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## The Relation of The Secondary School Majors and Minors To The Majors and Minors At The Collegiate Level.

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THE RELATION OF THE SECONDARY SCHOOL  
MAJORS AND MINORS  
TO THE  
MAJORS AND MINORS  
AT THE  
COLLEGIATE LEVEL

being

A Thesis presented to The Graduate Faculty  
of The Fort Hays Kansas State College  
in partial fulfillment of the  
requirements for the  
Degree of Master  
of Science  
in  
Education

by

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1921

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July 23, 1942  
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## CHAPTER I

### THE PROBLEM UNDER INVESTIGATION

The preparation of the curricula for the high schools and the colleges of the State of Kansas has been an interesting development of the ideas of the schools and the legislative leaders. The problem has been one that was filled with many complications, determined, on the one hand, by the traditional philosophy that education must have disciplinary value, and on the other hand that the education must be of practical value when the student takes his place in the affairs of everyday life. In these curricula, the courses of study, the subjects, and the majors and minors were devised to give the student the type of learning necessary for advanced study and specialization in school life.

It may be stated with considerable certainty that the courses and the subjects comprising the curricula have been of great value to those who are graduated from high school and college. Statistics indicate that for the most part the graduates of these schools are better able to assume the responsibilities of the social and industrial institutions than the men and women who have not had these educational advantages.



Whether this efficiency might be due to the definite selection by the student of certain majors and minors at the secondary school level and then followed at the collegiate level by the selection of majors and minors of logical sequence has long been of interest to the writer. This interest led to the choice and study of the problem of this thesis, which may be specifically stated thus: what is, "The Sequential Relationship of Secondary School Majors and Minors to Collegiate Majors and Minors?" In other words did the collegiate majors and minors logically follow the majors and minors taken at the high school level in the high schools of Kansas?

The investigation is limited in that it does not include all secondary schools and colleges of Kansas, but only the records of three hundred graduates of The Fort Hays Kansas State College who likewise were graduates of Kansas high schools, during the decade of 1930 to 1940. One hundred graduates from each of the three classes of high schools were selected at random from scholastic records in the office of the Registrar of the state college at Hays. It was comparatively easy to determine the majors and minors at the secondary school level since these were indicated by units on the high school transcripts required by the college of freshmen.

At the college level it was a more difficult task to determine the majors and minors because they were recorded in hours rather than units.

The Catalogue of The Fort Hays Kansas State College for 1942 in reference to majors and minors and the degrees which it offers together with the requirements for the corresponding degrees carries the following statement:

"Two general types of curricula are offered, one emphasizing the arts and letters and leading to the degree of Bachelor of Arts (A.B.) and the other emphasizing the sciences as a method of broadening one's education and leading to the degree of Bachelor of Science (B.S.).

The degree of Bachelor of Arts is granted to those who complete a college curriculum.... with a major of at least 40 hours or a 30 hour major and a 20 hour minor as outlined by one of the college departments.

The Bachelor of Science degree is offered on the basis of 60 hours of fundamental sciences, ten of which in a different field from the major may be offered in place of the ten hours of foreign language requirement."(1)

The major and minor requirements for graduation from the secondary schools of Kansas are set forth in the

- 
1. Fort Hays Kansas State College Catalogue (Hays, Kansas, Fort Hays Kansas State College, January 1942) pp 39.

Handbook on Organization and Practices for the Secondary Schools of Kansas, as follows: "Two majors of three units each..... and two minors of two units each." (2)

The requirements as explained above determine that there are required for graduation from the high school two majors and two minors and also for graduation from the college the requirements are a major and a minor.

It follows that the "subject combinations" with which this thesis is concerned would have to consist of either two high school majors and a college major or two high school minors and a college minor. In order to determine the sequential relations of the above combinations the number of times each combination was selected by the students will be tabulated and percentages determined.

A check of the card catalogue and the Bibliography of Research Studies in Education in the College Library reveals few studies have been made that are related to the problem of this thesis.

In 1939, Reid, at The Fort Hays Kansas State College, made a thorough study of the relative achievement of students entering college from the three classes of high schools in the state of Kansas. As a basis for his investigation he used the scores made by 1224

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2. Handbook on Organization and Practices for the Secondary Schools of Kansas. (Topeka, State Board of Education, 1939) p 8.

freshmen in "Comprehensive Entrance Examinations".

These students came from 224 high schools during the years 1930-'31-'32-'33. Reid concluded:

"Considering the instruments of measure reliable, the 1224 students from 224 high schools a fair sampling, there is no appreciable difference in achievement among the pupils from the Class "A", Class "B", and Class "C" high schools in Kansas". (3)

While the above is Reid's conclusion in regard to the achievement of pupils at the collegiate level coming from the three classes of high schools previously mentioned, he also makes the following generalizations:

"No recommendations for changes in the organization or curriculum of the high schools of Kansas should be made since the coefficient of variation was so slight, and, that possibly other factors had a tendency to level the scholastic achievements of the pupils from the different classes of high schools". (3)

A second investigation was made by Burnham a graduate student at The University of Michigan in 1939. The problem of his thesis was to discover the relation of the students' work after graduation to the

- 
3. Reid, Edgar A., A Study of the Relative Achievement of the Pupils in Class "A", Class "B", and Class "C" high schools in the State of Kansas. (Master's Thesis, Fort Hays Kansas State College, Hays, Kansas, 1939) pp 45-45.

curriculum they followed in high schools. He carried out his investigation in the high schools of Flint, Michigan. Burnham's general conclusion follows:

"There is too little discretion used by the students in the selection of electives that would definitely transfer to the after school work of the pupils. However since the curricula committees of the Flint, Michigan, schools had made a determined effort to meet the local industrial needs by placing appropriate courses of study in the curriculum of the high schools there was an appreciable correlation of the high school course and the work followed by the students after high school." (4)

A third study was made in which the curriculum of the Commerce High School of Commerce, Oklahoma, was under investigation. The problem involved was whether the curriculum of The Commerce High School prepared its graduates any better for the work which they did after leaving school, than those who did not graduate but were listed as "drop-outs" on the school records. This study was made by Maxbel J. Speaker as a master's thesis. Her general conclusion based on the data of the thesis was:

"This study shows the need for a program of correlating the school subjects with life situations and providing a well developed pupil activities schedule,

- 
4. Burnham, Harry A., A Study of the Relations of the high school Curriculum followed by the Students and the work entered after Graduation from the high schools of Flint, Michigan. (Master's Thesis, University of Michigan, 1939)

vocational guidance, and the orientation of the pupil to, the possibilities of the school." (5)

The foregoing studies are indicative of the need for and the interest in a continual evaluation of the curricula, the courses of study, the subjects, and the majors and minors pursued by the students in the high schools and colleges in order to fit them to the needs of the students.

The data on the specific problem of this thesis were obtained from the scholastic records in the Registrar's office of The Fort Hays Kansas State College for the years of 1930 to 1940 inclusive.

In order to compile the data from the college transcripts it was necessary to devise a file card. On this file card was recorded the following information: the student's name, sex, name and location of the high school from which the student graduated, the classification of the high school, whether Class "A", Class "B", or Class "C", the date of graduation, and the major or minor subjects or courses taken at the high school level as well as at the college level.

This necessitated some 2400 entries on the file cards. From these file cards on which was recorded the

- 
5. Speaker, Mabel J., Improving the Curriculum of the Commerce High School through a follow-up study of the Graduates and Drop-outs. (Master's Thesis of the Oklahoma Agricultural and Mechanical College, 1939).

high school majors and minors as well as the college majors and minors, there were tabulated all the possible major and minor combinations taken during both the high school and college careers of the students.

A copy of the file card which was used for the recording of the data in this study is given in Figure 1.

Major and Minor File Card				
Name.	Sex.	Class HS.		
Name of HS.	Grad.HS.193	Col.193:		
Majors		Minors		
HS.:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
Col.:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
:	:	::	:	:
:	:	::	:	:

Figure 1.

The State Department of Education in its Handbook on Organization and Practices for the Secondary Schools of Kansas requires two majors and two minors for graduation from the high schools of the State. One of the majors must be English. One of the minors must be

social science if it is not selected as one of the majors.(6)

It is clear from the handbook that English will be the first major in all the major combinations.

Each major combination will include two secondary majors and the major at the college level. The minor combinations will include the two secondary minors and the minor at the college level.

The major and minor combinations were arbitrarily placed on the summary tables in the following order:

(1) the combination with a history major or a history minor, (2) the combination with a mathematics major or a mathematics minor, (3) the combination with a commerce major or a commerce minor, (4) the combination with a science major or a science minor, (5) the combination with a language major or a language minor. There were a few combinations that did not fall in any of the above categories. They were listed last on the combination tables.

The specific technique employed to discover the correlation, or lack of it, between the student's high school and college major or minor combinations was as follows: (1) on each individual file card, as shown in Figure 1, there were indicated the high school majors as

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6. Handbook on Organization and Practices for the Secondary Schools of Kansas. (Topeka, Kansas, The State Board of Education, 1939.) p 8.



well as the high school minors, (2) there was indicated the college major or the college minor.

From these data the major and minor combinations were set up and tabulated. The file cards were then arranged according to the sex of the student and the class of high school from which the student graduated. Separate tables were made for men and women in each class of high school. The high school and college major combinations with the number of cases or times that each major combination was selected as the combination of a student was carefully checked and recorded. This technique was repeated for the minor combinations also. Four tables were required for the graduates of each class of high school, as follows: a major and a minor table for the men and a major and a minor table for the women.

The interpretation of this paper depends largely upon the meaning of certain terms. In order to make clear the connotation of the following terms as they are employed in this thesis they are defined thus:

subject, A single study, as American History in the field of history.

unit, A high school unit means five recitations per week for thirty-six weeks in a subject requiring preparation for the recitation.

course, A series of studies in a unified field of knowledge.

curriculum, The whole body of courses offered in an educational institution.

identity of major or minor combinations, herein interpreted to mean relation in the same field of knowledge, as American History to history in general.

dissimilar, Major or minor combinations if not related in the same field of knowledge.

major, A high school major consists of three units in the same field.

minor, A high school minor consists of two units of work in the same field. "

major, A college major consists of from thirty to forty hours of college work.

minor, A college minor consists of twenty hours of college work.

combination, is used to designate the high school majors or minors together with the college major or minor selected by the same student.

## CHAPTER II

### EVOLUTION OF MAJORS AND MINORS

The philosopher Herbart made the statement that, "Great moral energy is the result of broad views, and of whole unbroken masses of thought". (1) It is to be here noted that early in our educational thought there occurred the idea of fields of subject matter, but very little progress was made in organizing these fields until the beginning of the nineteenth century.

Cubberley in his History of Education, shows a chart portraying the development of the curriculum from the "Three R's" in the schools of 1775 to the schools of 1875 in which were taught groups of subjects in courses, including Reading, Literature, Mathematics, Commerce, History, Science, the Arts, and Physical Culture. (2)

In the progress of the evaluation of the school curricula an extensive program of studies developed

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1. Cyclopedia of Education, by Paul Monroe, (New York: Macmillan Company, Vol. 3, 1912) p 251.
  2. Cubberley, Elwood P., The History of Education. (Boston, New York, Chicago: Houghton Mifflin Company.) p 756.

In this development there were added courses in Science, History, English, Language, Mathematics, Vocational and Art subjects. With the growth of the number and variety of the subjects the curriculum became far too extensive to be undertaken by any one student.

For a time with the introduction of new subjects, less and less time could be given to each subject, with the result that short courses were placed in the school programs and only a smattering of the subject matter of these courses was being obtained by the students.

The report of the Committee of Ten greatly emphasized the desirability of an intensive treatment of the subject matter. (3) Very rarely were any subjects dropped from the courses as a result of this report, and it followed that the number of the subjects was extended. This led to an enlarged curriculum in every high school and college. There was also manifested an increased interest by the pupils in the subjects of the extended curriculum.

Because of the changing attitudes towards subject matter, formal discipline, methods of teaching, and the curriculum in general there grew the idea of the

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3. Monroe, Paul, The Report of The Committee of Ten.  
(Cyclopedia of Education, New York: Macmillan Company,  
Vol. III, 1912) p 251.

elective system. Under this system the student was granted the liberty to select his subjects in the line of his interests from the numerous offerings of the school. The elective system carried the matter of alternative subjects to the point of allowing the pupil, within the limits of the range of subjects presented by the school, and other inherent restrictions, substantially to make up his own course of study. (4) This was in theory, at least, approaching the philosophy of Herbart as previously stated.

Near the close of the nineteenth century and the first decade of the twentieth educational literature was filled with the discussions of the elective system. Educational conservatives feared that it meant a persistent discounting of the classics and mathematics. They apprehended a rapid development of the vocational subjects, and denied that the individual pupil had any capacity for self direction in the choice of a program of studies. In only a few schools did the theory of free election of subjects make much progress, where it did the graduation of the students was made to depend upon the accomplishment of a certain numbers of units of work.

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4. Ibid. p 253.

From this point of view grew the philosophy that these units of work should consist of a definite number of units in a particular field. A unit of work was set at five recitation periods per week for the number of weeks the school was in session, usually thirty-six. For instance, in high school three units of work were required for a major and two units for a minor. The colleges also set up the unit of work designated as the hour. The hour being a recitation of an hour for the designated number of weeks. The majors in the collegiate field being approximately two times the number of hours as the minors. (5)

There is a great divergence between, states, counties, and cities in the means by which the courses of study are determined and the units of work prescribed in the courses. According to Monroe, Rhode Island requires nothing except temperance physiology for graduation, all other subjects being elective. In many states the "school law" or the state "Department of Education" makes definite requirements as to the amount of work to be done in the major and minor fields. (6)

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5. Monroe, Walter S., Ed. Encyclopedia of Educational Research, (Chicago: The Macmillan Company, 1941) p 576.
  6. Cyclopedia of Education, By Paul Monroe, (New York: The Macmillan Company, Vol. III, 1912) p 222.

In Kansas the state law requires a definite number of units and the State Board of Education certain majors and minors for graduation from high school. These will be treated in detail later in this chapter.

In the building of the curricula for the schools certain techniques are in use. These are expressed significantly by Rugg in one of his books, namely: Culture and Education in America in which he names six steps that are involved in his "Principles of Curriculum Building". These steps are as follows:

- (1) "The human experience is unified and continuous; there are no separate instincts, ends and means, character and conduct, motive and act, will and deed, all are continuous.
- (2) Knowing comes only through active response: meaning arises only through reaction.
- (3) Knowing rises through testing consequences. This is Dewey's concept of the "experimental method" of knowing.
- (4) Experience consists primarily in the adjustment and inter-relation of individuals.
- (5) Society is conceived as a democracy.
- (6) The educational curriculum must be based on the above concepts and must give the individuals the relationships, the controls, and habits which will secure social changes without introducing disorders."
- (7)

The sociologist and the problems of society have been important factors in the building of the curriculum. Also two schools of thought have influenced the process. On the one hand, there were those who thought the function

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7. Rugg, Harold, Culture and Education in America. (New York: Harcourt Brace and Company, 1931) p 192 ff.

of the school was to "prepare for life" and those on the other hand who thought each school, whether elementary, secondary, or collegiate, was just a preparation for the next higher step in the educational ladder.

The curriculum has been much influenced by the particular social problems uppermost at the time in the minds of the people. Thus no technique used in developing this part of the school program can neglect the socializing influences that are affecting the lives of the individuals of the school society.

The social aspects of the problem of curriculum development has been the concern of educators also. Caswell and Campbell in their book, Curriculum Development, state:

"Confusion in American life can be accounted for largely by the fact that our material development has created social problems more rapidly than regulatory and educative agencies have been able to provide solutions.

Some lag in social adjustments to new material development is inevitable, for the varied consequences of material expansion cannot be anticipated with assurance. At the present time, however, material developments and possibilities are so far beyond our abilities to use them wisely, that we are paying a terrific price in life, health, and happiness for the resulting social maladjustments.



Inability of our schools to grapple successfully with the social fundamental inadequacies is the work of the regulatory and educative agencies. Continuation of these inadequacies carries with it consequences of increasing seriousness." (8)

The sociological problem presents a new technique to the development of the curriculum and the alternative to cumulative maladjustments is for the school to take a more aggressive part in dealing with the problem. A comprehensive educational program of well fitted and carefully selected subjects and courses must be developed to encompass the pressure of present living. Changes in the curricula must be anticipated and the school must have a greater part in the directing of the new developments. The forces of business and politics must not be permitted alone to determine the direction in which society shall move.

The supreme task for the school is to develop a program of studies that will meet the social needs of the day. The challenge to the school is of primary significance to curriculum making for it is through this avenue that the challenge must be largely met. This also infers an enlarged program of studies.

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8. Caswell, Hollis L., and Campbell, Doak S., Curriculum Development. (New York, Chicago: American Book Company, 1935) p 221.

Charters maintains in his Curriculum Construction that:

"One would think that the profound changes in thought that followed the many revolutionary periods of the past would be reflected in the school curricula at once. In practice, however, the changes have always been tardy. For instance, it would be expected, that, upon the wholesale acceptance of Christianity by the people of Europe, the Quadrivium and the Trivium of the Greek civilization would have given way to the books that more directly taught the Christian culture. True, there was some changes to the Catechetical and the Catechuminal schools but the old formalism gradually gained the ascendancy." (9)

The above tendency was also noted in the Renaissance, the Reformation, and the other great periods of thought transformation. It seems that the school subjects did not necessarily change with the thought. Changes in the curriculum are always preceded by modifications in our conceptions of the aims of education. In the philosophy of Plato, Comenius, Rousseau, and others the ideal precedes the activity. This preliminary statement of the aims of education is a prerequisite to the selection and use of the subjects in the courses which make up the curriculum.

To determine the content of the curriculum the aim of education must be stated in terms of ideals as well as in terms of activity. When the aim is stated in terms of ideals only, there is always a gap between the aim as stated and the curriculum derived from such a statement.

When the activities are stated without the ideals which dominate them there are no means of selecting the proper methods of performing them. Thus the curriculum has been built as a fulfillment of the demands of the stated aims of education.

The Unit Curricula Committee of the North Central Association, during the past few years has made several tentative and partial reports relative to the standards pertaining to the reorganization of the secondary school curricula. The aims of the secondary education have been considered under two heads, (1) the ultimate goals toward which educational efforts have been directed; and (2) the specific and immediate aims as related to the selection of appropriate subject matter.

Four large aims have been outlined by this Committee in terms of the development of the abilities and dispositions of the pupil as follows:

- a. Health, or the maintenance of health and physical fitness.
- b. Leisure, or the use of leisure in the right way.
- c. Vocations, or the successful engagement in vocational activities.
- d. Social activities, or the successful performance of activity in domestic, community, and civic relationships. (10)

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10. Clement, John A., Curriculum Making in Secondary Schools. (New York: Henry Holt and Company, 1925)  
p 142.

In addition to these general aims that must be considered in building the curricula and the selection of the subjects the Committee of Ten has made a statement of immediate aims in terms of the acquisition of knowledge, of the development of attitudes, of mental techniques, and of skills. These immediate aims are directly connected with the above named ultimate aims. The immediate aims are as follows:

- a. Acquiring fruitful knowledge.
- b. Development of attitudes, interests, motives, ideals, and appreciations.
- c. Development of memory techniques in such process as perception, memory, and imagination.
- d. Acquiring right habits and useful skills in right living. (11)

With these ultimate and immediate aims clearly outlined, the Committee insists the task is to select the subject matter best suited to the realization of these respective aims. Several years ago Ex-President Eliot of Harvard stated that "Tradition still too largely determines both the substance and the purpose of current education". (12)

The mistakes of the past have largely been avoided in the building of the curricula by using the techniques that took cognizance of the definite aims and objectives

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11. Ibid. p 144.

12. Ibid. p 179.

that have been evolved by the foregoing agencies.

The expanded offerings of the schools were the final products and from them the schools have developed the content subjects, the courses of study, and have built their curricula.

When the graduates of the high schools of Kansas, in increasing numbers, continued their education by enrolling in the higher schools of learning it became apparent that there must be certain requirements for graduation in order to fit the pupils for a place in life, as well as, to meet the requirements for college entrance.

The constitution of the State of Kansas makes the following provisions for education:

Article VI, Sec. 2, Kansas Constitution.  
"The legislature shall encourage the promotion of intellectual, moral, scientific and agricultural improvement, by establishing a uniform system of common schools, and schools of higher grade, embracing normal, preparatory, collegiate and university departments." (13)

The general statutes of Kansas provide for a State Department of Education and a State Board of Education in which are vested certain powers.

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13. McClenney, Geo. L., Kansas School Laws, rev. 1939.  
(Topeka, Kansas, State Department of Education, 1939)  
p 10.

These provisions are stated in General Statutes

"72-101" as follows:

"State Department of Education: The state superintendent of public instruction, the state board of education, and the officers, and assistants authorized to be appointed shall constitute the state board of education."

"72-102"

"Meetings; prescribing courses of study; issuing state teachers certificates. The state board shall meet at such times and places as may be determined by them and at the call of the state superintendent of public instruction. The board shall prescribe courses of study for the schools of the state, including the common or district schools, and the high schools; they shall also prepare a course of study for the normal institutes; and they shall revise the several courses of study when in their judgment such revision is desirable. They shall have authority to make rules and regulations relating to the observance of the prescribed courses of study....." (14)

The State Board of Education has used the authority given it by the Kansas State Legislature in setting up the organization of the high schools. In the Handbook on Organization and Practices for the Secondary Schools of Kansas are given the requirements for graduation from Kansas high schools. In order to simplify the problem of organizing a course of study for any high school student in Kansas, it is convenient to arrange the subject matter of the curriculum into eight groups

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14. Corrick, Franklin, General Statutes of Kansas, 1939 (Topeka, The Kansas State Printing Plant) 72-101, 72-102.

or departments of knowledge; namely, English, Mathematics, Science, Social Science, Foreign Language, Commercial Subjects, Music, and Arts.

An accredited high school must offer at least five of these groups, and no student should be permitted to graduate until he has successfully completed fifteen units of work selected according to the following plan:

#### Requirements

1. Two majors of three units each.
  - a. First major, 3 units of English.
  - b. Second major, 3 units of one of remaining groups.
2. Two minors of two units each.
  - a. First minor, 2 units of Social Science (unless it is elected as a second major.)
  - b. Second minor, 2 units from one of remaining groups.
3. One-half unit of Constitution of the United States.
4. One unit either of mathematics or a laboratory science.
5. Remaining units may be selected from any one or more of the eight groups. (15)

The above statements show that the majors and minors have become a definite part of the requirements for graduation from the high schools of Kansas. This has been due to legislative enactment in Kansas and in a large measure to the provisions of the State Board of Education.

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15. Handbook on Organization and Practices for the Secondary Schools of Kansas. (Topeka, Kansas, State Board of Education, 1939) pp 8-9.

The entrance requirements, as listed in the Catalogue of The Port Hays Kansas State College, for 1941-42, clearly reflect the emphasis placed upon major and minor requirements and also the scholastic ratings of the student of the present time. The state requirements are given for admission:

"Admission by certificate from accredited Kansas High Schools: The requirements for admission of graduates of Kansas high schools to The Port Hays Kansas State College have been fixed by legislative enactment, which by section 72-104, Revised Statutes of 1923, provides that: any person who shall complete a four-year course of study in any high school accredited by the State Board of Education shall be entitled to admission to the freshman class of the State University, the State Agriculture College, or any of the State Teacher's Colleges, on presenting a statement containing a transcript of his high school record, signed by the principal of the school, and certifying that such person has satisfactorily completed said course of study." (16)

It follows that the pupils have completed the major and minor requirements of the Kansas State Board of Education for graduation from the high schools of the State of Kansas. The same catalogue also gives the major and minor requirements and the scholastic grade point requirements for the degrees of undergraduate rank as follows:

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16. Port Hays Kansas State College Bulletin, (Hays, Kansas: Port Hays Kansas State College., 1941-42) p 28.



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"The degree of Bachelor of Arts is granted to those who complete a college curriculum in conformity with the regulations....., with a major of at least forty hours or a thirty-hour major and a twenty-hour minor as outlined by one of the college departments. ... The Bachelor of Science degree is offered as the basis of sixty hours of fundamental sciences, ten of which, in a different field from the major, may be offered in place of the ten hours of foreign language requirements. (17)

This same catalogue lists the following scholastic requirements:

- "Admission to upper division standing."
- (1). A student who has made a grade point index of at least 1 may be admitted to upper division standing and the opportunity to pursue a major curriculum leading to a degree.
  - (2). A student who has achieved a grade point of at least 1.70 may be admitted to upper-division standing with the opportunity to pursue a major curriculum leading to a degree and in addition may be admitted to independent study privileges in those departments, providing such work.
  - (3). A student whose desire has been only to pursue certain courses or whose scholastic index does not qualify him for upper division standing may on application receive a certificate of his sixty-four hours of lower-division credit. (18)

It is to be noted from the foregoing facts that these requirements are a part of a well planned program for the high schools as well as the colleges. It is also to be

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17. Ibid. p 41  
18. Ibid. p 41

observed that the State Board of Education has taken a leading role in the setting up of these standards for the schools.

## CHAPTER III

### MAJOR AND MINOR RELATIONSHIPS

The tables and the summaries which accompany them are the compilation of the data from the file cards used in recording the factual material for the problem of this thesis. The records in the Registrar's office of The Fort Hays Kansas State College were used to obtain these data.

The tables which follow are designed in such a way as to show the relationship, or lack of it, between majors and minors at the secondary school level and majors and minors at the college level.

The organization of these data features this relationship for men and women separately as found in the three classes of high schools in the State of Kansas. Each table shows, first, the high school bi-major combination, second, the college major and, third, the number of cases or times in which a particular secondary-college major combination was chosen at the college level.

It should be further stated that the principle used in determining the relationship of the college major to the high school majors was that of identity as defined in chapter I. That is, if the high school major

were English-History as shown in the first eleven cases in Table I and the college major in relation to these eleven cases were History, then this relationship was regarded as positive or identical. If the college major were some other than English or History it was regarded as negative or dissimilar. In other words identical is the term applied to the relationship when any two were in the same field of subject matter.

It is to be observed that in every high school major combination English appears as one of the majors because it is required by the State Board of Education. The other high school major may be elected by the student under the restrictions given in Chapter II.

In the tables which present the high school-college "minor"-relationships there is not the degree of constancy as in the case of the majors. This is because the student is not so rigidly restricted in the selection of his minor or his minors. The identity of relationship was also the principle used in determining the relationships in dealing with the minors.

The tables with their summaries depicting the minor relationships will succeed the major tables in this chapter.

Table I

MEN GRADUATES OF CLASS "A" HIGH SCHOOLS		
Cases	Majors	
	H.S.	Col.
	First Major Combinations	
7	Eng-Hist	Hist
6	Eng-Hist	Sci
1	Eng-Hist	Eng
1	Eng-Hist	Ind A
	Second Major Combinations	
3	Eng-Math	Sci
2	Eng-Math	Math
	Third Major Combinations	
2	Eng-Com	Hist
2	Eng-Com	Com
2	Eng-Com	Sci
1	Eng-Com	Eng
	Fourth Major Combinations	
7	Eng-Sci	Sci
2	Eng-Sci	Hist
2	Eng-Sci	Math
2	Eng-Sci	Bus Ad
1	Eng-Sci	Eng
	Fifth Major Combinations	
1	Eng-Lang	Eng
42	Cases	

Table II

SUMMARY, MEN GRADUATES, CLASS "A" HIGH SCHOOLS			
Major Combinations			
Group No.	Cases	Iden.	Disc.
I	15	8	7
II	5	2	3
III	7	3	4
IV	14	8	6
V	1	1	0
Totals	42	22	20
Per Cents	100%	52.3%	57.7%

Table II is a summary. It is a compilation of the data of men graduates from Class "A" high schools as presented previously in Table I. The table is read in the following manner: Beginning at the top of the column at the left and reading across the page, in group I there were 15 cases or students, 8 of whom selected identical combinations at the college level in relation to the high school bi-major group and there were 7 of the 28 who selected dissimilar combinations.

The next or second line of the table as well as the succeeding lines are read in similar manner.

The total number of cases is 42 in which identity of selection appears 22 times and dissimilar 20 times. In other words 52.3% of the men in Class "A" high schools chose identical majors and 57.7% dissimilar.

Table III

WOMEN GRADUATES OF CLASS "A" HIGH SCHOOLS			
Cases	Majors		Col.
	H.S.	:	
First Major Combinations			
10	Eng-Hist	:	Eng
7	Eng-Hist	:	Music
5	Eng-Hist	:	H Ec
1	Eng-Hist	:	Sci
1	Eng-Hist	:	Hist
Second Major Combinations			
(None)			
Third Major Combinations			
3	Eng-Com	:	H Ec
3	Eng-Com	:	Music
2	Eng-Com	:	Bus Adm:
1	Eng-Com	:	Soc Sci:
1	Eng-Com	:	Psych
Fourth Major Combinations			
8	Eng-Sci	:	Eng
2	Eng-Sci	:	H Ec
2	Eng-Sci	:	Educ
1	Eng-Sci	:	Hist
1	Eng-Sci	:	Com
1	Eng-Sci	:	Health
1	Eng-Sci	:	Psych
Fifth Major Combinations			
2	Eng-Lang	:	H Ec
1	Eng-Lang	:	Bus Adm:
1	Eng-Lang	:	Music
1	Eng-Lang	:	Psych
Sixth Major Combinations			
1	Eng-H Ec	:	Eng
1	Eng-H Ec	:	Music
1	Eng-N Tr	:	H Ec
<hr/>			
58	Cases		

Table IV

SUMMARY. WOMEN GRADUATES, CLASS "A" HIGH SCHOOLS			
Major Combinations			
Group No.	Cases	Iden.	Dis.
I	24	11	13
II (No Cases)			
III	10	2	8
IV	16	8	8
V	5	0	5
VI	3	1	2
Totals	58	22	36
Per cent	100%	37.9%	62.1%

Table IV is a summary. It is a compilation of the data of women graduates of Class "A" high schools as presented previously in Table III. The table is read in the following manner: Beginning at the top of the column at the left and reading across the page, in group I there were 24 cases or students, 11 of whom selected identical combinations at the college level in relation to the high school bi-major group and there were 13 of the 24 who selected dissimilar combinations.

The next or second line of the table as well as the succeeding lines are read in similar manner.

The total number of cases is 58 in which identity of selection appears 22 times and dissimilar 36 times. In other words 37.9% of the women in Class "A" high schools chose identical majors and 62.1% chose dissimilar.



Table V.

MEN GRADUATES OF CLASS "B" HIGH SCHOOLS		
Cases	Majors	
	H.S.	Col.
	First Major Combinations	
5	Eng-Hist	Sci
4	Eng-Hist	Hist
4	Eng-Hist	Ind A
3	Eng-Hist	Com
	Second Major Combinations	
2	Eng-Math	Math
1	Eng-Math	Hist
1	Eng-Math	Ind A
	Third Major Combinations	
2	Eng-Com	Ind A
1	Eng-Com	Hist
1	Eng-Com	Sci
1	Eng-Com	Bus Adm
1	Eng-Com	Music
	Fourth Major Combinations	
14	Eng-Sci	Sci
3	Eng-Sci	Ind A
2	Eng-Sci	Hist
1	Eng-Sci	Eng
	Fifth Major Combinations	
1	Eng-Lang	Eng
	Sixth Major Combinations	
2	Eng-Ind A	Ind A
50	Cases	

Table VI

SUMMARY. MEN GRADUATES CLASS "B" HIGH SCHOOLS			
Major Combinations			
Group No.	Cases	Iden.	Dis.
I	16	4	12
II	4	2	2
III	6	1	5
IV	20	15	5
V	1	1	0
VI	3	2	1
Totals	<u>50</u>	<u>25</u>	<u>25</u>
Per cents	100%	50%	50%

This table VI is a summary of the data found in Table V. The table is read in a manner and according to the explanation as in tables II and IV on page 32 and 34. From this point on the legends will be omitted from the major and minor combination tables whenever and wherever similar summary tables appear.

Table VII

SUMMARY. WOMEN GRADUATES, CLASS "B" HIGH SCHOOLS			
Major Combinations			
Group No.	Cases	Iden.	Dis.
I	31	13	18
II (No Cases)			
III	4	3	1
IV	13	6	7
V	2	1	1
Totals	<u>50</u>	<u>23</u>	<u>27</u>
Per Cents	100%	46%	54%

Table VII is a summary of the data found in Table VIII.

Table VIII

WOMEN GRADUATES OF CLASS "B" HIGH SCHOOLS			
Cases	Majors		Col
	H.S.		
	First Major Combinations		
7	Eng-Hist		Hist
6	Eng-Hist		Eng
4	Eng-Hist		H Ec
4	Eng-Hist		Educ
3	Eng-Hist		Music
3	Eng-Hist		Bus Ad
2	Eng-Hist		Math
2	Eng-Hist		Art
	Second Major Combinations		
	(None)		
	Third Major Combinations		
2	Eng-Com		Eng
1	Eng-Com		Bus Ad
1	Eng-Com		Psych
	Fourth Major Combinations		
4	Eng-Sci		Eng
2	Eng-Sci		Bus Ad
2	Eng-Sci		H Ec
1	Eng-Sci		Hist
1	Eng-Sci		Educ
1	Eng-Sci		Phys Ed
	Fifth Major Combinations		
1	Eng-Lang		Lang
1	Eng-Lang		Sci
50	Cases		

Table IX

MEN GRADUATES OF CLASS "C" HIGH SCHOOLS			
		Majors	
Cases	H.S.	Col.	
First Major Combination			
11	Eng-Hist	Hist	
4	Eng-Hist	Ind. A	
3	Eng-Hist	Sci	
3	Eng-Hist	Bus Ad	
2	Eng-Hist	Math	
2	Eng-Hist	Econ	
2	Eng-Hist	Music	
1	Eng-Hist	Jour	
Second Major Combination			
1	Eng-Math	Math	
1	Eng-Math	Sci	
1	Eng-Math	Psych	
Third Major Combination			
2	Eng-Com	Com	
1	Eng-Com	Agric	
1	Eng-Com	Chem	
1	Eng-Com	Music	
Fourth Major Combination			
6	Eng-Sci	Sci	
2	Eng-Sci	Hist	
2	Eng-Sci	Math	
2	Eng-Sci	Com	
1	Eng-Sci	Ind. A	
1	Eng-Sci	Music	
Fifth Major Combination			
3	Eng-Lang	Lang	
1	Eng-Lang	Sci	
Sixth Major Combination			
2	Eng-Ind. A	Bus Ad	
1	Eng-Ind. A	Sci	
57	Cases		

Table X

SUMMARY. MEN GRADUATES, CLASS "C" HIGH SCHOOL.			
Major Combinations			
Group No.	Cases	Iden.	Dis.
I	28	11	17
II	3	1	2
III	5	2	3
IV	14	0	14
V	4	3	1
VI	3	0	3
Totals	57	17	40
Per cents	100%	29.8%	70.2%

Table X is a summary of the data found in Table IX.

Table XI

SUMMARY. WOMEN GRADUATES, CLASS "C" HIGH SCHOOLS			
Major Combinations			
Group No.	Cases	Iden.	Dis.
I	26	10	16
II	1	0	1
III	2	0	2
IV	13	5	8
V	1	0	1
Totals	43	15	28
Per cents	100%	37.2%	62.8%

Table XI is a summary of the data found in Table XII.

Table XII

WOMEN GRADUATES OF CLASS "C" HIGH SCHOOLS			
Cases	Majors		Col.
	H.S.		
	First Major Combination		
5	Eng-Hist		Hist
5	Eng-Hist		Eng
5	Eng-Hist		Educ
3	Eng-Hist		Bus Ad
3	Eng-Hist		Music
2	Eng-Hist		Phys Ed
2	Eng-Hist		H Ec
1	Eng-Hist		Math
	Second Major Combination		
1	Eng-Math		H Ec
	Third Major Combination		
1	Eng-Com		Com
1	Eng-Com		Psych
	Fourth Major Combination		
4	Eng-Sci		Bus Ad
3	Eng-Sci		Sci
2	Eng-Sci		Eng
2	Eng-Sci		Psych
2	Eng-Sci		Music
	Fifth Group Combination		
1	Eng-Lang		Health
43	Cases		

Table XIII

MEN GRADUATES OF CLASS "A" HIGH SCHOOLS			
Cases	Minors		Col.
	H.S.		
First Minor Combinations			
5	Hist-Sci	Sci	
3	Hist-Math	Hist	
3	Hist-Math	Sci	
2	Hist-Math	Math	
2	Hist-Com	Eng	
2	Hist-Sci	Jour	
2	Hist-Lang	Sci	
1	Hist-Com	Sci	
Second Minor Combinations			
4	Math-Ind A	Sci	
3	Math-Sci	Sci	
2	Math-Sci	Ind A	
1	Math-Sci	Bus Ad	
1	Math-Lang	Eng	
1	Math-Lang	Math	
Third Minor Combinations			
2	Com-Sci	Com	
2	Com-Eng	Music	
2	Com-Ind A	Bus Ad	
Fourth Minor Combinations			
3	Sci-Ind A	Sci	
1	Sci-Ind A	Bus Ad	
42	Cases		

Table XIV

SUMMARY. MEN GRADUATES, CLASS "A" HIGH SCHOOLS			
Minor Combinations			
Group No.	Cases	Iden.	Dis.
I	20	10	10
II	12	3	9
III	6	4	2
IV	4	3	1
Totals	42	20	22
Per cents	100%	47.6%	52.4%

Table XIV is a summary of the data found in minor combination Table XIII.

Table XV

SUMMARY. WOMEN GRADUATES, CLASS "A" HIGH SCHOOLS			
Minor Combinations			
Group No.	Cases	Iden.	Dis.
I	16	5	11
II	23	1	22
III	3	1	2
IV	13	6	7
V	3	0	3
Totals	58	13	45
Per cents	100%	22.4%	77.6%

Table XV is a summary of the data found in minor combination Table XVI.



Table XVI

WOMEN GRADUATES OF CLASS "A" HIGH SCHOOLS.		
Cases	Minors	
	H.S.	Col.
	First Minor Combinations	
4	Hist-Math	Hist
4	Hist-Math	Eng
2	Hist-Sci	Bus Ad
1	Hist-Math	Sci
1	Hist-Math	Com
1	Hist-Math	Psych
1	Hist-Sci	Eng
1	Hist-H Ec	H Ec
1	Hist-Lang	Eng
	Second Minor Combinations	
4	Math-Sci	Hist
4	Math-Sci	Eng
3	Math-H Ec	Sci
2	Math-Sci	Bus Ad
2	Math-Sci	Art
2	Math-Com	Eng
2	Math-H Ec	Eng
2	Math-Lang	H Ec
1	Math-H Ec	Hist
1	Math-Sci	Sci
	Third Minor Combinations	
2	Com-Lang	Eng
1	Com-Math	Bus Ad
	Fourth Minor Combinations	
3	Sci-Lang	Lang
2	Sci-Lang	Hist
2	Sci-Lang	Psych
3	Sci-H Ec	Eng
3	Sci-H Ec	H Ec
	Fifth Minor Combinations	
3	Lang-H Ec	Hist
58	Cases	

Table XVII

MEN GRADUATES OF CLASS "B" HIGH SCHOOLS			
Cases	Minors		Col.
	H.S.		
	First Minor Combinations		
10	Hist-Sci		Sci
3	Hist-Sci		Hist
3	Hist-Math		Ind A
2	Hist-Math		Eng
2	Hist-Com		Eng
1	Hist-Math		Math
1	Hist-Math		Phys Ed
1	Hist-Math		Bus Ad
1	Hist-Sci		Eng
1	Hist-Sci		Ind A
1	Hist-Sci		Phys Ed
1	Hist-Com		Pub Spk
1	Hist-Eng		Sci
	Second Minor Combinations		
6	Math-Sci		Sci
2	Math-Lang		Hist
2	Math-Ind A		Hist
1	Math-Sci		Hist
1	Math-Sci		Ind A
1	Math-Lang		Sci
1	Math-Ind A		Eng
1	Math-Ind A		Phys Ed
	Third Minor Combinations		
1	Com-Sci		Hist
1	Com-Lang		Sci
	Fourth Minor Combinations		
3	Sci-Math		Sci
	Fifth Minor Combinations		
1	Ind A-Math		Ind A
1	Ind A-Lang		Eng
50	Cases		

Table XVIII

SUMMARY. MEN GRADUATES, CLASS "B" HIGH SCHOOLS				
Minor Combinations				
Group No.	Cases	Iden.	Dis.	
I	28	14	14	
II	15	7	8	
III	2	0	2	
IV	3	3	0	
V	2	1	1	
Totals	50	25	25	
Per cents	100%	50%	50%	

Table XVIII is a summary of the data found in Table XVII.

Table XIX

SUMMARY. WOMEN GRADUATES, CLASS "B" HIGH SCHOOLS				
Minor Combinations				
Group No.	Cases	Iden.	Dis.	
I	11	5	6	
II	18	4	14	
III	6	2	4	
IV	15	7	8	
Totals	50	18	32	
Per cents	100%	36%	64%	

Table XIX is a summary of the data found in Table XX.

Table XX

WOMEN GRADUATES OF CLASS "B" HIGH SCHOOLS			
Cases	Minors		Col.
	H.S.		
First Minor Combinations			
5	Hist-Math		Hist
2	Hist-Math		Sci
2	Hist-Math		Bus Ad
1	Hist-Math		Eng
1	Hist-Lang		Eng
Second Minor Combinations			
4	Math-Sci		Eng
3	Math-Lang		Lang
2	Math-Sci		Hist
2	Math-Sci		Sci
2	Math-Sci		Lang
2	Math-Lang		Sci
1	Math-Sci		Math
1	Math-Lang		Hist
1	Math-H Ec		H Ec
Third Minor Combinations			
1	Com-Math		Math
1	Com-Com		Sci
1	Com-Sci		Psych
1	Com-Sci		Bus Ad
1	Com-H Ec		H Ec
1	Com-H Ec		Hist
Fourth Minor Combinations			
5	Sci-Lang		Lang
2	Sci-Math		Eng
2	Sci-Math		Psych
1	Sci-Math		Hist
1	Sci-Math		Sci
1	Sci-Math		Bus Ad
1	Sci-Com		Bus Ad
1	Sci-Lang		Art
1	Sci-H Ec		Bus Ad
50 Cases			

Table XXI

MEN GRADUATES OF CLASS "C" HIGH SCHOOLS		
Cases	Minors	
	H.S.	Col.
First Minor Combinations		
6	Hist-Math	Hist
6	Hist-math	Sci
4	Hist-Sci	Hist
2	Hist-Lang	Math
1	Hist-Math	Math
1	Hist-Math	Ind A
1	Hist-Math	Eng
1	Hist-Sci	Music
1	Hist-Com	Ind A
1	Hist-Lang	Bus Ad
1	Hist-Lang	Hist
1	Hist-Ind A	Socio
Second Minor Combinations		
4	Math-Sci	Math
1	Math-Sci	Hist
1	Math-Sci	Bus Ad
1	Math-Ind A	Hist
Third Minor Combinations		
1	Com-Math	Sci
Fourth Minor Combinations		
7	Sci-Math	Sci
3	Sci-Com	Sci
2	Sci-Ind A	Sci
1	Sci-Math	Hist
1	Sci-Math	Phys Ed
1	Sci-Lang	Psych
1	Sci-Ind A	Bus Ad
Fifth Minor Combinations		
1	Lang-Math	Eng
1	Lang-Math	Sci
Sixth Minor Combinations		
1	Ind A	Math
<u>57 Cases</u>		

Table XXII

SUMMARY. MEN GRADUATES, CLASS "C" HIGH SCHOOLS			
Minor Combinations			
Group No.	Cases	Iden.	Dis.
I	30	15	15
II	7	4	3
III	1	0	1
IV	16	12	4
V	2	0	2
VI	1	0	1
Totals	57	31	26
Per cents	100%	54.3%	45.7%

Table XXII is a summary of the data found in Table XXI.

Table XXIII

SUMMARY. WOMEN GRADUATES, CLASS "C" HIGH SCHOOLS			
Minor Combinations			
Group No.	Cases	Iden.	Dis.
I	18	12	6
II	6	0	6
III	1	0	1
IV	12	2	10
V	6	0	6
Totals	43	14	29
Per Cents	100%	32.5%	67.5%

Table XXIII is a summary of the data found in Table XXIV.

Table XXIV

WOMEN GRADUATES OF CLASS "C" HIGH SCHOOLS		
Cases	Minors	
	H.S.	Col.
	First Minor Combinations	
4	Hist-Math	Lang
4	Hist-Com	Hist
3	Hist-Math	Hist
2	Hist-Sci	Hist
1	Hist-Math	Math
1	Hist-Sci	Pub Spk
1	Hist-Eng	Hist
1	Hist-H Ec	Psych
1	Hist-H Ec	Hist
	Second Minor Combinations	
3	Math-Sci	Eng
1	Math-Lang	Hist
1	Math-Lang	Music
1	Math-Lang	Art
	Third Minor Combinations	
1	Com-H Ec	Hist
	Fourth Minor Combinations	
5	Sci-Math	Lang
1	Sci-Math	Math
1	Sci-Lang	Sci
1	Sci-Math	Psych
1	Sci-Eng	Hist
1	Sci-Math	Art
1	Sci-Math	H Ec
1	Sci-Com	Eng
	Fifth Minor Combinations	
2	Lang-Math	Eng
2	Lang-Com	Music
1	Lang-Math	Hist
1	Lang-Math	Phys Ed
43	Cases	

Table XXV

## Final Summary of

## 300 GRADUATES, CLASSES "A", "B", AND "C" HIGH SCHOOLS

Class "A" High Schools			
Graduates	Combinations	Identical	Dissimilar
42 men	Major	52.3%	47.7%
42 men	Minor	47.6	52.4
Average, men		49.95	50.05
58 women	Major	37.9	62.1
58 women	Minor	22.4	77.6
Average, women		30.2	69.8
Average, men and women		40.05	59.95
Class "B" High Schools			
50 men	Major	50	50
50 men	Minor	50	50
Average, men		50	50
50 women	Major	46	54
50 women	Minor	36	64
Average, women		41	59
Average, men and women		45.5	54.5
Class "C" High Schools			
57 men	Major	29.8	70.2
57 men	Minor	54.3	45.7
Average, men		42.05	57.95
43 women	Major	37.2	62.8
43 women	Minor	32.2	67.8
Average, women		34.7	65.3
Classes "A", "B", and "C" High Schools			
149 men, average selection		47.33	52.67
151 women, average selection		35.3	64.7
300 men and women, average selection		41.31	58.68



## CHAPTER IV

### CONCLUSIONS AND APPLICATIONS

In this the closing chapter the author presents the conclusions and applications to the problem of thesis as stated in the introduction.

As far as the writer has been able to ascertain this is the first study of this particular problem for a master's thesis undertaken on this campus. It has been an interesting study and the author believes that certain results have been realized. It was not even hoped that this would be an exhaustive investigation of the subject and, since, many related aspects of the problem have arisen during the study the writer will have a continued interest in the significance of the majors and minors in the curricula of the high schools and colleges of the State of Kansas

The tables of the preceding chapter were prepared to indicate the findings and to show in tabulated form the facts gathered from the data prepared for this thesis. The material presented in Table XXV is a final summarization of the major and minor combinations with the per cent of identical and dissimilar

selections by the three hundred graduates of Class "A", Class "B", and Class "C" high schools in the State of Kansas.

The objective of this thesis as stated in the introduction is to discover,

"The Relation of the Secondary School Majors and Minors to the Majors and Minors at the Collegiate Level."

The curricula and the establishment of the majors and minors of the courses of study have been the result of years of time and effort. The purpose has been to direct the students in the election of combinations that were helpful in the preparation for life and its problems. Because of the evident intention of both the student and the school to select majors and minors that were interrelated it would be expected that there would be a definite continuation of the combinations at the college level as were pursued in the high school.

The data supporting the objective of this study as given in the final summary table XXV indicates that the selection of identical combinations is 41.3% of the total combinations. The class "C" high school graduates show the lowest average of 38.37% of identical combinations, the class "A" graduates

the next highest with an average of 40.05%, and the class "B" graduates the highest average of 45.5%.

It is to be noted that in each of the three classes of high schools that the men selected a greater per cent of identical combinations than the women. The average of identical selections of the men varied from 42.8% in the Class "C" high schools to 50% in the Class "B" high schools. The identical selections of the women varied from 30.2% in the Class "A" high schools to 41% in the Class "B" high schools.

The author does not think it is in the province of this thesis to present specific recommendations or solutions for the problems implied herein, but the implications impel him to make the following statements:

The curricula of the schools, especially at the high school level, are unlimited fields of service for those who are interested in correlating the courses in the fields of learning.

Pupil guidance in the high school will materially assist the pupils in the selection of major and minor combinations most valuable for their future educational development.

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Valuable for the discussion of the curriculum and its educational significance.

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