not be located. This produced a total return of 165 out of 177 mailed for a 93.2 percentage.

CHAPTER IV

ANALYSIS OF THE DATA

The general procedure used to analyze the data of this study was to first, score the questionnaires by the "Method of Summated Rating;" second, transfer the scores of the two attitude scales along with the other data to mark-sense cards to be analyzed by the computer; third, sort the cards into two groups based upon one of the various factors called for by the hypotheses of the study; and fourth, use the t-score method to determine if a significant difference exists between the mean scores of the two groups.

I. SCORING THE QUESTIONNAIRES

The responses on the two attitude scales were converted to scores by following the scoring system described in Chapter III of this thesis. The questionnaires were processed so that each one had four scores: One score, from attitude scale one, would indicate the teacher's attitude toward the functions of the junior high school. A score on this attitude scale between 0 and 44 indicated a negative attitude, while a score between 44 and 88 indicated a positive attitude; that is, the higher the score the more closely would the teacher's attitude correspond to the functions as expressed by the educational leaders.

A second score, from attitude scale two, indicated the teacher's attitude toward the preparation for junior high teaching that he or she received at Central Washington State College. A score on this attitude scale between 0 and 82 would indicate a negative attitude, while a score between 82 and 164 would indicate a positive attitude.

A third and fourth scores were determined by summing the even-numbered items and then by summing the odd-numbered items of the first attitude scale. These scores will be used later to make a reliability check as described later in this chapter. A frequency distribution of the scores from both attitude scales was shown in Appendix C.

II. PREPARING THE DATA FOR THE COMPUTER

The major problem in preparing the information for the computer was to reduce the different parts of the thesis question to numbers and factors. Consequently, the teacher's score on attitude scale one became score A, while the teacher's score on attitude scale two became score B. Likewise, the teacher's sex became factor one with choice A being a male and choice B being a female. The exact method of reducing all other aspects of the thesis to numbers and factors is shown in Appendix D, part one, titled "Preparing the data for the mark-sense cards."

Once the information was prepared for the mark-sense card, the process of transferring this information to the actual card began. The card was marked off into special sections based upon the different possibilities of response. For example, score A used the first two columns while score B used the next three columns. The details of the process are shown in Appendix D, part two.

The next step was to prepare the instructions for the computer of exactly what numbers were to be determined and which methods were to be used. These instructions, along with the necessary statistical formulas, are shown in Appendix D, part three.

III. CHECKING THE RELIABILITY OF THE RESULTS

The method of checking the reliability of the results was to use the odd-even comparison method described by Parten (31:495). This method, selected because it can be implemented with only one collection of data, began with summing the odd-numbered statements as well as the even-numbered statements. These scores, C for the odd and D for the even, were entered into the computer, along with the necessary statistical formulas (shown in Appendix D, part three). The results of these calculations show the coefficient of correlation between the two scores as .71.

IV. ANALYZING THE PURPOSE OF THE STUDY

The purpose of this study, as explained in Chapter I, was to determine the attitudes of the graduates used in the sample toward the functions of the junior high school, as expressed by the educational leaders in the junior high school movement, and their attitudes toward the preparation received at Central Washington State College for junior high school teaching.

The first step was to determine the mean (average) and standard deviation of the scores on attitude scale one, the scale which determines the attitude toward the functions of the junior high. The necessary statistical formulas for these calculations are shown in Appendix D. The results of these calculations were: Mean ($\overline{X}$) was 58.398 while the standard deviation (σ) was 7.364.

The next calculation was to determine the standard error of the mean ($\sigma_{\overline{x}}$) by using the formula: Standard Error of the mean equals the standard deviation divided by the square root of the number in the sample. The standard error of the mean was .583. The dependability or confidence interval of this mean score was determined to the .05 level by: $\overline{X} \pm 1.96\sigma_{\overline{x}}$ (32.237). The results show that in 95 out of 100 cases the mean score would lie between 57.225 and 59.541. The neutral score on this attitude scale is 44, well below the confidence interval of this mean score.

In analyzing the second half of the purpose, the mean and standard deviation of the scores on attitude scale two were determined. This attitude scale indicates the teacher's attitude toward the preparation received at Central Washington State College for junior high teaching. The mean was 70.392 and the standard deviation was 24.890. The standard error of the mean was determined to be 1.973. The dependability of this mean was that the chances are 95 out of 100 that the true mean lies between 66.525 and 74.259. The neutral score of 82 on this attitude scale lies above the confidence interval of this mean score. Table III summarizes the statistics on analyzing the purpose of the study.

TABLE III

ANALYZING THE PURPOSE OF THE STUDY

Attitude Scale	Mean ($\bar{X}$)	SD (σ)	SE M ($\sigma_{\bar{X}}$)	Confidence Interval Lower	Confidence Interval Upper	Neutral Score
One	58.398	7.364	.583	57.255	59.541	44
Two	70.392	24.890	1.973	66.525	74.259	82

The reader will note that the neutral score on attitude scale one is below the confidence interval while the neutral score on attitude scale two is above the confidence interval for that mean.

V. TESTING THE HYPOTHESES

Testing Hypothesis One

The first null hypothesis, as stated in Chapter I, was tested to determine if there was a relationship between the teachers' attitudes toward the preparation for junior high teaching, as received at Central Washington State College, and the teachers' attitudes toward the functions of the junior high school, as expressed by educational leaders in the junior high school movement. This hypothesis was tested by calculating the correlation between scores on the two attitude scales. The necessary formulas for this calculation is shown in Appendix D, part three. The results of this calculation show the coefficient of correlation between the two scores as .020.

Testing Hypothesis Two

The second null hypothesis, as stated in Chapter I, was tested to determine if there was any significant differrence in attitude toward the functions of the junior high school between male and female teachers. This hypothesis was tested by separating the sample into two groups and determining the mean score for each group. The t-test was used to determine if a significant difference existed between the two mean scores. The results of the calculations showed the male group to have a mean score of 57.330 with

the standard deviation of 7.429, while the female group had a mean of 61.000 with the standard deviation of 6.579. The t-score, as calculated by following the formulas shown in Appendix D, was .358. The necessary t-score as determined by entering the table of t (13:44) with 165 degrees of freedom and the probability level of .05 was greater than the .358 obtained. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Three

The third null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers who prefer to teach at the junior high level and those teachers who prefer to teach at other levels. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the group preferring to teach at the junior high level was 58.233 with the standard deviation of 7.676, while the mean score for the group preferring to teach at other levels was 58.617 with the standard deviation of 6.979. The t-score obtained was .040, well below the t-score needed to reject the hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Four

The fourth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers prepared to teach at the secondary level and those teachers prepared to teach at the elementary level. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the group prepared to teach at the secondary level was 58.078 with the standard deviation of 7.197 while the mean score for the group prepared to teach at the elementary level was 61.058 with the standard deviation of 8.392. The obtained t-score was .198, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Five

The fifth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers who did their student teaching at the junior high level and those teachers who did their student teaching at another level. The method used in testing this hypothesis was the same as that used for testing hypothesis two. The mean score for the group who did their student teaching at the

junior high level was 59.510 with the standard deviation of 7.411, while the mean score for the group who did their student teaching at another level was 56.848 with the standard deviation of 7.062. The obtained t-score was .282, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Six

The sixth null hypothesis was tested to determine if there was any significant difference in attitude towards the functions of the junior high school between those teachers who have taught three or more years and those teachers with less than three years of experience. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the group with three or more years of teaching experience was 58.023 with the standard deviation of 7.561, while the mean score for the group with less than three years of experience was 58.824 with the standard deviation of 7.160. The obtained t-score was .085, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Seven

The seventh null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers who have taught three or more years at the junior high school level and those teachers with less than three years of experience at the junior high level. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the group with three or more years experience was 57.931 with the standard deviation of 7.576, while the mean score for the group with less than three years of experience was 58.000 with the standard deviation of 7.197. The obtained t-score was .093, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Eight

The eighth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching science and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the science teachers was 59.678 with the standard

deviation of 7.836, while the mean for all other teachers was 59.151 with the standard deviation of 8.229. The obtained t-score was .043, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Nine

The ninth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching language arts and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the language arts teachers was 60.410 with the standard deviation of 8.692, while the mean score for the other teachers was 58.824 with the standard deviation of 8.047. The t-score obtained was .138, well below the t-score needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Ten

The tenth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers

currently teaching music and those currently teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the music teachers was 55.142 with the standard deviation of 8.706, while the mean score for other teachers was 59.353 with the standard deviation of 8.132. The t-score obtained was .185, well below that needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Eleven

The eleventh null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching art and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for art teachers was 53.000 with the standard deviation of 9.192, while the mean score for other teachers was 59.364 with the standard deviation of 8.105. The t-score obtained was .237, well below that needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twelve

The twelfth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching social studies and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the social studies teachers was 58.808 with the standard deviation of 9.263, while the mean score of other teachers was 59.331 with the standard deviation of 7.863. The t-score obtained was .053, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Thirteen

The thirteenth null hypothesis was tested to determine if there was any significant difference in attitude towards the functions of the junior high school between those teachers currently teaching foreign language and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for the foreign language teachers was 53.500 with the standard deviation of 5.066, while the mean score for other teachers was 59.325 with the

standard deviation of 8.180. The t-score obtained was .194, well below that needed to reject the null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Fourteen

The fourteenth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching mathematics and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for mathematics teachers was 58.478 with the standard deviation of 8.273, while the mean score for other teachers was 59.306 with the standard deviation of 8.168. The t-score obtained was .063, well below that needed to reject a null hypothesis. Consequently, tne null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Fifteen

The fifteenth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching industrial arts and those teachers teaching some other subject. The method used in testing this hypothesis was the same as that used in testing

hypothesis two. The mean score for industrial arts teachers was 59.833 with a standard deviation of 5.481, while the mean score of other teachers was 59.183 with a standard deviation of 8.130. The t-score obtained was .036, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Sixteen

The sixteenth null hypothesis was tested to determine if there was any significant difference in attitude toward the functions of the junior high school between those teachers currently teaching physical education and those teaching some other subject. The method used in testing this hypothesis was the same as that used in testing hypothesis two. The mean score for physical education teachers was 58.269 with a standard deviation of 5.481, while the mean score of other teachers was 59.347 with a standard deviation of 8.463. The t-score obtained was .087, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

The results of testing hypotheses two through sixteen are summarized in Table IV, which shows that none of the t-scores obtained in the statistical tests was large enough to reject a null hypothesis.

TABLE IV

TESTING HYPOTHESES TWO THROUGH SIXTEEN

Factor	Group With Factor		Group Without Factor		t-score
	Mean	SD	Mean	SD	
Sex	57.330	7.429	61.000	6.579	.358
Level Preferred	58.233	7.617	58.617	6.979	.040
Level Prepared	58.078	7.197	61.058	8.392	.198
Level Student Teach.	59.510	7.411	56.848	7.062	.282
Total Teaching Exper.	58.023	7.561	58.824	7.160	.085
Jr. Hi. Teach. Exper.	57.931	7.576	58.800	7.197	.093
Teaching Science	59.678	7.836	59.151	8.229	.043
Teaching Lang. Arts	60.410	8.692	58.961	8.047	.138
Teaching Music	55.142	8.706	59.353	8.132	.185
Teaching Art	53.000	9.192	59.364	8.105	.237
Teaching Soc. Studies	58.808	9.263	59.331	7.863	.053
Teaching Foreign Lang.	53.500	5.066	59.325	8.180	.194
Teaching Mathematics	58.478	8.273	59.306	8.168	.063
Teaching Ind. Arts	59.833	9.093	59.183	8.130	.036
Teaching Physical Ed.	58.269	5.481	59.347	8.463	.087

Other teaching areas were omitted because of a small sample size.

Testing Hypothesis Seventeen

The seventeenth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between male and female teachers. This hypothesis was tested by separating the sample into the two groups. The mean score was determined for each group by using the scores received on attitude scale two. The t-test was used to determine if a significant difference existed between the two means. The results of the calculations showed that the male group had a mean score of 70.553 with the standard deviation of 24.848, while the female group had a mean score of 70.000 with a mean score of 25.263. The t-score, as calculated by following the formulas shown in Appendix D, was .044. The necessary t-score as determined by entering the table of t (13:44) with 156 degrees of freedom and the probability level of .05 was greater than the .044 obtained. Consequently, the null hypothesis cannot be rejected.

Testing Hypothesis Eighteen

The eighteenth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers

who prefer to teach at the junior high level and those who prefer to teach at other levels. The method used in testing this hypothesis was the same as that used to test hypothesis seventeen. The mean score for those teachers preferring to teach at the junior high level was 74.377 with a standard deviation of 24.313, while the mean score of those preferring some other level was 65.117 with a standard deviation of 24.838. The t-score obtained was .817, below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Nineteen

The nineteenth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers prepared to teach at the secondary level and those prepared to teach at the elementary level. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for those teachers prepared for secondary teaching was 70.340 with a standard deviation of 23.814, while the mean score for those prepared for elementary teaching was 70.823 with a standard deviation of 33.418. The t-score obtained was .026, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this evidence.

Testing Hypothesis Twenty

The twentieth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who did their student teaching at the junior high level and those teachers who did their student teaching at another level. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for those teachers who did their student teaching at the junior high level was 74.597 with a standard deviation of 25.718, while the mean score for those who did their student teaching at another level was 64.530 with a standard deviation of 22.594. The t-score obtained was .884 below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-one

The twenty-first hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who have taught three or more years and those with less than three years of experience. The method used to test this

hypothesis was the same as that used to test hypothesis seventeen. The mean score for those teachers with three or more years of experience was 69.761 with a standard deviation of 23.501, while those with less than three years of experience had a mean score of 71.108 with a standard deviation of 26.522. The t-score obtained was .120, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-two

The twenty-second null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers who have taught three or more years at the junior high school level and those with less than three years of experience at the junior high level. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for those teachers with three or more years' experience was 69.876 with a standard deviation of 23.390, while those with less than three years' experience had a mean score of 70.835 with a standard deviation of 26.240. The t-score obtained was .085, well below that needed to reject a null hypothesis.

Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-three

The twenty-third null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching science and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for the science teachers was 77.321 with a standard deviation of 26.770, while the mean score for other teachers was 69.973 with a standard deviation of 23.748. The t-score obtained was .512, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-four

The twenty-fourth hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching language arts and those teaching some other subject. The method used in testing this hypothesis was the same as that used to test hypothesis seventeen.

The mean score for language arts teachers was 70.205 with a standard deviation of 20.829, while the other teachers had a mean score of 71.066 with a standard deviation of 24.937. The t-score obtained was .068, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-five

The twenty-fifth null hypothesis was tested to determine if there was any significant difference in attitude towards the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching music and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for music teachers was 64.285 with a standard deviation of 18.634, while the other teachers had a mean score of 71.132 with a standard deviation of 24.381. The t-score obtained was .251, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-six

The twenty-sixth hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at

Central Washington State College between those teachers currently teaching art and those teaching some other subject. The mean score for art teachers was 56.800 with a standard deviation of 25.528, while the mean score for the other teachers was 71.640 with a standard deviation of 23.762. The t-score obtained was .989, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-seven

The twenty-seventh null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching social studies and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for social studies teachers was 73.425 with a standard deviation of 22.329, while the other teachers had a mean score of 70.226 with a standard deviation of 24.722. The t-score obtained was .274, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-eight

The twenty-eighth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching foreign language and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for the foreign language teachers was 64.250 with a standard deviation of 17.538, while the other teachers had a mean score of 71.037 with a standard deviation of 24.334. The t-score obtained was .189, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Twenty-nine

The twenty-ninth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching mathematics and those teaching some other subject. The method used to test this hypothesis is the same as that used to test hypothesis seventeen. The mean score for the mathematics teachers was 61.956 with a

standard deviation of 26.161, while the mean score for other teachers was 71.964 with a standard deviation of 23.827. The t-score obtained was .639, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Thirty

The thirtieth null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers currently teaching industrial arts and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for industrial arts teachers was 81.333 with a standard deviation of 25.744, while the other teachers had a mean score of 70.309 with a standard deviation of 24.050. The t-score obtained was .523, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

Testing Hypothesis Thirty-one

The thirty-first null hypothesis was tested to determine if there was any significant difference in attitude toward the preparation for junior high teaching as received at Central Washington State College between those teachers

currently teaching physical education and those teaching some other subject. The method used to test this hypothesis was the same as that used to test hypothesis seventeen. The mean score for physical education teachers was 73.000 with a standard deviation of 25.806, while the other teachers had a mean score of 70.632 with a standard deviation of 24.049. The t-score obtained was .159, well below that needed to reject a null hypothesis. Consequently, the null hypothesis cannot be rejected based upon this statistical evidence.

The results of testing hypotheses seventeen through thirty-one are summarized on Table V, which shows that none of the t-scores obtained in the statistical tests was large enough to reject a null hypothesis.

TABLE V

TESTING HYPOTHESES SEVENTEEN THROUGH THIRTY-ONE

Factor	Group With Factor		Group Without Factor		t-score
	Mean	SD	Mean	SD	
Sex	70.553	24.848	70.000	25.263	.044
Level Preferred	74.377	24.313	65.117	24.838	.817
Level Prepared	70.340	23.814	70.823	33.418	.026
Level Student Teach.	74.597	25.718	64.530	22.594	.884
Total Teach. Exper.	69.761	23.501	71.108	26.522	.120
Jr. Hi. Teach. Exp.	69.876	23.390	70.835	26.240	.085
Teaching Science	77.321	26.770	69.973	23.748	.512
Teach. Language Arts	70.205	20.829	71.066	24.937	.068
Teaching Music	64.285	18.634	71.132	24.381	.251
Teaching Art	56.800	25.528	71.640	23.762	.989
Teach. Soc. Studies	73.425	22.329	70.226	24.722	.274
Teach. Foreign Lang.	64.250	17.538	71.037	24.334	.189
Teach. Mathematics	61.956	26.161	71.964	23.827	.639
Teach. Ind. Arts	81.333	25.744	70.309	24.050	.523
Teach. Physical Ed.	73.000	25.806	70.632	24.049	.159

Other teaching areas were omitted because of a small sample size.

CHAPTER V

CONCLUSIONS, SUMMARY, AND IMPLICATIONS

I. CONCLUSIONS

The following conclusions were considered only within the limits of the sample and sampling technique used in this study.

Because the neutral score on attitude scale one was lower than the confidence interval (calculated to the 5 per cent level) of the mean score, it was concluded that within the limits of this study, this sample of Central Washington State College graduates had a favorable attitude toward the functions of the junior high school as written by the educational leaders of the junior high school movement.

Because the neutral score on attitude scale two was higher than the confidence interval (calculated to the 5 per cent level) of the mean score, it was concluded that within the limits of this study, this sample of Central Washington State College graduates had an unfavorable attitude toward the preparation for junior high teaching as received at Central Washington State College.

Because of the low coefficient of correlation, it was concluded that there was apparently no relationship between the teacher's attitude toward the functions of the junior high school and the teacher's attitude toward the

preparation he or she received for junior high teaching at Central Washington State College.

The t-test also indicated that no significant relationships existed between scores on attitude scales one or two and the following factors: the teacher's sex, level at which the teacher prefers to teach, level at which the teacher is prepared to teach, level at which the teacher did his or her student teaching, the teacher's total teaching experience, the teacher's junior high teaching experience, or the teacher's current teaching area.

II. SUMMARY

Throughout the junior high movement in the United States, two recurring themes have been present. The first of these two themes was the statement and restatement of the objectives and functions of the junior high school. Although a definite shift has developed in these functions over the last sixty years, most current leaders in the junior high movement agree on the basic functions and the programs by which these functions can be implemented.

The second recurring theme was the need for specially trained teachers. Leader after leader has stated the "hows" and "whys" of special training for junior high teachers. Most colleges, Central Washington State College included, have been slow to develop specially designed programs for training junior high teachers.

Based on these recurring themes, the purpose of this study was to determine the teacher's attitude toward the functions of the junior high school, as stated by the current leaders in the junior high movement, and the teacher's attitude toward the preparation for junior high teaching he or she received at Central Washington State College.

Two attitude scales, constructed by using the method of summated ratings, were enclosed in a questionnaire and mailed to the sample of 1962-1966 Central Washington State College graduates who were placed in junior high teaching positions for the first year of teaching. The sample included all graduates who could be located. This amounted to 66 per cent of those graduates thought to still be teaching in the state. Following the recommendations of Mildred Parten for handling and mailing, the questionnaire was returned by 93.2 per cent of the sample.

The analysis of the scores on the two attitude scales indicated, within the limits of the study, the sample had a favorable attitude toward the functions of the junior high school and an unfavorable attitude toward the preparation they received for junior high teaching. The analysis also indicated that no significant relationships could be found between a teacher's attitude toward the functions of the junior high school and the teacher's attitude toward the preparation for junior high teaching. Also, no significant

relationships were found between the teacher's attitude toward the functions of the junior high or the teacher's attitude toward the preparation for junior high teaching and any other factors tested.

III. IMPLICATIONS OF THE STUDY

The results of this study seem to indicate that further research might try to locate the causes of the seemingly unfavorable attitude toward the preparation the teachers received for junior high teaching.

First, those graduates prepared for elementary and high schools could be tested to determine if the unfavorable attitude is present in all beginning teachers as a natural by-product of beginning teaching or to determine if the attitude is present in beginning junior high teachers only, as indicated by this study.

Further research also might be directed at trying to locate underlying factors that may be related to the unfavorable attitude. This avenue of research, while outside the scope of this study, could be aimed at those attitudes expected to be gained by graduates from the curricular offerings. This would facilitate the use of individual item analysis which could be directed at specific course content.

A follow-up study aimed at the graduate's recommendations for improvement may also help locate means of correcting this unfavorable attitude.

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APPENDIX A

ANALYSIS OF TRIAL QUESTIONNAIRE

Part One

Trial Questionnaire

OPINIONS ON JUNIOR HIGH TEACHING

Directions: The following is a series of items on selected junior high school issues. Please read each item and circle the letters that most closely expresses your opinion on the item. The rating scale is:

SD Strongly disagree
D Disagree
N Neutral or uncertain
A Agree
SA Strongly agree

Please circle only one response for each item and please do not omit any of the items.

A careful attempt has been made to remove any hidden or double meanings from the items. Please react to the obvious meaning.

	Item	Rating
1.	Interest inventories are useful tools for the classroom teacher.	SD D N A SA
2.	Seventh graders should be able to elect some subjects.	SD D N A SA
3.	Most junior high classes should be composed of students with different academic ability levels.	SD D N A SA
4.	The school activity program should be kept at a minimum.	SD D N A SA
5.	A seventh grade student should have the same teacher for Social Studies and Language Arts.	SD D N A SA
6.	There should be one full-time guidance counselor for every 250 to 300 junior high students.	SD D N A SA
7.	Students should take responsibility for many aspects of classroom management.	SD D N A SA

	Item	Rating
8.	The vast majority of classroom learning activities should be planned by the teacher.	SD D N A SA
9.	Teachers should actively promote religious tolerance.	SD D N A SA
10.	It is an obligation of a classroom teacher to help inform students of the educational opportunities in higher schools.	SD D N A SA
11.	Ninth grade teachers should be familiar with college requirements.	SD D N A SA
12.	In planning lessons reference to subject matter content of the lesson is more important than referring to individual abilities of the students.	SD D N A SA
13.	Junior high teachers need to be familiar with the educational program in the elementary school.	SD D N A SA
14.	Classroom teachers should provide for considerable group work in the academic classes.	SD D N A SA
15.	Instruction in the basic learning skills should be provided primarily for those who need remedial help.	SD D N A SA
16.	Guidance is an essential part of the classroom teacher's work.	SD D N A SA
17.	The majority of subject matter content should come from the assigned textbook.	SD D N A SA
18.	In the promotion of students other factors should be on an equal basis with academic achievement.	SD D N A SA
19.	Seventh grade students should take short-term (six to ten week) courses in such fields as business education, industrial arts, music, home economics, and art.	SD D N A SA

	Item	Rating
20.	Seventh grade students should have the same teacher for at least one-half of the school day.	SD D N A SA
21.	Providing socializing experiences for students is not of major concern for the junior high school.	SD D N A SA
22.	A teacher is under an obligation to relate his subject to the other subjects in the student's program.	SD D N A SA
23.	Report cards are superior to parent-teacher conferences for reporting to the parents their student's academic progress.	SD D N A SA
24.	Student activities can be run with little supervision.	SD D N A SA
25.	Psychological testing should be used rarely in the junior high school.	SD D N A SA
26.	The primary source of vocational information should be the guidance counselor.	SD D N A SA
27.	If the school is providing good learning experiences, the individual differences in achievement will increase.	SD D N A SA
28.	During the first week of school a special orientation program should be held for seventh graders.	SD D N A SA
29.	Most junior high classes should be composed of students from the same academic ability level.	SD D N A SA
30.	English and spelling errors should not be a part of the student's evaluation in classes other than Language Arts.	SD D N A SA
31.	When block-of-time (a teacher having the same students for two or more periods in a row) scheduling is used, the block teacher should stay with the same students for all three years of junior high school.	SD D N A SA

	Item	Rating
32.	Guidance and teaching should be separated in the junior high curriculum.	SD D N A SA
33.	Students learn more from teacher-directed activities than from student projects.	SD D N A SA
34.	A good job of teaching can be done without being aware of the home and out-of-school backgrounds of the students.	SD D N A SA
35.	Most electives in the junior high school should be the first step in the high school's sequence of courses.	SD D N A SA
36.	Departmentalization should begin at the seventh grade.	SD D N A SA
37.	Students should receive an "activity credit" on school records for participating in school activities.	SD D N A SA
38.	An eighth grade student should have the same teacher for Social Studies and Language Arts.	SD D N A SA
39.	Achievement and behavior records for the first six grades should not be carried on into the junior high records.	SD D N A SA
40.	Teachers need to be capable of recognizing signs of adjustment problems within students.	SD D N A SA
41.	The major emphasis in junior high courses should be on building a foundation for future study rather than on exploring the different aspects of the subject.	SD D N A SA
42.	Junior high teachers should meet with sixth grade teachers in planning the curriculum.	SD D N A SA
43.	Students should be given an opportunity to regularly participate in revising the students' code of dress.	SD D N A SA

	Item	Rating
44.	Having each subject taught in a separate period will best serve the aims of junior high education.	SD D N A SA
45.	The guidance counselor's major task is to help teachers handle guidance problems rather than helping individual students.	SD D N A SA
46.	Junior high students need considerable time in class to direct their own study.	SD D N A SA
47.	Teachers should use sociograms to discover the group's attitude towards each student within the class.	SD D N A SA
48.	Most students should complete the same assignments.	SD D N A SA
49.	Most activities (clubs, assemblies, etc.) should be held within the regular school day.	SD D N A SA
50.	Most homework and individual study should be done on the student's time outside of class.	SD D N A SA
51.	The emphasis on guidance and counseling in the junior high school should be reduced from what it is now.	SD D N A SA
52.	Students should be encouraged to work together on regular classroom problems and projects.	SD D N A SA
53.	Teachers should strive to provide, within the classroom, experiences that will aid in personal adjustment.	SD D N A SA
54.	Every student having the same book would produce more educational growth than having five different room sets.	SD D N A SA
55.	Junior high students should have the opportunity to browse around the library to look at magazines, books, and newspapers several times a week.	SD D N A SA

	Item	Rating
56.	Junior high teachers need to be familiar with the educational program at the high school level.	SD D N A SA
57.	Students should maintain a minimum grade point average before participating in the school activity program.	SD D N A SA
58.	Classroom teachers should include instruction on how to study as part of the regular class work.	SD D N A SA
59.	The classroom teacher bears the major responsibilities for guidance.	SD D N A SA
60.	Many different students should have the responsibilities for classroom learning activities.	SD D N A SA
61.	Teachers should be more concerned about subject matter achievement than student behavior.	SD D N A SA
62.	Junior high teaching methods should rely mostly on presentations followed by discussions.	SD D N A SA
63.	Student participating in the school activity program should provide the basic costs of the activity.	SD D N A SA
64.	Classroom teachers should include instruction in reading as a part of the regular class work.	SD D N A SA
65.	The homeroom should <u>not</u> be used to study guidance problems.	SD D N A SA
66.	Using committees in class work rarely produces educational growth in students.	SD D N A SA
67.	Moral and spiritual values should <u>not</u> be openly included in the class work.	SD D N A SA

Item	Rating
68. Relating social studies and language arts skills around the student person-social problems is impractical for junior high school education.	SD D N A SA
69. Student activities need a maximum of supervision and security.	SD D N A SA

APPENDIX A

ANALYSIS OF TRIAL QUESTIONNAIRE

Part Two

Frequency Distribution

TABLE VI

FREQUENCY DISTRIBUTION OF SCORES
FROM THE TRIAL QUESTIONNAIRE

Score	Number
193	1
189	2
185	1
178	2
177	1
175	1
174	3
173	2
172	2
167	4
166	2
165	3
164	2
163	2
162	4
161	3
160	2
159	2
158	3
157	5
156	3
155	3
154	4
153	2
152	1
151	1
150	3
149	2
147	1
144	1
143	1
140	2
139	2
136	2
134	1

APPENDIX A

ANALYSIS OF TRIAL QUESTIONNAIRE

Part Three

Individual Item Analysis Chart

TABLE VII

INDIVIDUAL ITEM ANALYSIS CHART

Item	Questionnaire Number																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1	3	2	2	4	2	3	2	3	2	3	3	3	2	2	3	3	3	2	3	50
2	0	2	3	1	1	0	3	1	1	1	2	2	1	1	2	1	0	3	1	26
3	0	0	1	0	0	1	4	0	0	1	1	3	0	3	3	1	4	0	1	23
4	2	3	4	1	2	3	2	1	1	3	4	2	3	3	3	3	0	1	4	45
5	3	2	3	3	2	0	3	2	2	3	1	1	4	3	1	1	2	2	2	40
6	4	2	3	3	4	4	4	4	4	3	4	3	4	4	3	3	4	4	4	68
7	4	4	3	3	3	3	3	4	3	3	3	4	4	3	3	1	4	3	3	61
8	3	3	1	1	1	1	1	1	2	1	2	0	0	3	2	1	1	1	1	26
9	3	4	3	3	1	3	1	3	2	3	2	2	1	1	3	3	2	2	2	44
10	4	4	3	3	3	4	3	3	4	2	4	3	4	3	4	3	3	4	1	62
11	4	4	3	3	4	4	3	4	4	3	4	4	4	2	3	3	4	1	4	65
12	4	4	4	4	3	3	3	4	4	4	3	2	3	3	4	1	3	4	3	63
13	4	4	3	3	4	4	3	3	4	3	3	4	3	4	3	3	3	1	4	63
14	3	3	3	3	3	2	3	3	2	2	3	4	1	3	3	1	2	3	4	51
15	1	3	3	1	3	3	3	0	0	2	0	3	3	1	3	1	3	1	3	37
16	4	3	4	4	3	3	2	3	4	4	3	4	4	3	3	3	4	4	2	64
17	4	4	4	4	2	3	3	4	4	3	2	3	3	3	2	3	3	3	1	58
18	3	1	3	0	0	3	4	3	4	2	1	3	3	3	3	2	3	3	0	44
19	1	2	1	3	3	4	3	0	2	1	3	3	2	2	3	3	4	1	2	43
20	1	2	3	1	2	1	1	1	0	3	1	1	0	1	1	1	1	0	1	22
21	3	3	1	1	2	3	2	1	4	4	4	3	4	1	3	3	1	0	4	47
22	3	3	4	3	4	3	1	1	4	3	3	3	2	3	3	3	2	3	4	55
23	3	4	4	4	2	3	2	3	4	3	4	3	1	3	2	3	1	4	3	56
24	0	0	1	0	4	1	0	0	0	1	2	0	3	1	0	0	0	3	1	17
25	3	4	2	4	1	3	3	4	2	2	3	3	3	2	2	4	2	2	3	52
26	4	3	3	1	3	3	1	1	2	3	2	2	2	2	3	3	3	1	2	44
27	4	2	3	3	2	1	3	4	3	2	2	3	2	3	3	3	3	2	1	49
28	4	2	3	4	4	4	4	4	4	3	4	4	4	3	3	4	1	3	4	66
29	0	1	3	1	1	1	3	0	0	1	1	3	0	1	2	1	3	1	2	25
30	3	4	4	4	4	3	3	4	4	1	3	3	4	3	3	3	3	3	4	59
31	0	1	0	4	0	1	0	0	0	1	0	1	2	1	1	0	0	2	2	16
32	4	3	4	4	4	1	3	1	0	1	4	3	3	4	2	4	4	3	3	55
33	1	4	3	4	3	3	4	4	2	4	2	3	4	3	2	3	2	4	3	58
34	4	4	4	4	4	3	3	4	3	4	2	2	4	1	3	3	2	3	3	60
35	2	1	1	4	1	2	3	1	1	1	4	3	0	1	3	3	2	2	2	37
36	0	2	1	1	2	2	3	2	1	1	0	1	2	1	2	1	1	1	0	24
37	1	3	3	3	2	3	2	2	1	3	3	3	2	3	4	3	3	3	3	49
38	2	2	3	3	2	1	1	2	3	2	0	2	0	3	2	1	1	1	2	33

TABLE VII (Continued)

Item	Questionnaire Number																			Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
39	3	3	4	1	3	4	2	4	3	3	1	3	2	3	3	4	2	4	4	56
40	4	4	4	3	4	4	4	4	4	4	3	4	4	3	3	3	4	4	4	71
41	4	4	3	1	3	3	3	4	2	3	3	3	4	3	3	3	4	2	1	56
42	4	3	2	3	3	4	3	3	3	4	2	3	2	3	2	3	2	3	3	55
43	4	3	1	3	2	3	1	3	3	3	3	3	4	3	3	3	3	3	3	54
44	3	3	3	4	2	1	3	3	2	2	1	1	2	3	2	1	1	2	2	41
45	0	1	1	0	0	1	1	0	1	0	1	1	0	0	2	1	1	2	1	14
46	3	3	1	3	3	2	3	3	3	1	4	1	1	3	2	3	3	1	2	45
47	0	2	0	1	2	3	2	3	1	1	3	1	1	1	0	2	1	0	1	25
48	3	4	1	1	1	1	4	3	3	3	1	1	3	3	2	1	0	3	3	41
49	3	2	3	3	3	3	4	3	2	3	4	3	0	3	2	3	3	2	3	52
50	3	3	3	1	3	3	3	3	1	3	3	3	4	3	1	3	3	3	2	51
51	4	3	4	4	3	3	4	4	4	4	2	4	4	3	3	4	3	3	4	67
52	1	2	4	3	3	3	3	3	3	3	4	4	4	3	3	3	3	3	4	59
53	3	3	3	3	3	3	3	3	4	3	4	3	4	3	3	3	4	3	3	64
54	4	3	4	2	2	3	3	3	4	4	3	3	3	3	2	2	4	4	3	59
55	2	2	3	4	3	3	3	3	3	3	4	4	2	3	3	3	4	3	3	58
56	4	3	3	4	4	3	4	4	4	3	4	4	4	3	3	3	4	4	4	69
57	4	3	0	0	3	3	0	0	3	3	4	0	2	1	1	3	3	1	1	35
58	4	3	4	4	3	3	4	4	4	3	4	3	2	3	3	3	3	3	3	63
59	4	1	3	4	4	1	1	3	4	3	3	3	3	3	1	3	4	3	1	52
60	3	3	2	4	3	3	3	3	3	3	2	3	3	3	3	3	3	2	3	55
61	2	3	4	3	4	1	3	4	4	3	3	1	3	3	3	1	3	3	1	52
62	4	3	3	1	3	3	3	3	3	3	1	1	3	3	3	2	1	2	1	46
63	4	3	3	2	3	3	1	3	1	2	1	2	2	3	1	3	3	1	2	43
64	3	4	4	3	2	3	1	1	2	1	3	2	4	3	2	3	1	3	1	46
65	3	1	2	4	4	3	2	2	2	1	2	1	3	3	2	2	3	3	2	45
66	3	3	4	4	2	3	4	3	3	3	4	3	3	3	3	3	2	3	3	59
67	4	4	4	4	4	3	3	3	4	3	2	2	3	1	2	3	3	4	2	58
68	4	3	4	4	4	3	3	4	3	3	2	3	3	3	2	3	2	3	2	58
69	3	2	1	4	1	3	1	1	1	3	1	1	0	1	1	1	0	3	2	30

This table shows the individual item scores and the total score for the top nineteen scores on the trial questionnaire.

TABLE VIII

INDIVIDUAL ITEM ANALYSIS CHART

Item	Questionnaire Number																			Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1	2	2	2	3	2	2	2	3	4	2	2	1	2	3	4	3	3	2	3	47
2	1	1	3	2	2	0	1	1	3	0	3	1	1	1	3	0	3	2	3	31
3	3	4	2	3	0	1	1	1	1	3	1	3	3	0	0	1	1	1	1	30
4	3	1	2	1	3	1	1	2	4	1	1	0	3	3	4	0	1	1	1	33
5	0	0	0	0	2	0	1	1	0	0	2	0	2	0	3	2	2	2	1	18
6	4	4	2	3	4	3	4	3	4	4	2	4	3	3	4	3	3	0	3	60
7	3	1	2	3	3	1	3	3	3	1	1	3	3	3	1	3	2	1	3	43
8	0	1	2	1	1	0	1	1	1	1	1	1	1	0	1	1	3	1	1	19
9	1	3	2	1	2	3	2	4	1	2	3	4	3	2	0	2	2	2	1	40
10	3	1	3	1	3	1	3	3	4	1	3	3	3	3	4	2	3	3	3	50
11	3	3	3	3	3	3	3	3	4	3	2	3	1	3	4	3	3	3	3	56
12	3	3	3	3	3	3	2	2	1	3	4	2	2	3	4	1	3	3	1	49
13	3	3	3	2	4	3	2	3	1	3	3	3	3	3	4	3	3	3	3	55
14	3	2	2	2	3	3	3	3	1	3	2	3	3	2	3	1	3	2	3	47
15	1	3	1	1	1	4	2	1	3	1	3	3	1	3	0	3	1	1	3	36
16	4	1	3	4	3	1	3	3	1	3	2	3	1	3	0	4	3	2	3	47
17	1	3	2	4	1	4	2	1	3	1	2	3	1	1	0	4	2	1	3	39
18	0	3	2	3	0	4	3	1	1	3	4	1	2	2	3	3	1	1	3	40
19	3	3	1	0	2	0	2	2	1	3	1	0	1	2	3	1	1	2	1	29
20	0	0	1	1	2	0	0	3	1	0	1	0	1	0	0	1	1	2	1	15
21	0	3	3	3	0	3	2	3	3	1	2	0	1	2	3	3	3	2	1	38
22	3	2	3	2	4	3	4	3	1	3	3	3	3	1	2	2	3	3	1	49
23	4	1	2	3	0	2	2	3	3	1	3	3	3	3	4	2	2	1	3	45
24	0	1	2	0	0	1	1	1	0	0	1	0	1	0	0	0	1	1	3	13
25	3	3	2	3	4	3	4	2	4	3	2	3	1	4	4	3	3	3	3	57
26	1	1	3	1	0	1	1	1	3	1	1	4	1	3	1	1	1	2	1	28
27	3	2	3	4	3	2	3	3	1	3	1	3	3	1	3	3	2	2	3	48
28	4	3	3	1	4	3	3	4	4	3	3	2	3	2	3	2	3	3	3	56
29	2	3	2	3	0	1	1	1	3	1	2	1	2	1	0	1	1	1	1	27
30	3	1	3	1	4	3	3	3	3	3	4	4	3	4	1	4	3	3	1	54
31	0	1	1	0	2	0	2	1	0	0	2	0	1	0	0	0	1	2	1	14
32	4	1	4	4	0	1	3	3	3	4	3	4	2	3	4	1	1	2	3	50
33	2	1	2	2	2	3	3	1	1	1	2	1	1	2	3	2	2	1	1	33
34	4	3	3	1	3	3	3	3	1	1	3	3	3	1	1	3	3	2	1	45
35	3	2	1	2	2	3	2	2	3	1	2	1	1	2	1	2	1	2	1	34
36	0	1	2	1	0	0	0	2	1	1	2	1	3	1	1	1	1	1	1	20
37	0	3	2	3	4	3	2	1	1	3	1	1	3	2	3	3	2	2	3	42
38	0	1	1	0	2	0	1	2	1	1	2	1	1	0	1	2	1	3	1	20

TABLE VIII (Continued)

Item	Questionnaire Number																			Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
39	4	3	3	1	4	4	3	4	3	3	2	4	2	3	0	3	3	3	3	55
40	4	3	2	4	4	3	4	3	4	3	3	4	2	3	4	3	3	3	3	62
41	4	1	2	3	2	3	3	1	3	3	2	2	1	2	0	1	1	2	3	39
42	1	3	2	2	2	3	2	3	1	2	2	3	2	2	1	1	2	2	1	37
43	3	3	2	3	3	3	3	3	1	3	1	3	3	2	3	2	2	2	3	48
44	1	1	2	3	2	1	1	1	1	1	2	1	2	1	1	2	1	2	1	27
45	1	2	2	1	2	1	0	1	1	1	1	1	1	1	1	1	1	2	1	22
46	3	1	2	3	2	1	3	1	3	1	2	1	3	3	1	1	2	1	1	35
47	2	3	2	1	2	2	2	1	1	2	2	0	2	2	1	1	1	1	1	29
48	1	1	2	2	1	3	1	1	3	3	1	3	3	1	1	1	1	2	1	30
49	1	1	3	1	3	3	1	1	1	3	1	0	3	3	1	3	3	2	1	35
50	3	3	2	3	1	3	2	1	3	3	3	0	1	3	1	1	1	2	1	37
51	4	3	2	3	2	3	4	3	3	3	2	4	2	3	3	3	3	1	3	54
52	1	3	2	2	3	3	3	3	3	3	3	3	1	1	3	1	3	3	3	47
53	3	3	2	3	4	3	2	3	3	3	3	3	3	3	4	2	3	3	3	56
54	4	3	2	3	2	3	2	1	1	3	2	3	1	2	2	2	1	3	3	43
55	3	4	2	3	3	4	2	3	4	3	2	3	3	3	3	3	1	3	1	53
56	3	3	3	3	4	3	3	3	1	2	3	3	3	3	3	3	3	3	3	55
57	3	1	2	3	1	1	3	1	3	1	1	0	1	3	4	1	1	1	1	32
58	3	4	3	3	3	3	2	3	3	3	3	3	3	2	3	3	2	3	3	52
59	3	1	3	4	3	1	2	3	1	3	2	3	3	2	1	3	3	1	3	45
60	3	3	2	3	3	1	3	2	3	3	2	3	2	2	3	3	2	1	1	45
61	2	3	2	1	0	3	3	3	3	3	3	1	2	1	1	3	1	3	3	41
62	2	1	2	1	1	1	2	3	3	3	2	2	1	2	2	1	2	3	1	35
63	1	3	2	3	1	3	1	1	3	3	3	1	1	3	3	2	2	1	0	34
64	1	3	3	1	3	3	1	1	1	2	1	3	3	1	3	1	1	3	1	36
65	2	3	2	3	2	3	2	2	3	3	1	1	2	3	1	3	2	1	3	42
66	3	3	2	3	3	3	2	1	3	3	3	1	2	3	1	2	2	2	3	45
67	3	3	2	3	2	3	2	3	3	3	1	4	2	3	1	3	2	3	1	47
68	3	3	2	1	3	3	3	3	1	3	2	4	3	1	2	3	2	3	1	46
69	1	3	3	3	1	1	2	3	1	0	1	0	1	1	1	1	1	1	1	26

This table shows the individual item scores and the total score for the bottom nineteen scores on the trial questionnaire.

APPENDIX A

ANALYSIS OF TRIAL QUESTIONNAIRE

Part Four

Mean-Difference Scores of Individual Items

TABLE IX

MEAN-DIFFERENCE SCORES ON STATEMENTS
FROM TRIAL QUESTIONNAIRE

Item Number	Score Top Group	Score Bottom Group	Difference	Mean
1	50	57	3	.158
2	26	31	-5	-.263
3	23	30	-7	-.369
4	45	33	12	.632
5	40	18	22	1.158
6	68	60	8	.421
7	61	43	18	.947
8	26	19	7	.369
9	44	40	4	.211
10	62	50	12	.632
11	65	56	9	.473
12	63	49	14	.737
13	63	55	8	.421
14	51	47	4	.211
15	37	36	1	.053
16	64	47	17	.895
17	58	39	19	1.000
18	44	40	4	.211
19	43	29	14	.737
20	22	15	7	.369
21	47	38	9	.473
22	55	49	6	.316
23	56	45	11	.579
24	17	13	4	.211
25	52	57	-5	-.263
26	44	28	16	.842
27	49	48	1	.053
28	66	56	10	.526
29	25	27	-2	-.105
30	59	54	5	.263
31	16	14	2	.105
32	55	50	5	.263
33	58	33	25	1.316
34	60	45	15	.789
35	37	34	3	.158
36	24	20	4	.211
37	49	42	7	.369
38	33	20	13	.684

TABLE IX (Continued)

Item Number	Score Top Group	Score Bottom Group	Difference	Mean
39	56	55	1	.053
40	71	62	9	.473
41	56	39	17	.895
42	55	37	18	.947
43	54	48	6	.316
44	41	27	14	.737
45	14	22	-8	-.421
46	45	35	10	.526
47	25	29	-4	-.211
48	41	30	11	.579
49	52	35	17	.895
50	51	37	14	.737
51	67	54	13	.684
52	59	47	12	.632
53	64	56	8	.421
54	59	43	16	.842
55	58	53	5	.263
56	69	55	14	.737
57	35	32	3	.158
58	63	52	11	.579
59	52	45	7	.369
60	55	45	10	.526
61	52	41	11	.579
62	46	35	11	.579
63	43	34	9	.473
64	46	36	10	.526
65	45	42	3	.158
66	59	45	14	.737
67	58	47	11	.579
68	58	46	12	.632
69	30	26	4	.211

TABLE X

STATEMENTS FROM TRIAL QUESTIONNAIRE
IN ORDER OF DISCRIMINATING POWER
AND DIVIDED INTO TWO GROUPS

Favorable		Unfavorable	
Item Number	Discriminating Power	Item Number	Discriminating Power
5	1.158	33	1.326
7	.947	17	1.000
42	.947	41	.895
16	.895	26	.842
49	.895	54	.842
19	.737	34	.789
56	.737	12	.737
38	.684	44	.737
10	.632	50	.737
52	.632	66	.737
58	.579	51	.684
28	.526	4	.632
46	.526	68	.632
60	.526	23	.579
64	.526	48	.579
11	.473	61	.579
40	.473	62	.579
6	.421	67	.579
13	.421	21	.473
53	.421	63	.473
20	.369	8	.369
37	.369	30	.263
59	.369	32	.263
22	.316	36	.211
43	.316	69	.211
55	.263	57	.158
9	.211	65	.158
14	.211	35	.158
18	.211	15	.053
24	.211	39	.053
1	.158	29	-.105
31	.105	2	-.263
27	.053	25	-.263
47	-.211		
3	-.369		
45	-.421		

APPENDIX B

PROCEDURES OF THE QUESTIONNAIRE

Part One

The Questionnaire

OPINIONS ON JUNIOR HIGH TEACHING

GENERAL INFORMATION

Please check one in each of the following catagories. This information will be helpful in the analysis of the data.

1. Year of Graduation. 1961 ___ 1962 ___ 1963 ___ 1964 ___ 1965 ___ 1966 ___

2. Sex. Male _____ Female ____

3. Level at which you would prefer to teach.
k-3 ___ 4-6 ___ 7-9 ___ 10-12 ____

4. Level at which you were prepared to teach.
k-3 ___ 4-6 ___ 7-9 ___ 10-12 ___

5. Level at which you did your student teaching.
k-3 ___ 4-6 ___ 7-9 ___ 10-12 ___

6. Total experience (in years) 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

7. Junior high experience (in Years) 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

8. Your current teaching area.
Science ____ Language Arts ___ Music ___ Art ___
Social Studies ___ Foreign Language ___ Math. ___
Industrial Arts ___ Physical Education ___ Other ____

DIRECTIONS FOR PART ONE

1. The following is a series of items on selected junior high school issues. Please read each item and circle the letters that most closely expresses your opinions on the item. The rating scale is:

SD Strongly disagree
D Disagree
N Neutral or uncertain
A Agree
SA Strongly Agree

2. Please circle only one response for each item and please do not omit any of the items.

3. A careful attempt has been made to remove any hidden or double meanings from the items. Please react to the obvious meaning.

OPINIONS ON JUNIOR HIGH TEACHING

PART ONE

Items	Rating				
1. Most homework and individual study should be done on the student's time outside of class.	SD	D	N	A	SA
2. It is an obligation of a classroom teacher to help inform students of educational opportunities in higher schools.	SD	D	N	A	SA
3. Students should be encouraged to work together on regular classroom problems and projects.	SD	D	N	A	SA
4. The majority of subject matter content should come from the assigned textbook.	SD	D	N	A	SA
5. Students should take responsibility for many aspects of classroom management.	SD	D	N	A	SA
6. The primary source of vocational information should be the guidance counselor.	SD	D	N	A	SA
7. A good job of teaching can be done without being aware of the home and out-of-school backgrounds of the students.	SD	D	N	A	SA
8. Junior high teachers need to be familiar with the educational program in the high school.	SD	D	N	A	SA
9. In planning lessons reference to subject matter content of the lesson is more important than referring to individual abilities of the students.	SD	D	N	A	SA
10. A seventh grade student should have the same teacher for Social Studies and Language Arts.	SD	D	N	A	SA
11. Guidance is an essential part of the teachers' work.	SD	D	N	A	SA
12. Most activities (clubs, assemblies, etc.) should be held within the regular school day.	SD	D	N	A	SA
13. The emphasis on guidance and counseling in the junior high should be reduced from what it is now.	SD	D	N	A	SA
14. Students learn more from teacher-directed activities than from student projects.	SD	D	N	A	SA
15. The major emphasis in junior high courses should be on building a foundation for future study rather than on exploring the different aspects on the subject.	SD	D	N	A	SA
16. Classroom teachers should include instruction on how to study as part of the regular class work.	SD	D	N	A	SA
17. An eighth grade student should have the same teacher for Social Studies and Language Arts.	SD	D	N	A	SA
18. Every student having the same book would produce more educational growth than having five different room sets.	SD	D	N	A	SA
19. Having each subject taught in a separate period will best serve the aims of junior high education.	SD	D	N	A	SA
20. Junior high teachers should meet with sixth grade teachers in planning the curriculum.	SD	D	N	A	SA
21. Seventh grade students should take short-term (six to ten week) courses in such fields as business education, music, industrial arts, home economics, and art.	SD	D	N	A	SA
22. Using committees in class work rarely produces educational growth in students.	SD	D	N	A	SA

OPINIONS ON JUNIOR HIGH TEACHING

PART TWO

Directions: (1) The following is a series of items concerning the undergraduate preparation you received at CWSC. Please read each item and circle the number that most closely expresses how you rate your preparation on that particular item. The rating scale is:

1. poor
2. fair
3. satisfactory
4. good
5. excellent

(2) Please circle only one response for each item and please do not omit any of the statements.

(3) A careful attempt has been made to remove any hidden or double meanings from the items. Please react to the obvious meaning.

Items	Rating				
	poor	fair	sat.	good	exc.
1. Using evaluative techniques other than teacher-made tests.	1	2	3	4	5
2. How to interpret standardized tests.	1	2	3	4	5
3. Preparing teacher-made tests.	1	2	3	4	5
4. Recognizing characteristics of the slow learner.	1	2	3	4	5
5. Identifying the gifted students by means other than standardized tests.	1	2	3	4	5
6. Identifying social problems that may block learning.	1	2	3	4	5
7. Recognizing signs of maladjustment.	1	2	3	4	5
	poor				exc.
8. Recognizing reading problems.	1	2	3	4	5
9. Identifying the use of ego-defense mechanisms in students.	1	2	3	4	5
10. How to use sociograms.	1	2	3	4	5
11. Using problems inventories.	1	2	3	4	5
12. Recognizing the proper maturity level for various grades in junior high school.	1	2	3	4	5
13. How to use interest inventories.	1	2	3	4	5
14. Recognizing satisfactory sexual adjustment.	1	2	3	4	5
15. How to recognize physical problems such as hearing and vision.	1	2	3	4	5
16. Techniques for individual guidance.	1	2	3	4	5
17. How to use teacher-student planning.	1	2	3	4	5

Items	Rating				
	Poor	fair	sat.	good	exc.
18. Identifying teaching materials within the community.	1	2	3	4	5
19. Planning daily lessons.	1	2	3	4	5
20. Organizing units of work.	1	2	3	4	5
21. Adjusting work assignments for individual differences.	1	2	3	4	5
22. Providing learning experiences for the creative student.	1	2	3	4	5
23. How to include reading instruction within the subject matter field.	1	2	3	4	5
24. Instructing students how to study.	1	2	3	4	5
	poor				exc.
25. How to use grouping within the class.	1	2	3	4	5
26. Organizing instructional materials for the students use.	1	2	3	4	5
27. How to use techniques of classroom discipline.	1	2	3	4	5
28. Using motivational techniques for groups of 5 to 10.	1	2	3	4	5
29. Using motivational techniques for groups of 25 to 30.	1	2	3	4	5
30. Techniques of group guidance.	1	2	3	4	5
31. How to teach students to use the techniques of problem solving.	1	2	3	4	5
	poor				exc.
32. How to lead effective discussions.	1	2	3	4	5
33. Differences between high school and junior high school teaching techniques.	1	2	3	4	5
34. How to use a variety of teaching techniques to cover subject matter.	1	2	3	4	5
35. Subject matter preparation in fields related to your major.	1	2	3	4	5
36. Making effective use of parent-teacher conferences for reporting student progress.	1	2	3	4	5
37. How to develop a grading system.	1	2	3	4	5
38. Special functions of the junior high.	1	2	3	4	5
39. Using audio-visual materials.	1	2	3	4	5
40. How to use the library within the subject matter field.	1	2	3	4	5
41. Using student records.	1	2	3	4	5

APPENDIX B

PROCEDURES OF THE QUESTIONNAIRE

Part Two

Letter of Transmittal

CENTRAL WASHINGTON STATE COLLEGE | ELLENSBURG, WASHINGTON
98926

26655 18th Place South
Kent, Washington
November 1, 1967

Dear CWSC Graduate:

Approximately four weeks ago I mailed you a questionnaire titled: Opinions on Junior High Teaching. This questionnaire is being mailed only to selected CWSC graduates, consequently your response is very important.

Because Central, like most colleges, has not developed a special program for preparing junior high teachers, there is some question about the need for such a program. This questionnaire is designed to determine your opinions on selected junior high school issues and on the preparation you received for junior high teaching at Central.

The results of the questionnaire will be used in my Master's thesis under the direction of Dr. Donald Goetschius. Evaluation of the questionnaire will be done by using group scores only and under no conditions will your name or your individual responses be used.

At this time approximately eighty per cent of the questionnaires have been returned. However, the time is growing short and I would like to include your opinions in my study.

Along with the questionnaire, I have enclosed a self-addressed stamped envelope for your convenience.

Thank you very much for your cooperation; your opinions are greatly appreciated.

Sincerely yours,

Ed Command

Please note:
The signature has been redacted due to security reasons

APPENDIX B

PROCEDURES OF THE QUESTIONNAIRE

Part Three

Follow-up Card

THE FOLLOW-UP CARD

Dear CWSC Graduate:

Approximately two weeks ago I sent you a questionnaire titled: Opinions on Junior High Teaching. Because the results of this questionnaire will be used to determine the need for a special program for junior high teacher, I would like to include your opinions in my study.

If you have already mailed the questionnaire, please disregard this card.

Thank you very much.

Sincerely yours,

Ed Command

Please note:
The signature has been redacted due to security reasons

APPENDIX B

PROCEDURES OF THE QUESTIONNAIRE

Part Four

Follow-up Letter

CENTRAL WASHINGTON STATE COLLEGE | ELLENSBURG, WASHINGTON 98926

26655 18th Place South
Kent, Washington
October 1, 1967

Dear CWSC Graduate:

Enclosed you will find a questionnaire titled: Opinions on Junior High Teaching. This questionnaire is being mailed to selected 1962-1966 CWSC graduates who began teaching at the junior high level.

Because Central, like most colleges, has not developed a special program for preparing junior high teachers, there is some question about the need for such a program. This questionnaire is designed to determine your opinions on selected junior high school issues and on the preparation you received for junior high teaching at Central.

The results of the questionnaire will be used in my Master's thesis under the direction of Dr. Donald Goetschius. Evaluation of the questionnaires will be done by group scores only and under no conditions will your name or your individual responses be used.

Enclosed is a self-addressed stamped envelope for your convenience.

Thank you very much for your cooperation.

Sincerely yours,

Ed Command

Please note:
The signature has been redacted due to security reasons

APPENDIX C

SCORES FROM THE QUESTIONNAIRES

Part One

Frequency Distribution of Scores on Attitude Scale One

TABLE XI

FREQUENCY DISTRIBUTION OF SCORES
ON ATTITUDE SCALE ONE

Score	Number
88	1
75	1
73	1
71	5
70	4
69	3
68	3
67	3
66	4
65	5
64	4
63	8
62	11
61	9
60	6
59	8
58	8
57	8
56	9
55	9
54	11
53	10
52	7
51	3
50	5
49	2
48	1
47	3
46	2
45	1
44	1
40	2
36	1

APPENDIX C

SCORES FROM THE QUESTIONNAIRES

Part Two

Frequency Distribution of Scores on Attitude Scale Two

TABLE XII

FREQUENCY DISTRIBUTION OF SCORES
ON ATTITUDE SCALE TWO

Score	Number	Score	Number
151	2	69	4
126	1	68	4
119	1	67	1
117	1	66	4
113	1	65	6
110	1	64	2
107	1	63	1
106	1	62	2
105	1	61	2
103	1	60	2
102	2	58	1
101	2	57	4
98	4	56	2
97	3	54	1
96	1	51	6
95	1	50	4
93	1	48	1
92	3	47	1
91	5	46	2
90	1	45	2
89	3	44	2
88	2	41	1
87	4	40	1
85	1	39	1
84	2	38	1
83	3	35	1
82	2	34	1
79	5	33	3
78	4	29	2
77	3	28	2
76	2	27	1
75	5	25	1
74	4	24	1
73	3	22	1
72	2	21	1
71	1	19	1
70	1	16	1
		14	1

APPENDIX D

PRESENTING DATA TO THE COMPUTER

Part One

Preparing Data for Mark-sense Cards

RELATING DATA TO THE MARK-SENSE CARDS

Basic Factor for the Computer	Corresponding Concept From Thesis
Score A	Score on attitude scale one.
Score B	Score on attitude scale two.
Score C	Score on odd-numbered items from attitude scale one.
Score D	Score on even-numbered items from attitude scale one.
Factor 1	Teacher's sex
Choice A	Male
Choice B	Female
Factor 2	Level at which the teacher preferred to teach.
Choice A	Preferred junior high level.
Choice B	Preferred some other level.
Factor 3	Level at which the teacher is prepared to teach.
Choice A	Prepared for secondary level.
Choice B	Prepared for elementary level.
Factor 4	Level at which the teacher did his or her student teaching.
Choice A	Student taught at junior high level.
Choice B	Student taught at other level.
Factor 5	Total teaching experience.
Choice A	Three or more years.
Choice B	One or two years.
Factor 6	Teaching experience in junior high
Choice A	Three or more years.
Choice B	One or two years.

Basic Factor for the Computer	Corresponding Concept From Thesis
Factor 7	Teacher's current teaching area.
Choice A	Science
Choice B	Language Arts
Choice C	Music
Choice D	Art
Choice E	Social Studies
Choice F	Foreign Languages
Choice G	Mathematics
Choice H	Industrial Arts
Choice I	Physical Education
Choice J	Other

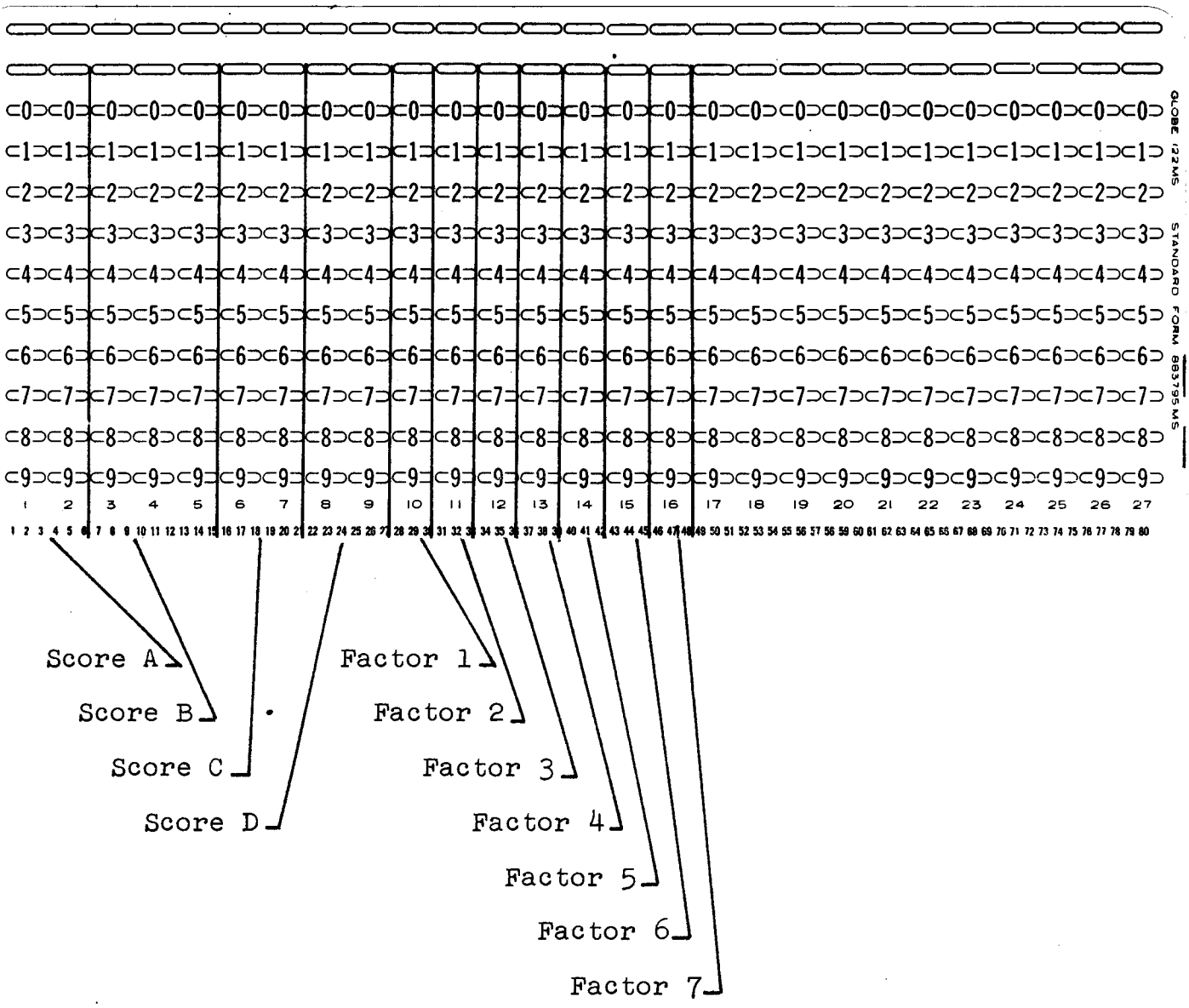
APPENDIX D

PRESENTING DATA TO THE COMPUTER

Part Two

Using the Mark-sense Cards

USING THE MARK-SENSE CARDS



APPENDIX C

PRESENTING DATA TO THE COMPUTER

Part Three

Preparing the Directions for the Computer

DIRECTIONS FOR THE COMPUTER

First Operation

(a) Determine "r" by using scores C and D.
(b) In hand scoring, one line would be used for each questionnaire or mark-sense card.

C	D	C^2	D^2	CD

(c) Determine "r" by using the following formula. N = number in the sample.

$$r = \frac{\Sigma CD - \frac{(\Sigma C)(\Sigma D)}{N}}{\sqrt{\left[\Sigma C^2 - \frac{(\Sigma C)^2}{N}\right]\left[\Sigma D^2 - \frac{(\Sigma D)^2}{N}\right]}}$$

Second Operation

(a) Calculate the mean for score A. $\overline{X} = \Sigma A / N$
(b) Calculate the mean for score B. $\overline{X} = \Sigma B / N$

Third Operation

(a) Calculate the standard deviation (σ) for score A.

$$\sigma = \sqrt{\frac{\Sigma A^2 - \frac{(\Sigma A)^2}{N}}{N-1}}$$

(b) Calculate the standard deviation for score B by using the above formula with substituting B for A.

Fourth Operation

Repeat the first operation substituting score A for score C and score B for score D.

Fifth Operation

(a) Sort cards into two groups by using Choice A Factor 1. Those cards marked choice A will be one group while those cards marked choice B will be the second group.

(b) Determine the mean score for each group.

(c) Determine the standard deviation for each group.

(d) Calculate the t-score. X_1 refers to scores taken from the group with the higher mean score. X_2 refers to scores taken from group with the lower mean scores.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\frac{\Sigma X_1^2 - \frac{(\Sigma X_1)^2}{N_1} - \Sigma X_2^2 - \frac{(\Sigma X_2)^2}{N_2}}{N_1 - N_2 - 2}\right]\left[\frac{1}{N_1} - \frac{1}{N_2}\right]}}$$

(e) Determine (b), (c), and (d) twice: once for score A and once for score B.

Sixth Operation

(a) Sort cards into two groups by using Choice A factor 2.

(b) Repeat the fifth operation.

Seventh Operation

(a) Sort cards into two groups by using choice A factor 3.

(b) Repeat the fifth operation.

Eighth Operation

(a) Sort cards into two groups by using choice A factor 4.

(b) Repeat the fifth operation.

Ninth Operation

(a) Sort cards into two groups using choice A factor 5.

(b) Repeat the fifth operation.

Tenth Operation

(a) Sort cards into two groups using choice A factor 6.

(b) Repeat the fifth operation.

Eleventh Operation

(a) Sort cards into two groups using choice A factor 7.

(b) Repeat the fifth operation.

Twelfth Operation

(a) Sort cards into two groups using choice B factor 7.

(b) Repeat the fifth operation.

Thirteenth Operation

(a) Sort cards into two groups using choice C factor 7.

(b) Repeat the fifth operation.

Fourteenth Operation

(a) Sort cards into two groups using choice D factor 7.

(b) Repeat the fifth operation.

Fifteenth Operation

(a) Sort cards into two groups using choice E factor 7.

(b) Repeat the fifth operation.

Sixteenth Operation

(a) Sort cards into two groups using choice F factor 7.

(b) Repeat the fifth operation.

Seventeenth Operation

(a) Sort cards into two groups using choice G factor 7.

(b) Repeat the fifth operation.

Eighteenth Operation

(a) Sort cards into two groups by using choice H factor 7.

(b) Repeat the fifth operation.

Ninteenth Operation

(a) Sort cards into two groups using choice I factor 7.

(b) Repeat the fifth operation.

Twentieth Operation

(a) Sort cards into two groups using choice J factor 7.

(b) Repeat the fifth operation.