A COMPARATIVE STUDY OF THE TRAINING AND TEACHING COMBINATIONS OF KANSAS HIGH SCHOOL TEACHERS

A THESIS

SUBMITTED TO THE DEPARTMENT OF EDUCATION AND THE GRADUATE COUNCIL OF THE KANSAS STATE TEACHERS COLLEGE OF EMPORIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

BY

C. W. RIDGWAY

MAY 1931

Approved for Major Department

Edwin L. Brown

Approved for Graduate Council

Edwin L. Brown

Acknowledgement.

The writer wishes to make acknowledgement to the persons who have made this study possible. His thanks are especially due to George A. Allen Jr., State Superintendent of Public instruction, from whose office the information was secured that was used in this study.

To Dr. Edwin J. Brown, Director of the Graduate Division of the Kansas State Teachers College of Emporia, who not only suggested the problem, but has aided by his advice and friendly criticism all through the study, the writer is very greatly indebted, and wishes to make this acknowledgement of his gratitude.

To his wife, Elizabeth Willits Ridgway, who has aided in the tabulation of the tables included in the study, this word of appreciation is appended.

C. W. R.

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PART I.

INTRODUCTION.

How often have we heard the freshman and sophomore, and not infrequently the junior, say, "My major subject is so and so but I don't know what my minor will be. What would be a good combination for my field?" The answer he received has been based very largely upon personal opinion. Opinions are rarely reliable and are generally prejudiced. Often times the choice of another subject to go with a student's chosen major subject has been determined very largely by the personality or the likeableness of some instructor, under whom he enjoys working. Frequently very little attention is paid to the possibility of that combination being in demand out in the teaching field.

A student may say, "This is my chosen field, I am not particular what other field I combine with it, but when I have finished my school work I want to be reasonably sure that I have a combination that will be in demand." What are the most commonly combined subjects now being taught in the Kansas High Schools?

Purpose of This Study.

This study has been made in an attempt to answer the

above question as well as several other questions dealing with the same general topic. The principal problems on which an attempt has been made to throw light are as follows:

1. What are the common teaching combinations?
2. What per cent of the teachers have majored or minored in college in the subjects they are teaching in high school?
3. What per cent of teachers are teaching one, two, three, or more subjects in fields which were not considered as major or minor subjects in the teacher's college course?
4. What per cent of the teachers are teaching in one, two, three, or more fields.
5. Should the college requirements for teaching preparation tend to produce teachers who are specialists or should students be given some training in a number of fields?
6. In which subject fields are Kansas teachers paid the best salaries?
7. What are the differences in salaries paid the graduates of the different Kansas colleges?

Utility of the Information Gained.

This information should make it easier for students to

choose combinations that are commonly found in the teaching field. It will no longer be necessary for the adviser to state that in his opinion science and mathematics or home economics and English make a good teaching combination. Instead he can tell the student what per cent of teachers out in the field are teaching these and other combinations. Administrators and teachers should be able to determine the relative salaries paid for different teaching combinations. A teacher can readily determine her chances of teaching her major subject only, or what the chances are that she will teach her major subject combined with one, two, three, or more other fields. She can also determine what the chances are that she will have to teach some subjects in which she has little or no academic training.

Method of Procedure.

The data for this subject were obtained at the office of the State Superintendent of Public Instruction. They were taken from the high school principal's report made at the beginning of the last school year. This is the official report made annually to the state office and furnishes the most reliable source of information concerning the high schools of Kansas. These reports in some cases were not complete, because of the failure of certain principals to fill in all the information asked for. All data that were reported were used in this study.

At no time was the sampling method used in this study but in every chart or graph constructed, every senior high school teacher in Kansas, on whom data were reported, was counted; About five thousand teachers were included in the study and the following information was secured: name, salary, kind of degree, school granting the degree, major and minor subjects, years of experience, and the subjects which were taught as listed on the daily program.

In the making of each chart definite standards were set up: The data for each teacher had to conform to these standards or her case was not counted. The standards are explained with each chart.

PART II.

COMMON TEACHING COMBINATIONS.

It is of vital importance to prospective teachers, teacher training institutions, as well as school executives to know the common teaching combinations. Assuming, a school has no Latin teacher, are it's one or two classes in Latin more often taught by the English teacher than the home economics teacher? Does the combination of mathematics and science occur with greater frequency than history and science on the programs of the Kansas High Schools? Such questions as these are deserving of a better answer than can be offered by personal opinions and traditional practices. We may have assumptions as to what the best combinations are, or should be, but the question is, are our most commonly chosen college academic combinations frequently found in the teaching field. Again, pretentious claims are often made by instructors for their pet subject combinations with out any verification as to the needs of the high school.

About forty-three per cent of the senior high school teachers in Kansas are teaching in only one field. A large number of these are found in the thirteen first class cities of the state. The other fifty-seven per cent of teachers are teaching in two, three, four, or five fields. Assuming that most of the inexperienced teachers will find their first position in the high schools of the second and third class cities, it is readily seen that the chances are much greater that a teacher will

have to teach a combination of subjects, than that she will find work in a single field.

Table I, on the following page, shows how the different subjects rank in combinations. This table also shows the per cent of teachers included in the different combinations. To illustrate: Twenty-nine per cent of all English teachers teach nothing but English, while twenty per cent of all who are classed as English teachers have a teaching combination of English and social subjects. Thirteen per cent of the English teachers are teaching combinations of Latin and English. Home economics, music, modern language, and other subjects rank as listed in order of frequency. Mathematics, social science, science, Latin, and the other subjects are read for their respective combinations in like manner.

These combinations were determined from a tabulation of the teaching programs of 4,421 Kansas High School teachers. Every teacher whose teaching combination could be determined was counted. It was impossible to determine the combination of some teachers who were teaching four, five or six subjects in four or five fields. These teachers were put into an unclassified list. This list composes about six per cent of the total number of teachers. In many cases physical education and athletics were not listed on the daily programs. Since the data for this field were not complete the results may not be entirely reliable. It is estimated that about one half of the schools indicated the teacher in charge of physical education. Administrators who were teaching only one subject in

Read table thus: Column A indicates the per cent of teachers who are teaching in only one field, e. g. 29% of all English teachers teach nothing but English. The per cent of teachers who teach English in a combination with the other subjects are listed in columns 1,2,3, and etc. in order of their frequency with English.

Table I.

Teaching Combinations as They Rank.

	A	1	2	3	4	5	6	7	8	9	10	11
English	29%	Soc.sci. 20%	Latin 13%	H.eco. 10%	Music 7%	M.lang. 6%	Math. 5%	Science 4%	Comm. 3%	Ind.arts 1%	Agri. 1%	Phy.ed. 1%
Math.----	20%	Sci. 26%	Soc.sci 14%	Eng. 8%	Ind.art 7%	Comm. 5%	Lat. 4%	Phy.ed. 4%	H.eco. 4%	Agri. 3%	Music 3%	M.lang. 2%
Soc.sci.-	28%	Eng. 20%	Sci. 11%	Math. 10%	H.eco. 8%	Phy.ed. 5%	Lat. 5%	Comm. 4%	Ind.art 4%	Music 3%	Agri. 3%	M.lang. 2%
Science -	13%	Math. 26%	Soc.sci 16%	H.eco. 10%	Ind.art 10%	Agri. 8%	Eng. 5%	Comm. 4%	Phy.ed. 4%	Music 2%	Lat. 1%	M.lang. 1%
Latin ---	8%	Eng. 42%	Soc.sci 18%	M.lang. 12%	Math. 9%	Comm. 4%	Music. 4%	Sci. 3%	H.eco. 2%	Agri. 1%	Phy.ed. 0	Ind.art 0
M.lang.--	16%	Eng. 34%	Lat. 19%	Soc.sci 12%	Math. 6%	H.eco. 8%	Sci. 3%	Music 3%	Comm. 2%	Ind.art 0	Agri. 0	Phy.ed. 0
Ind.arts	28%	Sci. 19%	Phy.ed. 13%	Math. 13%	Agri. 13%	Soc.sci 10%	Comm. 4%	Eng. 1%	Music 1%	H.eco. 0	Lat. 0	Mod.lang. 0
Home eco.	32%	Eng. 19%	Soc.sci 17%	Sci. 16%	Math. 5%	Comm. 3%	Phy.ed. 2%	M.lang. 2%	Lat. 1%	Music 1%	Agri. 1%	Ind arts 0
Commerce	58%	Soc.sci 8%	Math 7%	Eng 6%	Sci. 5%	H.eco. 4%	Ind.art 3%	Lat. 3%	Phy.ed. 2%	Music 2%	M.lang. 1%	Agri. 1%
Agri. ---	27%	Science 25%	Ind.art 21%	Soc.sci 13%	Math. 8%	Eng. 2%	Comm. 1%	Lat. 1%	H.eco. 1%	Phy.ed. 1%	M.lang. 0	Music 0
Music ---	61%	Eng. 15%	Soc.sci 8%	Math. 4%	Latin 3%	Sci. 3%	Comm. 2%	H.eco. 2%	M.lang. 1%	Ind.art ½%	Phy.ed. ½%	Agri. 0
Phy. ed.	22%	Ind.art 20%	Soc.sci 20%	Sci. 11%	Math. 11%	H.eco. 5%	Comm. 3%	Eng. 4%	Music 1%	Agri. 1%	Lat. 0	M.lang. 0

one or two fields were not counted. When an administrator taught two or more subjects all in the same field he was counted as a straight teacher of that field. If he were teaching two or more subjects in one field and one or more subjects in another field he was listed as teaching a combination of those two fields. In tabulating these results an effort was made to see that every school had some one checked in each of the following fields, provided work was offered in these fields; home economics, industrial arts, music, physical education, and commerce. For example if a teacher taught only one class in home economics and that was all the home economics offered in that school she was classed as the home economics teacher, even though she taught two or more classes in each of two other fields.

Common Combinations Found in Missouri Schools.

Table II was copied from page thirty-eight of The Teacher and the School, a syllabus for a course in high school administration for teachers by W.W. Carpenter, professor of education in the University of Missouri and John Rufi, professor of education in the University of Missouri. The combinations in this table were determined from a tabulation of the teaching programs of more than 2,400 Missouri high school teachers outside of the cities of Kansas City, St. Louis, and St. Joseph.

The combinations show that the social studies are most frequently taught in combination with English, that Latin is next, and home economics the third most frequent combination with English. In the same manner the most frequent combinations that go with other subjects are shown.

A comparison of Tables II and IIa will show that teaching combinations are almost identical for high schools in Missouri and Kansas.

With this information at hand advisers should be more able to aid students in selecting proper minors to go with major subjects. Students should prepare themselves in the subjects they are most likely to be called upon to teach. Many times after signing a contract, a teacher finds it necessary to return to summer school to seek added preparation in some subject she has been asked to teach. Much of this could be eliminated by making proper combinations when preparing for her teaching certificate. As will be shown in the next few pages, many teachers are now teaching subjects in high school in which they have not had adequate college training. No doubt, if the proper combinations had been chosen in under graduate days, the teachers would have better preparation for the work they are being asked to teach.

This table shows that the social studies are most frequently taught in combination with English, that Latin is next, and home economics the third most frequent combination with English. In the same manner the most frequent combinations that go with other subjects are shown.

Table II.

Teaching Combinations in Missouri High Schools.

Major subject	First in frequency	Second in frequency	Third in frequency
English	Social studies	Latin	Home economics
Social studies	English	Mathematics	Physical ed.
Mathematics	Science	Social studies	Latin
Science	Mathematics	Physical ed.	Social studies
Physical ed.	Social studies	Science	Mathematics
Agriculture	Mathematics	Social studies	Science
Latin	English	Mathematics	Social studies
Home econ.	English	Social studies	
Commerce	Mathematics	Social studies	
Music	English	Social studies	Drawing
Manual Train.	Physical ed.	Agriculture	Science
French	English	Latin	Social studies
Spanish	English	Social studies	Latin

Table IIa.

Teaching Combinations in Kansas High Schools.

English	Social studies	Latin	Home economics
Social studies	English	Science	Mathematics
Mathematics	Science	Social studies	English
Science	Mathematics	Social studies	Home economics
Physical ed.	Industrial arts	Social studies	Science
Agriculture	Science	Industrial arts	Social studies
Latin	English	Social studies	Modern language
Home economics	English	Social studies	Science
Commerce	Social studies	Mathematics	English
Music	English	Social studies	Mathematics
Industrial arts	Science	Physical ed.	Mathematics
Modern language	English	Latin	Social studies

PART III.

HIGH SCHOOL TEACHING AND COLLEGE TRAINING.

At some time or another the following question has been brought to the attention of every trained school worker: What per cent of the college graduates working in high schools are teaching their major or minor subjects? A few small studies have been made in an attempt to throw light on this subject. "Graduates and Positions They Fill" by Earl W.Anderson,[1] Bureau of Educational Research, Ohio State University, is one of the most recent studies along this line. In this study information was collected concerning the history of graduates of teacher training courses, from Ohio State University during the year 1928-29. In one of the tables Mr. Anderson shows the percentage of experienced and inexperienced graduates who secured positions during that year. In another table he determines the percentage of teacher-training graduates who taught any classes in their major subject.

The table on the next page along with the extract which follows was copied from the Educational Research Bulletin mentioned above.

> "The real test of the extent to which training in specific subjects is effective may be expressed in terms of the percentages of those trained who were actually teach-

1. Earl W. Anderson, "Graduates and the Positions They Fill" EDUCATIONAL RESEARCH BULLETIN vol.10, No.4, pp.87. Ohio State University.

Table III.

Percentage of Teacher-Training Graduates Who Taught Any Classes in Their Major Subjects in High School.

1 Subjects	2 Total number of majors	3 Information available regarding subjects taught	4 Per cent in high school	5 Per cent teaching major	6 Per cent of all majors teaching major
H. eco.	118	70	98	100	98.
Indus. arts	56	88	94	95	89.
Commerce	32	67	89	100	89.
Music	85	91	90	98	88.
Voc. ed.	7	86	100	83	83.
Agri.	22	73	89	92	82.
Phy. ed.	109	87	81	97	79.
Pol. sci.	4	33	75	100	75.
Mathematics	119	95	80	82	67.
Art	59	69	67	96	64.
Latin	101	90	71	79	56.
Languages	6	100	50	100	50.
Science	41	81	76	62	47.
History	374	78	71	56	40.
Public spk.	20	100	69	57	39.
Chemistry	47	94	86	44	38.
English	548	92	63	58	37.
French	128	85	63	45	28.
Geography	9	80	56	50	28.
Biology	98	90	73	35	26.
Physics	9	100	78	29	23.
Social sci.	53	80	57	35	20.
German	13	100	50	80	10.
Spanish	41	95	53	5	3.
Economics	2		50		*
Sociology	7		29		*

ing the high school subjects for which they primarily were prepared. For example, the larger part of the value of a major in French in teacher-training will be obtained only if the student actually makes use of this French in his high school teaching. If he secures a position involving no teaching of French, it would have been better had he taken his major in one of the subjects which he is teaching. Table III shows the percentage of the graduates of teacher-training institutions who did some teaching in their major subjects in the year 1929-30, the year following graduation.

In finding out the percentages of graduates who taught their major subjects in high school, lack of data was encountered in some instances. Thus, of the three political-science majors who taught in high school, the actual subjects which they taught were only discovered in the case of one. In 90 per cent of the cases however, information regarding the specific subjects taught was located. In order that the reader may see the percentage on which the data in columns 4, 5, and 6 are based, column 3 gives the percentage of those teaching in high school about whom information was known as to the subjects taught. A glance at column 4 and 5 of Table III shows that in several instances while a fairly large percentage of the majors taught in high school, often a small proportion of these actually taught their major subject.

Assuming that for the most part those who taught out of their major subjects did so because they were unable to secure positions including their major subjects column 6 gives an index of relative opportunities of teaching ones major subject in high school. Here again, one must remember that those subjects in which there were a small number of majors cannot give a true picture of the situation as do those in which there are substantial groups.

From Table III note that those who majored in the so called "special subjects" secured positions including the teaching of their major subject in a much larger proportion than did those majoring in the academic fields. In home economics, 98 per cent of the majors, who were presumably interested in teaching and about whom information was available, secured positions teaching some home economics. Quite high percentages were also shown in industrial arts, music, commercial, agriculture, and vocational education. Low percentages majoring in Spanish, German, social science, biology, French, and geography were found teaching any classes of their major subjects in high school.

It is well to point out that those people who majored in home economics, physical education, music, and art,

who taught in the elementary school, were included in the list of those teaching in high school, since these majors realy trained for both elementary and high school work.

A check as to the proportion of experienced and inexperienced men and women who taught their majors in high school showed that larger percentages of experienced graduates secured positions in teaching their major subjects than did the inexperienced. Men secured positions more commonly in music, physical education, and history; women did better in art, Latin, and English. In general, however, there was not much difference between the success of men and women in securing positions teaching their majors.

There were several instances in which majors in certain of the social sciences who were not teaching in the field of their special preparation were teaching allied subjects. In these cases some of the major training was used in such work. For instance, majors in economics taught no economics, but they did teach classes in sociology and civics and vice versa.

A wide disparity between the percentage of graduates majoring in specific subjects and the percentage who taught any classes in their major subjects in high school is shown in many cases in Table III. In other words, it shows that a number of these graduates made no direct use of their major training in their high school teaching and, contrariwise, were teaching subjects for which they had no major preparation. This situation came about in most instances, probably because the graduate was unable to obtain any position teaching classes in his major subject. It may, also, have happened because the school authorities were unable to find teachers who were well prepared in the subjects which were to be taught. The situation is probably accentuated by the disinterest of some school authorities in getting people with specific preparation for the subjects to be taught; by local pressure for the appointment of certain graduates regardless of their preparation; by the assumption of some administrators that personality is worth more than specific training when a choice must lie between the two. This is further complicated by the fact that some school administrators assume that any college graduate can handle the work in some subjects because all students have had some training in them. Such fields include geography, English, and American history. It is probable that such assignment of teachers, without regard as to their specific major preparation for such subjects, will continue until state requirments definitely forbid it.

Mr. Anderson has attacked this problem from the standpoint of the per cent of graduates who find work in their major fields. The procedure of the research herein presented has been from another angle. This study goes to the teacher out in the high school, takes her daily program and classifies her as to subject matter taught. From her program it is determined whether her work comes in one field or whether she teaches a combination of two or more fields. In other words, one could say, "This is an English teacher;" or "This teacher has a combination of English and Latin." Her classification having been determined by the subjects she is teaching, her college record is examined to ascertain whether or not she has majored or minored in the work she is teaching.

No data are presented in this study concerning the per cent of graduates who find work in their major and minor field. Neither has an attempt been made to ascertain the number of college or teacher-training graduates who enter the teaching field after receiving their degrees. The study is based entirely upon the teacher in the field, as regards to her salary, college major and minor, and the subjects she is teaching in high school.

Subjects Taught Without College Training.

Table IV at the bottom of this page presents data on 4380 senior high school teachers. This table indicates the percentage of teachers who are teaching one or more subjects in which they did not major or minor in college. This information was taken from the daily high school program and the record of the teacher's major and minor in college, as listed in the high school principal's report to the office of the state superintendent. After ascertaining a teacher's major and minor, the daily program was consulted to discover the number of subjects she was teaching which were not included in her college major and minors. Subjects were used in compiling this table rather than academic fields. For illustration, if a home economics major was teaching a combination of home economics and two classes in geometry but had no college training in mathematics, she was classified as teaching one subject outside of her major and minor field. Again, if she had been teaching one class in geometyy and one in algebra she would have been classified as teaching two subjects outside of her major and minor fields.

Table IV.

Subjects Taught Without College Training.

52%	taught	no	subject	in	which	they	had	not	majored	or	minored.
24%	"	1	"	"	"	"	"	"	"	"	"
12%	"	2	subjects	"	"	"	"	"	"	"	"
4%	"	3	"	"	"	"	"	"	"	"	"
8%	did all their teaching in fields in which they had not majored or minored.										

Teachers With a College Major or Minor in Their Teaching Fields.

Table V, on the following page, includes data from the same 4380 teachers that were used in Table IV. As was stated before, an examination of the daily program disclosed the academic fields into which each teacher was classified. If the program indicated that she taught in only one field she was scored as a teacher in that field, either with or without training, as indicated by her college major or minor subjects. If the program showed her to be teaching a combination of two fields, she was scored as a teacher of that combination, either with or without training in each of these fields according to her college record. As an example, suppose a teacher had a major in English and a minor in Latin. If she taught nothing but English she would be scored as a straight English teacher with training. If she taught nothing but geometry and algebra she would be scored as a mathematics teacher, without training. If she taught English and Latin she would be scored as an English Latin combination teacher, with training in English and training in Latin. If this teacher with a major in English and a minor in Latin, taught English and home economics she would be scored as an English-home economics combination, with training in English and no training in home economics. Again, if she taught home economics and science she would be scored as a home economics-science combination with training in neither subject.

After scoring all these teachers it was possible to total the number in each subject or in each subject combination. It is also possible to show the number of teachers who have had training in the fields which they are teaching.

Table V, at the bottom of this page, indicates the per cent of teachers who had a major or minor in the subjects they were teaching. To illustrate, 1029 individuals were classed as English teachers, 88% of them had a major or minor in English. Twenty-nine per cent of these 1029 English teachers taught English alone. The other 71% taught English and some other subject. They may or may not have had training in the other subjects they were teaching. This does not imply that only 1029 teachers teach English. Some others may teach one class in it but not enough to be classed as an English teacher. The same is true of the other subjects.

Table V.

Teachers With a Major or Minor in Their Teaching Fields.

Subject fields	No. of teachers	Per cent who have major or minor in field	Per cent who teach in this field alone.
English	1029	88%	29%.
Mathematics	682	68%	20%.
Social science	1022	74%	25%.
Science	751	71%	15%.
Latin	313	64%	9%.
Modern language	191	76%	16%.
Industrial arts	548	70%	20%.
Home economics	539	90%	32%.
Commerce	522	65%	58%.
Agriculture	240	60%	27%.
Music	449	84%	61%.
Physical education	252	42%	22%.

The next twelve tables, VI to XVII inclusive, deal with twelve different subject fields. The data in these tables were compiled in the same manner as was explained for Table V. Teachers who were teaching in only one field were scored in that field, either with or without training as their college major or minor would indicate. Teachers teaching a combination of two fields were scored in that combination, each field receiving a separate score indicating whether or not the teacher [illegible] training in that field as disclosed by her college record.

Table VI.

English Teachers, Combinations and Training.

Read table thus: 310 teachers or 29% of all English teachers taught nothing but English. Ninety-six per cent of this 29%, had a college major or minor in English. Forty-eight teachers, or 5% of all English teachers taught a combination of English and mathematics. Fifty-eight per cent of this 5% who taught a combination of English and mathematics had a major or minor in mathematics, while 81% of this 5% had a major or minor in English. "Training in English" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

310	or	29%	taught	Eng.	only		96%	had	training	in English
48	"	5%	"	"	and Math ----		58%	"	"	" Math
							81%	"	"	" English
204	"	20%	"	"	" Soc. sci.		71%	"	"	" Soc.sci
							80%	"	"	" English
40	"	4%	"	"	" Science -		45%	"	"	" Science
							83%	"	"	" English
136	"	13%	"	"	" Latin ---		64%	"	"	" Latin
							88%	"	"	" English
66	"	6%	"	"	" Mod. lang		71%	"	"	" Modern L.
							94%	"	"	" English
5	"	1%	"	"	" Ind. arts		40%	"	"	" Ind. atrs
							100%	"	"	" English
100	"	16 ~~95%~~	"	"	" Home eco.		85%	"	"	" Home eco.
							81%	"	"	" English
36	"	3%	"	"	" Commerce		17%	"	"	" Commerce
							86%	"	"	" English
5	"	1%	"	"	" Agri. ---		33%	"	"	" Agri.
							66%	"	"	" English
70	"	7%	"	"	" Music ---		71%	"	"	" Music
							63%	"	"	" English
11	"	1%	"	"	" Phy. ed.		18%	"	"	" Phy. ed.
							91%	"	"	" English

Table VII.

Mathematics Teachers, Combinations and Training.

Read table thus: 140 mathematics teachers or 20% of all mathematics teachers taught nothing but mathematics. Eighty-five per cent of this 20%, had a college major or minor in mathematics. Forty-eight teachers, or 8% of all mathematics teachers taught a combination of mathematics and English. Eighty-one per cent of this 8% who taught a combination of mathematics and English had a major or minor in English, while 58% of this 8% had a major or minor in mathematics. "Training in English" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

140	or	20%	taught	math	only		85%	had	training	in math.
48	"	8%	"	"	and English -		81%	"	"	" English
							58%	"	"	" Math.
90	"	14%	"	"	"	Soc. sci.	75%	"	"	" Soc. sci.
							56%	"	"	" Math.
190	"	26%	"	"	"	Science -	73%	"	"	" Science
							68%	"	"	" Math.
28	"	4%	"	"	"	Latin ---	54%	"	"	" Latin
							71%	"	"	" Math.
12	"	2%	"	"	"	Mod. lang	83%	"	"	" Mod. lang.
							92%	"	"	" Math.
44	"	7%	"	"	"	Ind. arts	41%	"	"	" Ind. arts
							48%	"	"	" Math.
27	"	4%	"	"	"	Home eco.	85%	"	"	" Home eco.
							63%	"	"	" Math.
36	"	5%	"	"	"	Commerce	44%	"	"	" Commerce
							69%	"	"	" Math.
21	"	3%	"	"	"	Agri.----	48%	"	"	" Agri.
							48%	"	"	" Math.
17	"	3%	"	"	"	Music ---	41%	"	"	" Music
							65%	"	"	" Math.
29	"	4%	"	"	"	Phy. ed.	21%	"	"	" Phy. ed.
							66%	"	"	" Math.

Table VIII.

Social Science Teachers, Combinations and Training.

Read table thus; 260 teachers or 25% of all social science teachers taught nothing but social science. Ninety-two per cent of this 25%, had a college major or minor in social science. Two hundred-four teachers or 20% of all social science teachers taught a combination of social science and English. Eighty per cent of this 20% who taught a combination of social science and English, had a major or minor in English, while 71% of this 20% had a major or minor in social science. "Training in English" and etc, in the table below indicates a college major or minor in that subject. Other subjects are read in a similar manner.

260	or	25%	taught	Soc.sci.	only		92%	had	training	in Soc. sci.
204	"	20%	"	"	" &	English	80%	"	"	" English.
							71%	"	"	" Soc.sci.
90	"	10%	"	"	" "	Math.--	56%	"	"	" Math.
							75%	"	"	" Soc.sci.
120	"	11%	"	"	" "	Science	56%	"	"	" Science
							63%	"	"	" Soc.sci.
46	"	5%	"	"	" "	Latin -	67%	"	"	" Latin
							70%	"	"	" Soc.sci.
22	"	2%	"	"	" "	Mod.lang	50%	"	"	" Mod.lang.
							86%	"	"	" Soc.sci.
33	"	4%	"	"	" "	Ind.art	52%	"	"	" Ind.arts
							64%	"	"	" Soc.sci.
88	"	8%	"	"	" "	Home ec.	89%	"	"	" Home ecc.
							41%	"	"	" Soc.sci.
46	"	4%	"	"	" "	Commerce	40%	"	"	" Commerce
							78%	"	"	" Soc.sci.
31	"	3%	"	"	" "	Agri.--	35%	"	"	" Agri.
							74%	"	"	" Soc.sci.
32	"	3%	"	"	" "	Music -	59%	"	"	" Music
							66%	"	"	" Soc.sci.
50	"	5%	"	"	" "	Phy.ed.	28%	"	"	" Phy.ed.
							82%	"	"	" Soc.sci.

Table IX.

Science Teachers, Combinations and Training.

Read table thus: 110 teachers or 15% of all science teachers taught nothing but science. Ninety-five per cent of this 15%, had a major or minor in science. Forty teachers or 5% of all science teachers taught a combination of science and English. Eighty-three per cent of this 5% who taught a combination of science and English, had a major or minor in English, while 45% of this 5% had a major or minor in science. "Training in science". and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

110	or	15%	taught	Sci.	only		95%	had	training	in Science
40	"	5%	"	"	and	English -	83%	"	"	" English
							45%	"	"	" Science
190	"	24%	"	"	"	Math.----	68%	"	"	" Math.
							73%	"	"	" Science
120	"	16%	"	"	"	Soc.sci.	63%	"	"	" Soc.sci.
							56%	"	"	" Science
9	"	1%	"	"	"	Latin ---	33%	"	"	" Latin
							78%	"	"	" Science.
2	"	1%	"	"	"	Mod. lang	50%	"	"	" Mod.lang.
							100%	"	"	" Science
75	"	10%	"	"	"	Ind.arts	47%	"	"	" Ind.arts
							69%	"	"	" Science
81	"	10%	"	"	"	Home ecc.	94%	"	"	" Home ecc.
							52%	"	"	" Science
20	"	4%	"	"	"	Commerce	25%	"	"	" Commerce
							80%	"	"	" Science
62	"	8%	"	"	"	Agri.----	35%	"	"	" Agri.
							82%	"	"	" Science
13	"	2%	"	"	"	Music ---	62%	"	"	" Music
							77%	"	"	" Science
29	"	4%	"	"	"	Phy. ed.	41%	"	"	" Phy. ed.
							86%	"	"	" Science

Table X.

Latin Teachers, Combinations and Training.

Read table thus: 24 teachers or 8% of all Latin teachers taught nothing but Latin. All 24 or 100% of this 8% had a college major or minor in Latin. One hundred thirty-six teachers or 42% of all Latin teachers taught a combination of Latin and English. Eighty-eight per cent of this 42% who taught a combination of Latin and English had a major or minor in English, while 64% of this 42% had a major or minor in Latin. "Training in Latin" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

24	or	8%	taught	Lat.	only		100%	had	training	in Latin
136	"	42%	"	"	and English	-	88%	"	"	" English
							64%	"	"	" Latin
28	"	9%	"	"	"	Math.----	71%	"	"	" Math.
							54%	"	"	" Latin
46	"	15%	"	"	"	Soc.sci.-	70%	"	"	" Soc.sci.
							67%	"	"	" Latin
9	"	3%	"	"	"	Science -	78%	"	"	" Science
							33%	"	"	" Latin
82	"	12%	"	"	"	Mod.lang.	82%	"	"	" Mod.lang.
							68%	"	"	" Latin
7	"	2%	"	"	"	Home eco.	71%	"	"	" Home eco.
							43%	"	"	" Latin
10	"	4%	"	"	"	Commerce	40%	"	"	" Commerce
							50%	"	"	" Latin
2	"	1%	"	"	"	Agri. ----	100%	"	"	" Agri.
							50%	"	"	" Latin
13	"	4%	"	"	"	Music ---	69%	"	"	" Music
							46%	"	"	" Latin

No Latin teacher was reported with a combination of industrial arts or physical education.

Table XI.

Modern Language Teachers, Combinations and Training.

Read table thus: 32 teachers or 17% of all modern language teachers taught nothing but modern language. Ninety-four per cent of this 17%, had a college major or minor in modern language. Sixty-six teachers or 34% of all modern language teachers taught a combination of modern language and English. Ninety-four per cent of this 34% who taught a combination of modern language and English had a major or minor in English, while 71% of this 34% had a major or minor in modern language. "Training in modern language" and etc, in the table below indicates a college major or minor in that subject. Other subjects are read in a similar manner.

32	or	17%	taught	M.lang.	only	94%	had	training	in	M.lang.
66	"	34%	"	"	& English	94%	"	"	"	English
						71%	"	"	"	M.lang.
12	"	6%	"	"	" Math.---	92%	"	"	"	Math.
						83%	"	"	"	M.lang.
22	"	12%	"	"	" Soc.sci.	86%	"	"	"	Soc.sci.
						50%	"	"	"	M.lang.
2	"	1%	"	"	" Science	100%	"	"	"	Science
						50%	"	"	"	M.lang.
38	"	20%	"	"	" Latin --	68%	"	"	"	Latin
						82%	"	"	"	M.lang.
9	"	5%	"	"	" H.eco.--	89%	"	"	"	Home eco.
						78%	"	"	"	M.lang.
4	"	2%	"	"	" Commerce	75%	"	"	"	Commerce
						100%	"	"	"	M.lang.
6	"	3%	"	"	" Music --	67%	"	"	"	Music
						83%	"	"	"	M.lang.

No modern language teacher was reported with a teaching combination of industrial arts, agriculture, or physical education.

Table XII

Industrial Arts Teachers, Combinations and Training.

Read table thus: 107 teachers or 26% of all industrial art teachers taught nothing but industrial arts. Eighty-nine per cent of this 26%, had a college major or minor in industrial arts. Five teachers or 1% of all industrial arts teachers taught a combination of industrial arts and English. All five or 100% of this 1% who taught a combination of industrial arts and English had a major or minor in English, while 40% of this 1% had a major or minor in industrial arts. "Training in industrial arts" and etc, in the table below indicates a college major or minor in that subject. Other subjects are read in a similar manner.

107	or	26%	taught	Ind.A.	only	89%	had	training	in	Ind.arts
5	"	1%	"	"	" & English	100%	"	"	"	English
						40%	"	"	"	Ind.arts
44	"	13%	"	"	" " Math.---	48%	"	"	"	Math.
						41%	"	"	"	Ind.arts
33	"	10%	"	"	" " Soc.sci.	64%	"	"	"	Soc.sci.
						52%	"	"	"	Ind.arts
75	"	19%	"	"	" " Science	69%	"	"	"	Science
						47%	"	"	"	Ind.arts
15	"	4%	"	"	" " Commerce	33%	"	"	"	Commerce
						53%	"	"	"	Ind.arts
53	"	13%	"	"	" " Agri.---	60%	"	"	"	Agri.
						60%	"	"	"	Ind.arts
2	"	1%	"	"	" " Music --	50%	"	"	"	Music
						50%	"	"	"	Ind.arts
50	"	13%	"	"	" " Phy. ed.	40%	"	"	"	Phy. ed.
						70%	"	"	"	Ind.arts

No teacher was reported as teaching a combination of industrial arts and Latin, modern language, or home economics.

Table XIII.

Home Economics Teachers, Combinations and Training.

Read table thus: 180 teachers or 32% of all home economics teachers taught nothing but home economics. Ninety-four per cent of this 32%, had a college major or minor in home economics. One hundred teachers or 19% of all home economics teachers taught a combination of home economics and English. Eighty-one per cent of this 19% who taught a combination of home economics and English had a major or minor in English, while eighty five per cent of this 19% had a major or minor in home economics. "Training in English" and etc, in the table below indicates a college major or minor in that subject. Other subjects are read in a similar manner.

180	or	32%	taught	H.ecc.	only	94%	had	training	in	H. ecc.
100	"	19%	"	"	" & English	81%	"	"	"	English
						85%	"	"	"	H. ecc.
27	"	5%	"	"	" " Math.---	63%	"	"	"	Math.
						85%	"	"	"	H. ecc.
88	"	17%	"	"	" " Soc.sci.	41%	"	"	"	Soc.sci.
						89%	"	"	"	H. ecc.
81	"	15%	"	"	" " Science	52%	"	"	"	Science
						94%	"	"	"	H. ecc.
6	"	1%	"	"	" " Latin---	43%	"	"	"	Latin
						71%	"	"	"	H. ecc.
10	"	2%	"	"	" " Mod.lang	78%	"	"	"	Mod.lang.
						89%	"	"	"	H. ecc.
26	"	5%	"	"	" " Commerce	15%	"	"	"	Commerce
						92%	"	"	"	H. ecc.
7	"	1%	"	"	" " Music --	71%	"	"	"	Music
						71%	"	"	"	H. ecc.
13	"	2%	"	"	" " Phy. ed.	23%	"	"	"	Phy. ed.
						85%	"	"	"	H. ecc.

No teacher was reported as teaching " economics and industrial arts. Only one as teaching a combination of Agriculture

Table XIV.

Commerce Teachers, Combinations and Training.

Read table thus; 308 teachers or 58% of all the commerce teachers taught nothing but commerce. Eighty-six per cent of this 58%, had a college major or minor in commerce. Thirty-six teachers or six per cent of all commerce teachers taught a combination of commerce and English. Eighty-six per cent of this 6% who taught a combination of commerce and English had a major or minor in English, while 17% of this 6% had a major or minor in commerce. "Training in commerce" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

308	or	58%	taught	com.	only		86%	had	training	in Commerce
36	"	6%	"	"	and English --	86%	"	"	"	English
						17%	"	"	"	Commerce
36	"	6%	"	"	" Math.-----	69%	"	"	"	Math.
						44%	"	"	"	Commerce
46	"	8%	"	"	" Soc. sci.	70%	"	"	"	Soc. sci.
						46%	"	"	"	Commerce
20	"	5%	"	"	" Science --	80%	"	"	"	Science
						25%	"	"	"	Commerce
10	"	3%	"	"	" Latin ----	50%	"	"	"	Latin
						40%	"	"	"	Commerce
4	"	1%	"	"	" Mod. lang.	100%	"	"	"	Mod. lang.
						75%	"	"	"	Commerce
15	"	3%	"	"	" Ind. arts	53%	"	"	"	Ind. arts
						33%	"	"	"	Commerce
26	"	5%	"	"	" Home eco.	92%	"	"	"	Home eco.
						15%	"	"	"	Commerce
4	"	1%	"	"	" Agri. -----	100%	"	"	"	Agri.
						50%	"	"	"	Commerce
8	"	2%	"	"	" Music ----	50%	"	"	"	Music
						62%	"	"	"	Commerce
9	"	2%	"	"	" Phy. ed.---	44%	"	"	"	Phy. ed.
						67%	"	"	"	Commerce

Table XV.

Agriculture Teachers, Combinations and Training.

Read table thus: 61 teachers or 27% of all the agriculture teachers taught nothing but agriculture. Ninety-eight per cent of this 27%, had a college major or minor in agriculture. Three teachers or 2% of all agriculture teachers taught a combination of agriculture and English. Sixty-six per cent of this 2% who taught a combination of agriculture and English had a major or minor in English, while 33% of this 2% had a major or minor in agriculture. "Training in agriculture" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

61	or	27%	taught	Agri.	only		98%	had	training	in Agri.
3	"	2%	"	"	and	English	66%	"	"	" English
							33%	"	"	" Agri.
21	"	8%	"	"	"	Math.	48%	"	"	" Math.
							48%	"	"	" Agri.
31	"	13%	"	"	"	Soc.sci.	74%	"	"	" Soc.sci.
							35%	"	"	" Agri.
62	"	25%	"	"	"	Science	82%	"	"	" Science
							35%	"	"	" Agri.
2	"	1%	"	"	"	Latin	50%	"	"	" Latin
							100%	"	"	" Agri.
53	"	21%	"	"	"	Ind.arts	60%	"	"	" Ind.arts
							60%	"	"	" Agri.
1	"	1%	"	"	"	Home ecc.	100%	"	"	" Home ecc.
							0	"	"	" Agri.
4	"	1%	"	"	"	Commerce	50%	"	"	" Commerce
							100%	"	"	" Agri.
2	"	1%	"	"	"	Phy. ed.	50%	"	"	" Phy. ed.
							50%	"	"	" Agri.

Agriculture was not reported in a combination with either modern language or music.

Table XVI.

Music Teachers, Combinations and Training.

Read table thus: 278 teachers or 61% of all Music teachers taught nothing but Music. Ninety-nine per cent of this 61% had a college major or minor in music. Two hundred seventy-eight teachers or 15% of all music teachers taught a combination of music and English. Eighty-three per cent of this 61% who taught a combination of music and English had a major or minor in English, while 71% of this 15% had a major or minor in music. "Training in music" and etc, in the table below indicates a college major or minor in that subject. All other subjects are read in a similar manner.

278	or	61%	taught	Mus.	alone	99%	had	training	in	Music
70	"	15%	"	"	and English -	83%	"	"	"	English
						71%	"	"	"	Music
17	"	4%	"	"	" Math.----	65%	"	"	"	Math.
						41%	"	"	"	Music
32	"	8%	"	"	" Soc. sci.	66%	"	"	"	Soc. sci.
						59%	"	"	"	Music
13	"	3%	"	"	" Science -	77%	"	"	"	Science
						62%	"	"	"	Music
13	"	3%	"	"	" Latin ---	46%	"	"	"	Latin
						69%	"	"	"	Music
6	"	1%	"	"	" Mod.lang.	83%	"	"	"	Mod.lang.
						67%	"	"	"	Music
2	"	½%	"	"	" Ind. arts	50%	"	"	"	Ind. arts
						50%	"	"	"	Music
7	"	2%	"	"	" Home eco.	71%	"	"	"	Home eco.
						71%	"	"	"	Music
8	"	2%	"	"	" Commerce	62%	"	"	"	Commerce
						50%	"	"	"	Music
3	"	½%	"	"	" Phy. ed.	0	"	"	"	Phy. ed.
						100%	"	"	"	Music

No teacher was reported with a combination of music and agriculture.

Table XVII.

Physical Education Teachers, Combinations and Training.

Read table thus: 56 teachers or 22% of all physical education teachers taught nothing but physical education. Seventy nine per cent of this 22%, had a college major or minor in physical education. Eleven teachers or 4% of all physical education teachers taught a combination of physical education and English. Ninety-one per cent of this 4% who taught a combination of physical education and English had a major or minor in English, while 18% of this 4% had a major or minor in English. "Training in commerce" and etc, in the table below indicates a major or minor in that subject. All other subjects are read in a similar manner.

56	or	22%	taught	P.E.	alone		79%	had	training	in Phy. ed.
11	"	4%	"	"	and English		91%	"	"	" English
							18%	"	"	" Phy. ed.
29	"	11%	"	"	"	Math.	66%	"	"	" Math.
							21%	"	"	" Phy. ed.
50	"	20%	"	"	"	Soc.sci.	82%	"	"	" Soc.sci.
							28%	"	"	" Phy. ed.
29	"	11%	"	"	"	Science	86%	"	"	" Science
							41%	"	"	" Phy. ed.
50	"	20%	"	"	"	Ind.arts	70%	"	"	" Ind.arts
							40%	"	"	" Phy. ed.
13	"	5%	"	"	"	Home ecc.	85%	"	"	" Home ecc.
							25%	"	"	" Phy. ed.
9	"	5%	"	"	"	Commerce	67%	"	"	" Commerce
							44%	"	"	" Phy. ed.
2	"	1%	"	"	"	Agri.	50%	"	"	" Agri.
							50%	"	"	" Phy. ed.
3	"	1%	"	"	"	Music	100%	"	"	" Music
							0	"	"	" Phy. ed.

No physical education teacher was reported with a combination of either Latin or modern language.

Supply of Teachers in the Different Academic Fields.

The reports sent to the state superintendent of public instruction by the high school principals tell us there are 15,768 different classes being conducted by the senior high schools of Kansas in ~~eight~~ ten principal academic fields. Table XVIII, on the second page following, was compiled by counting every class that was being taught in every high school, in the following fields: English, mathematics, social science, science, modern language, Latin, industrial arts, home economics, commerce, and agriculture. The fields just named were chosen for compilation of Table XVIII, because, in them are found the bulk of the ~~academic~~ scholastic credits used for high school graduation. Classes in pyhsical education and music were not counted in making up this table. In many cases the principal's report was not complete concerning these two subjects. This was especially true of physical education. Many times the reports would credit a teacher with the handeling of high school music or high school athletics and make no mention of the amount of time or number of class periods allotted to the activity. It was impossible to determine in number of class periods the amount of work a teacher did in these fields.

Table XIX, was also compiled from data found on the above mentioned high school principals' reports. To construct this table another examination of these reports was made to deter-

mine the number of teachers who had prepared themselves, with either a major or a minor, to teach in the different academic fields. Every teacher who had a major or minor in any field was listed as having preparation for teaching that field.

The per cent of classes in each academic field, and the per cent of teachers having a major or minor in each of these fields has been worked out in Table XVIII and Table XIX respectively. These tables are found on the next page. Comparison of the percentage of classes and the percentage of teachers in any one field will tend to show whether or not the different fields have their share of the trained teachers.

It must be remembered that in Table XIX there are not as many individual teachers as the column headed "No.of teachers" totals up. Many of these teachers were counted in two, three, or even four fields, depending upon the number of majors and minors they had completed while in college.

Table XVIII.

Number and Per Cent of Classes Found in Different Fields.

Read table thus: column 2 is the number of classes being taught in the different fields in the high schools of Kansas. Column 3 is the per cent of classes in the different academic fields found in the same schools. For illustration, during the past year there were 3364 English classes taught in the Kansas high schools. These English classes were 21% of all the classes taught in these schools.

1 Subjects	2 No. of classes	3 Per cent of classes
English	3364	21%.
Mathematics	2055	13%.
Social science	3279	21%.
Science	1695	11%.
Latin	756	5%.
Modern language	467	3%.
Industrial arts	830	5%.
Home economics	1146	7%.
Commerce	1724	11%.
Agriculture	455	3%.
	15768	100%.

Table XIX.

Teachers With Training in the Different Fields.

Read table thus: column 2 is the number of teachers who have a major or minor in the different fields. Column 3 is the per cent of teachers who have a major or minor in the different fields. To illustrate, 1,546 teachers or 22% of all teachers had a major or minor in English.

1 Subjects	2 No. of teachers	3 Per cent of teachers
English	1546	22%.
Mathematics	700	10%.
Social science	1497	21%.
Science	1080	15%.
Latin	365	5%.
Modern language	543	8%.
Industrial arts	260	3%.
Home economics	506	7%.
Commerce	344	5%.
Agriculture	240	3%.

The tables on the preceding page show that science and modern language have a larger per cent of teachers than they have of classes. More difference is found in modern language than would be expected. There are more teachers with a major or minor in this subject than there are classes being taught in the field. This may be due to the fact that a teacher who has only a fifteen hour minor in a modern language is probably not able to teach that language effectively.

Mathematics, industrial arts, and commerce have a larger per of classes than of teachers, according to Tables XVIII & XIX. This does not necessarily mean that there is a shortage of teachers in these fields; but, it does show that in proportion to the number of classes there is a smaller number of prepared teachers in these fields than in some of the other fields.

In addition to the eight subjects treated in Table XIX, the number of teachers who had a major or minor in education, physical education, and music were tabulated. It was found that 17% of all high school teachers had a major or minor in education. Likewise, 4% of all teachers had a major or minor in music, and 1% had a major or minor in physical education. Data from 385 schools were included in this table. The information showed that 1528 individuals had training in education. This would be an average of two and two-tenth persons per high school who have had training which would qualify them to some extent for administrative positions. In music 420 persons were reported as having had training, while in physical education

only 134 were reported. This number would of course be inadequate for the 685 high schools. Of course there were a few teachers who had training in these subjects which was not reported, but, the percentage of failure to report a teachers major or minor should be no greater in these subjects than in other subjects.

PART IV.

NUMBER OF FIELDS IN WHICH TEACHERS WORK.

As the college student preparing to teach school selects her major and minor field and proceeds to master the fundamentals and pedagogical technique of those subjects, she has little thought but that she will find herself teaching those subjects when she goes out in the field. As graduation time nears and she begins to think of securing a position and as she has her first interview with a superintendent, she realizes that she may have to do some teaching outside of her chosen field.

Table XX, at the bottom of this page shows the per cent of teachers who are teaching in one, two, three, or more fields. A survey not shown in the table indicates that a large percent of the teachers working in a single field are teaching commerce, music, home economics, industrial arts, or vocational agriculture. Most of the teachers who are teaching in one field only are found in the large school systems of the state.

Table XX.

Per Cent of Teachers Working in Various Fields.

43%	of	teachers	teach	in	1 field.
32%	"	"	"	"	2 fields.
19%	"	"	"	"	3 "
5%	"	"	"	"	4 "
1%	"	"	"	"	5 "

Several questions concerning the requirments for teaching preparation present themselves to the teacher training institutions: (1) How far shall the institutions go in training specialists, and in what fields shall they demand high specialization? (2) In how many different fields should the student be required to do some work? (3) How much work should be required in the major field and the minor fields? (4) Should the same amount of work be required for a major or a minor in each of the fields? Or should some fields demand, e.g., thirty hours for a major while others set the minimum at twenty-five. (5) In how many and in what fields should the institutions require some work to be done? In most institutions blanket rules cover the requirements for majors and minors regardless of the field in which they are taken. Is it not probable that different semester hour requirements should be made for different fields? Some fields seemingly require more training before a student is adequately prepared than do other fields.

It is evident that a large per cent of the beginning teachers will have to teach in two or more fields. It follows then, that the prospective teacher should receive training in more than one or two fields since she never knows in what field she will be asked to teach some classes. Just how far this spreading over the various fields can go, depends very much upon the fields in which the teacher is working. For example, modern language instructors claim a fifteen hour minor in French or Spanish would be very inadequate preparation for teaching

either language. In like manner in the field of commercial education, thirty or forty hours of preparation would be needed before a teacher could efficiently instruct classes in high school typing, shorthand, bookkeeping, and the other commercial subjects found in the high school curriculum. Industrial arts is another field in which it would be necessary for an instructor to have at least twenty-five or thirty hours of training before he would be able to present adequately such subjects as woodworking, woodturning, woodfinishing, farm carpentry, sheet metal, household mechanics, or auto mechanics, as found in the present up to date high school industrial arts department.

On the other hand fifteen hours of college training in mathematics above high school mathematics is considered sufficient, by many, to enable a teacher to teach high school algebra or geometry. History, geography, agriculture (not vocational), psychology, physiology, and sociology are other subjects which can be taught, more or less successfully, with less college preparation than must be given to some of the afore mentioned subjects. Would it not be better if more teachers could have some preparation in several of these common academic fields, since classes from these fields will be shifted around to fill up the programs of teachers who have been hired for a special field? For illustration, a small high school located in a third class city or in a rural district, might have teachers for the following fields: English, language, science, commerce, music, industrial arts, and athletics. The teacher would handle all

the classes in his respective field, and probably one or two classes outside of the field.

In a case like this the mathematics, agriculture, social science, and any other classes that were left over would be distributed among the faculty where an opening in a teacher's schedule could be found. The principal would likely teach one or two of the classes. This, of course, is not an ideal situation, but it is what is commonly found, and with present resources there does not seem to be any other solution at hand. The illustration mentioned above is, of course, a hypothetical one, and any subject in the school curriculum may fall into this group which has no teacher on the faculty prepared to teach it. Had each of the teachers in this school been equipped with a few college hours of training in these common academic subjects probably every class in the high school schedule could have been directed by some one who although not well prepared would have had some college preparation for teaching it.

It is hardly fair to a school district for a teacher to take a position teaching a subject in which he has no preparation. It certainly is unfair to the teacher. If it is an elementary subject she may teach it with a fair degree of success, but at best she has had to learn the subject and how to teach it at the expense of the pupil and the district which hires her.

In most of our first and second class cities, a teacher must have a certain amount of experience before she will be admitted to the faculty. It is evident that most of our inexperienced teachers must find their first position in a school

system similar to the one mentioned in the paragraph above. If the greater part of the inexperienced teachers are going to start work under conditions similar to those mentioned in the preceeding paragraph, how much better it would be if more general training in the common academic fields had fallen to their lot.

PART V.

SALARIES PAID TEACHERS OF THE DIFFERENT ACADEMIC FIELDS

Are history teachers being paid more money on the average than science or Latin teachers? This question is very definitely answered in Table XXI, found on a later page. This table gives the averages, medians, and modes of the teachers working in the different academic fields. In all of these measures of central tendencies, several hundred dollars difference is noted between the salaries of teachers in the different fields. Information in this table was taken from the principal's report made to the office of the State Superintendent. In compiling Table XXI the daily program of each individual teacher was examined and an effort was made to determine in what field she was teaching.

Many times it was hard to determine the field into which a teacher was to be classified, so certain standards were arbitrarily set up and followed throughout. For example, an administrator who was teaching only one subject was not counted. It was arbitrarily demanded that he be teaching at least two classes in order to be classed as an instructor. When a teacher was teaching an equal but a small amount of work in two or more fields, and areliable decision could not be made into which field she was to be classified, she was classified in neither field. Frequently an instructor's college major or minor were of help in determining her classification. For example,

suppose a teacher were teaching two classes of Latin and two classes of geometry; had she college training in Latin and not mathematics she was classed as a Latin teacher. This teacher was probably hired to teach Latin, and had been given these classes in mathematics to fill out her program since the school was offering only two classes in Latin. An effort was made to place some teacher in all of the different fields in which the school was offering work. To illustrate; a teacher who was teaching two classes in mathematics and two in English, would be classed as a mathematics teacher rather than an English teacher, were there another English teacher in the school who was teaching more than two classes in English. This other teacher would be classed as an English teacher.

A special effort was also made to see that some teacher was classified in the departments of industrial arts, commerce, music, and home economics, if these subjects were offered by the school. These subjects were given particular attention because special skills are needed to teach them. Because of the skills required, and the fact that a text book cannot be followed very closely in teaching these subjects, they are considered more difficult to teach than some of the other subjects in the high school curriculum. A music teacher who has had no college training in history or mathematics might teach a class in either history or algebra, if she devoted a large amount of her time to the preparation of each lesson. But, a history or mathematics teacher with no training in music could not teach music

no matter how much time she spent on the preparation of her daily lessons.

This is due to the fact that there has likely been mathematics and history training all along the line in both the elementary and high school, while a total absence of music training is not unusual.

Table XXI.

Comparison of Salaries in the Different Fields.

Read table thus: Column 1 shows the mean salary received by the Kansas high school teachers in the different academic fields. Columns 2 and 3 shows the median and mode for the teachers in the various fields. These fields are listed in this table according to their mean ranking. The median and mode ranking does not coincide in every case with the mean ranking.

Subject	1 Mean	Rank	2 Median	Rank	3 Mode	Rank
Voc. agri.	$2246.	1	$2252.	1	$2295.	1
Ind. arts -	1876.	2	1823.	2	1800.	2
Phy. ed.---	1855.	3	1818.	3	1800.	3
Science ---	1821.	4	1703.	4	1350.	5
Mathematics	1696.	5	1589.	5	1350.	5
Soc. sci.--	1641.	6	1519.	6	1350.	5
Commerce --	1556.	7	1453.	8	1350.	5
Mod. lang.-	1555.	8	1468.	7	1395.	4
Latin -----	1526.	9	1446.	9	1350.	5
Music -----	1512.	10	1397.	12	1350.	5
English ---	1463.	11	1400.	10	1350.	5
Home eco.--	1451.	12	1400.	11	1350.	5

Why should a vocational agriculture teacher receive on the average nearly four hundred dollars more salary per year than an industrial arts teacher? Or, why should the industrial arts teacher receive three hundred fifty dollars more per year than the Latin or modern language teacher? And what is the reason that the teacher of so common a subject, with as great a utilitarian value as home economics should be at the bottom of the salary scale? Table XXI shows these conditions to be true, but of course it does not tell why they are true. Some common conjectures will be advanced as to the reason for this wide difference in the average salaries paid to teachers in the different academic fields.

Vocational agriculture teachers receive more salary than any other class of teachers in the Kansas high schools, probably because most of them are working under the Smith-Hughes Act and receive part of their pay from the state and national government. The government sets a minimum salary for Smith-Hughes workers, and school boards are not allowed to pay less than the set amount. Many of the vocational agriculture men are hired for eleven months instead of nine which fact is probably taken into consideration when the amount of their salary is fixed. These teachers must, in addition to their academic training, possess a skill which is peculiar to their field. Since vocational agriculture is generally taught under the Smith-Hughes Act which requires special training in these skills, only those students who meet the requirements of the Act can qualify for the positions. This eliminates a great deal of the competition which is present in the other fields of teaching work.

Industrial art teachers rank second in the salary scale. Much that has been said concerning special skills regarding the vocational agriculture work is also true in the case of industrial arts. This field is not generally handled by a Smith-Hughes man so it lacks the protection that vocational agriculture enjoys in the Kansas High Schools. However, it possesses certain characteristics and skills which are not readily picked up by some one who has not had training in the subject. A teacher who would not hesitate to attempt the teaching of a class in history or mathematics, a subject in which he has had no college training, would probably not attempt to teach a class in printing, sheet metal, or auto mechanics, without college preparation. The prohibition of tradesmen who are skilled in woodworking and other industrial crafts from teaching in the public schools without proper certification also lends to the college industrial arts man a monopoly which aids his salary standing. Another reason for the high salary average is the fact that there are few women in the industrial arts field. Women generally receive less salary than men teachers of the same rank.

According to Table XXI physical education ranks third and only slightly below industrial arts in the salary scale. This subject is taught by both men and women so the absence of women cannot be given as a reason for the high salary average. Neither will the arguement that the teacher must have highly specialized skills peculiar to this field hold good in this case. The most

plausible reason advanced seems to be that the athletic coaches who receive more salary than academic teachers tend to hold up the average. Under the present system of competitive athletics in high schools, winning teams are much sought after. Any one who can produce a winner or can handle athletes in such a way as to develop the best team from the material at hand, can demand more money than the teacher who is doing only class room work. Again, the superintendents and school boards are generally willing to pay an athletic coach a larger salary than is paid other teachers of the same rank, because they then feel that they have a right to ask for his resignation if he does not produce a winning team.

Science ranks fourth in the salary scale. It was found that many administrators were teaching some classes in this field and their larger salaries may have tended to hold the average up. Many administrators were also found teaching in the social science field. also

English and home economics are found at the bottom of the scale, probably because the majority of teachers in these fields are women, and because there are few administrators teaching these subjects.

PART VI.

SALARIES PAID TO GRADUATES OF DIFFERENT KANSAS COLLEGES.

Table XXII, found on the following page, was compiled from reports sent by the principals of the Kansas high schools to the office of the State Superintendent. On these reports the Principal had designated the college or university from which each teacher had received her training. Also, in these reports was listed the salary of each individual teacher.

The bachelors degree was used as a basis for classifying teachers. Graduate work was not taken into account. For example, if a teacher had an A. B. degree from Wichita University and an M. A. degree from Kansas University she was classified as a Wichita University graduate. Some teachers having attended more than one institution it was impossible to determine from which institution they had secured the majority of their training or their teaching certificate. Any teacher whose record did not indicate the institution where her training was received was not counted in the compilation of Table XXII. Neither were parochial school teachers counted in this table when board and room were furnished as a part of the teacher's remuneration. Some teachers who had work in more than one institution were classified according to the degree they hold. A teacher who had attended both Emporia Teachers and College of Emporia, and had been issued an A. B. degree was classified as a college of Emporia graduate since Emporia Teachers was

Table XXII.

Average Salaries Received by the Graduates of the Various Kansas Colleges.

School	Mean	Median	Mode	Number of teachers.
Emporia Teachers	1812	1633	1495	561.
Kansas State A.C.	1712	1517	1350	473
Wichita U.	1705	1505	1350	101
Southwestern	1685	1463	1350	223
Baker U.	1665	1509	1350	186
McPherson	1659	1485	1350	134
Kansas U.	1647	1499	1350	530
Pittsburg Teachers	1646	1529	1350	454
Bethel	1640	1485	1350	44
Sterling	1631	1491	1350	82
Hays Teachers	1628	1511	1350	266
Friends U.	1623	1464	1350	49
Washburn	1614	1441	1350	155
Ottawa U.	1592	1440	1350	134
College of Emporia	1588	1492	1350	136
Kansas Wesleyan U.	1575	1465	1350	144
Bethany	1565	1446	1350	150

conferring only B. S. Degrees up to the time this information was collected.

The certification of a teacher was sometimes a help in classifying her according to the college attended. All graduates from the three teachers colleges are certificated by the teachers colleges themselves. All other graduates are certificated by the state board. Since this information was given on the principal's report, the classification of any teacher who had attended a teachers college and some other Kansas institution could be determined by her certification.

This table shows that the five state institutions are furnishing 60% of the Kansas high school teachers who received their training in the Kansas colleges. The three teachers colleges are furnishing 34% of the teachers who received their training in Kansas. A few of the Kansas teachers did not receive their college training in Kansas colleges so they are not included in this table.

The Emporia Teachers College graduates receive the highest average salary according to Table XXII. This is due in part to the fact that Emporia Teachers College has a larger proportion of administrators in the teaching field than any other College.