


8-1932

# Subject Combinations of Kentucky High School Teachers

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Clarence Nelvin

1932

SUBJECT COMBINATIONS OF KENTUCKY HIGH SCHOOL TEACHERS

BY

CLARENCE NELVIN EMRICK

A THESIS  
SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS

WESTERN KENTUCKY STATE TEACHERS COLLEGE

August, 1932

Approved:-

Major Professor

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CHAPTER I  
INTRODUCTION

Previous Studies of Subject Combinations

One of the first studies of subject combinations in high-school teachers' programs was that made in the state of Washington by Koos and Woody<sup>1</sup> in 1918. The questionnaire method was used to obtain the desired information. Returns received from slightly less than a third of the teachers in the accredited high schools in the state revealed the fact that many teachers were teaching from one to seven subjects.

Thomas J. Kirby<sup>2</sup> made a study of 1478 high-school teachers' programs in the state of Iowa for the school year 1924-25 for the purpose of ascertaining whether or not the general assumption that a high-school teacher teaches only one subject carried any truth with it. His study was made on the basis that the eighty subjects taught in Iowa were grouped into thirteen divisions. He found teachers teaching in as many as five different divisions.

A study of the North Central High Schools of Michigan was made by Clifford Woody<sup>3</sup> to determine the number of subjects and the combinations of subjects taught. His data were obtained

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<sup>1</sup> L. V. Koos and C. Woody, The Training of Teachers in the Accredited High Schools of the State of Washington, Part I, Eighteenth Year Book, National Society for the Study of Education (Bloomington, Ill., Public School Publishing Co., 1919)

<sup>2</sup> Thomas J. Kirby, Subject Combinations in High School Teachers' Programs, Extension Bulletin, College of Education Series No. 14, University of Iowa, Iowa City, 1925.

from programs for the 1924-25 school year. His study disclosed the fact that nine-tenths of the teachers taught only one or two subject combinations, while the other one-tenth taught from three to six subject combinations.

During the school year 1926-27 J. S. Heiges<sup>4</sup> made a study of: "How many and what subjects should a high-school teacher in Pennsylvania be prepared to teach?" In his study of the problem he learned that 96.6 per cent of the teachers taught no more than two combinations, while the remaining 3.4 per cent taught three or more combinations. His study included only four-year accredited high schools.

In a study of the programs of the high-school teachers of Iowa for the purpose of determining what relation, if any the training of the high-school teachers bore to the subjects they taught, James H. Inman<sup>5</sup> found that the teachers in Iowa were teaching from one to eleven combinations. After making a careful study and analysis of teachers' programs as to the number of subjects they would be expected to teach, he concluded that it was imperative for teachers to prepare to teach in at least four fields.

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<sup>3</sup> Clifford Woody, "Number and Combinations of Subjects Taught in 1924-25 School Year in the North Central High Schools of Michigan," Educational Administration and Supervision, Vol. 12 (Nov. 1926), pp 529-47.

<sup>4</sup> J. S. Heiges, "How Many and What Subjects Should a High-School Teacher in Pennsylvania be Prepared to Teach?", School Review, (April 1930), pp 286-99

<sup>5</sup> James H. Inman, "The Training of Iowa High-School Teachers in Relation to the Subjects They Teach," University of Iowa Studies, Vol. 4, No. 9 (August 1928).

M. E. Ligon<sup>6</sup> made a study of the training and teaching combinations of teachers in colleges and secondary schools in the Southern states with the idea of determining the relation of subjects taught to subjects studied. He found that less than half of the teachers who had majored in Arts and Science were teaching their major alone and that less than six per cent of those who majored in Education were teaching in that field. His findings showed that teachers were teaching in from one to seven fields.

B. H. Hostettler<sup>7</sup> made a study of the four-year high-schools of Illinois for the school year 1929-30 for the purpose of ascertaining the subject combinations taught. His analysis of the results is of value to teacher-training institutions, teacher appointment bureaus, school boards, school administrators, and prospective teachers. In his study he found that as many as seven different subjects were taught by an individual teacher.

In a study made of the programs of the high-school teachers of Kansas by Mellie C. Doughman<sup>8</sup> it was found that there was a wide variation in the combinations taught. While this study

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<sup>6</sup> M. E. Ligon, "Training and Teaching Combinations of Teachers in Accredited Secondary Schools of the South," School Life, Vol. 15, (Nov. 1929), pp 44-46.

<sup>7</sup> B. H. Hostettler, A Study of the Subject Combinations Taught in the Four-year High Schools of Illinois, unpublished Master of Arts thesis, University of Illinois, Urbana, 1930.

<sup>8</sup> Mellie C. Doughman, A study of the Subject Combinations in High School Teachers' Programs in Kansas, unpublished Master of Arts thesis, University of Wichita, Wichita, 1930.

shows that the majority of the teachers were teaching one, two, and three combinations, approximately one-tenth of the teachers were teaching four or more subject combinations.

#### The Nature of the Problem

Much has been written in the past twenty-five years about the kind of training a high-school teacher should have. Probably the most outstanding contribution in this field has been the report of the Committee of Seventeen.<sup>9</sup> Many courses, inspired by this report, have been constructed and are being tried out in various states of the Union.

Even though very good courses have been worked out for the numerous colleges of the state of Kentucky, there still remains a problem unanswered by the teacher-training institutions of the State. This problem is: What shall the prospective teacher be prepared to teach? And the question for the prospective teacher is: In what fields shall I prepare to teach?

At the present time there is an urge to answer these questions, yet little has actually been accomplished toward the unification of the efforts of the State Department of Education, teacher-training institutions, and present and prospective teachers for efficient preparation and selection of men and women to fill teaching positions in the high schools of Kentucky.

An evidence of this urge is seen in the constant call on

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<sup>9</sup> "Joint Recommendations of the Committee of Seventeen on the Professional Preparation of High-School Teachers," Proceedings and Addresses of the National Education Association, Vol. 45 (1907), pp 536-38.

heads of departments, especially in teacher-training institutions, to direct students how to major and minor so they will be properly qualified to meet conditions in the field. For this reason it may be said that the present study has been undertaken in order to afford more intelligent direction of prospective teachers in their preparation for service in the high schools.

In order that the objectives of this study--the ability to give more intelligent guidance from the standpoint of the teacher-training institutions and the ability to make the proper selection of subjects from the standpoint of the prospective teacher--may be attained, the problem becomes one of determining (1) how many subjects a high-school teacher in Kentucky should be prepared to teach and (2) the most desirable combinations of subjects. To answer these questions intelligently, we must know not only the number of subjects taught but the combinations that are taught in the high schools of Kentucky.

CHAPTER II

SET-UP OF THE PROBLEM

Procedure

The method of procedure used in this study has been: (1) a review of reports of previous studies of 'subject combinations', (2) a tabulation of all the subject combinations taught by teachers and administrators<sup>1</sup> in the high schools of Kentucky, and (3) an interpretation of these data.

Sources of Data

The data used in this study were secured from the Principals' reports on file in the office of the High School Inspector in the State Department of Education at Frankfort, Kentucky.

Scope of Study

Not all of the 723 schools listed as accredited and approved high schools for white children were used. This study includes the 664 public high schools of the State for which records were available. In this group are included all of the A and B schools which are accredited four-year high schools, the accreditation being based on standards that have been worked out and set up by the Southern Association of Colleges and

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<sup>1</sup> Note: Administrator is interpreted as meaning Principal, because in no case did a superintendent teach enough to be classes, as a teacher.

Secondary Schools, and the first, second, and third class high schools, having respectively four, three, and two-year curricula, which have an approved rating given by the State Department of Education. All administrators' and teachers' programs for the school year 1931-32 were used. In addition, fifteen programs, seven administrators' and eight teachers' programs for the school year 1930-31 were used, because reports for the 1931-32 school year were not available. It is assumed that very little change would have taken place in their programs since all were from one, two and three-teacher schools. In all, 631 administrators' programs and 2259 teachers' programs were used in this study.

#### Classification of Schools

The schools were classified according to the number of teachers employed, because first class approved schools were often also listed as accredited schools, and will be referred to in this study according to the following classifications:

- Class I     One-teacher schools
- Class II    Two-teacher schools
- Class III   Three-teacher schools
- Class IV    Four-teacher schools
- Class V     Five-to-nine-teacher schools
- Class VI    Ten-or-more-teacher schools

#### Limitations of This Study

As stated before the data used in this study have been obtained exclusively from the Principals' reports filed with the High School Inspector in the State Department of Education at

Frankfort. Due care has been taken to insure accuracy in copying and rearranging data for this study so that the results would present a true picture of conditions as given in the Principals' reports. Certain limitations, however, must be taken into consideration in interpreting these data. The data relate wholly to the number of times and in what combinations the various subjects appear, without taking into consideration the supply of teachers in any field. Because one combination appears more frequently than others, it does not follow that there are greater opportunities in this field. Although the number of classes taught in a certain field was used to determine the major of each teacher, the study does not indicate the number of classes taught, and, consequently, the number of subjects taught is not any gauge of the teacher's load. Some teachers' programs are not as heavy as they may appear, since half-year subjects which follow each other in succession, such as chemistry and physics, often appear on one program although the teacher is teaching but one of these subjects at a time. The practice of alternating subjects may cause their status to appear slightly different than is actually the case. Prospective teachers should not interpret the results too literally since the programs of the entire teaching force are included in this study. From their standpoint it might have been better to have used only the programs of the first-year teachers, but these as such were not available. Probably there are some differences between the programs of beginning and experienced teachers; yet it is doubtful if it is enough to be significant.



## Classification of Subjects

The method used in the classification of subjects involves limitation to some extent. While it might seem desirable to treat each as listed, the very fact that 134 different subjects are listed on teachers' and administrators' programs precludes comprehensive statistical treatment of single subjects. For this reason the single subjects have been grouped into twenty-nine 'subject-groups' as follows:

### I. Art

1. Painting

### II. Agriculture

1. Animal Husbandry
2. Field Crops
3. Horticulture

### III. Athletics

1. Baseball
2. Basketball
3. Field Events
4. Football
5. Track

### IV. Bible

### V. Biology

1. Botany
2. Zoology

### VI. Chemistry

### VII. Civics and Government

1. American Government
2. Citizenship

3. Citizenship practice
4. Problems of American Democracy

#### VIII. Commercial

1. Accounting
2. Arithmetic
3. Bookkeeping
4. Business English
5. Business Law
6. Commercial Geography
7. Commercial Law
8. Commercial Civics
9. Economic History
10. Junior Business Training
11. Office Accounting
12. Office Practice
13. Shorthand
14. Typing

#### IX. Drawing

#### X. English

1. American Literature
2. Composition
3. Dramatics
4. English Literature
5. Grammar
6. Journalism
7. News Writing
8. Public Speaking

9. Reading
10. Spelling

XI. French

XII. General Science

XIII. Geography

1. Economic Geography
2. Geology
3. Industrial Geography
4. Modern Geography
5. Physical Geography

XIV. German

XV. History and Social Science

1. American History
2. Ancient History
3. Economics
4. Economic History
5. European History
6. General History
7. International Relations
8. Kentucky History
9. Modern History
10. Modern Progress
11. Modern Times and Living Past
12. Sociology
13. United States History
14. World History

## XVI. Home Economics

1. Clothing
2. Foods
3. Home Art
4. Home Craft
5. Sewing

## XVII. Latin

## XVIII. Library

## XIX. Manual Training

1. Auto Mechanics
2. Carpentry
3. Electric Training
4. Engineering
5. Forge Work
6. Foundry Work
7. Machine Work
8. Sheet Metal Work
9. Shop Work

## XX. Mathematics

1. Algebra
2. Arithmetic
3. Plane Geometry
4. Solid Geometry
5. Trigonometry

## XXI. Music

1. Band

2. Chorus
  3. Glee Club
  4. Harmony
  5. Instrumental
  6. Orchestra
  7. Piano
  8. Quartette
  9. Voice
- XXII. Penmanship
- XXIII. Physics
1. Physics Laboratory
- XXIV. Physical Education, Boys
- XXV. Physical Education, Girls
- XXVI. Physiology
1. Health
  2. Hygiene
  3. Physiology and Hygiene
- XXVII. Science
1. Science Laboratory
- XXVIII. Spanish
- XXIX. Vocational Guidance
1. Guidance
  2. Occupation
  3. Orientation

The term 'subject' will be understood to relate to one of the twenty-nine groups into which the single subjects were

arranged. Arithmetic has been grouped with mathematics and economics and economic history has been grouped with history and social science unless they are taught by a commercial teacher, in which case they revert to the commercial group. The subject Physical Education, Boys should be interpreted as meaning that it is taught by a man for boys, and Physical Education, Girls should be interpreted as meaning that it is taught by a woman for girls.

In addition to the single subjects shown in the outline above there were several single subjects that appeared in the programs of administrators and teachers which could not be placed under the 'subject-groups' set up. Psychology appeared six times in administrators' programs and eleven times in teachers' programs. Greek appeared twice in teachers' programs. In all the teachers' programs studied, education, military science and philosophy appeared but one time in the aggregate. The 631 administrators reported 231 hours devoted to extra-curricular activities, and the 2259 teachers reported 825 hours devoted to extra-curricular activities and 235 hours devoted to home room duties.

## CHAPTER III

ORGANIZATION AND PRESENTATION OF DATA RELATIVE  
TO TEACHING COMBINATIONS

The method used for the classification of administrators' and teachers' duties is comparatively simple, yet a brief explanation is considered necessary for intelligent comprehension of the data listed.

The outline of the organization of subjects forms the basis into which the various high-school subjects are grouped. Teaching programs were studied to ascertain the number and combination of subjects taught. No daily program of less than three hours was considered, since a lighter load would hinder rather than aid clarification of conditions relative to subject combinations being taught. The 2890 programs studied were treated primarily in two groups, 631 administrators' and 2259 teachers' programs.

For treatment of the data master tables have been constructed. The data assembled in these tables present a general picture of the subject combinations taught in the high schools of Kentucky. Sub-tables have been arranged to show conditions as they obtain in the programs from the high schools in each of the six classes previously mentioned. Other tables are presented in summary to show the number of times a subject was taught singly and the most frequent combinations taught with it. Finally a table of suggested majors and minors is set up. This is based on the most frequent appearance of subjects in combination with each of the subjects studied.

### Administrators' Programs

Table I shows the combinations of subjects which made up the programs of administrators who taught in the high schools of Kentucky during the school year 1931-32. Of the 664 high schools studied, 631 administrators reported as teaching at least three hours per school day. Sixty-four of these programs were from the schools of Class I, one teacher schools; 198 from Class II, two-teacher schools; 130 from Class III, three-teacher schools; 96 from Class IV, four-teacher schools; 117 from Class V, five-to-nine-teacher schools; and 26 from Class VI, ten-or-more-teacher schools.

The table showing the subject combinations of administrators may be explained as follows: the red figures in the diagonal from the upper left corner to the lower right corner denote the number of times subjects are taught singly; and the black figures indicate the number of times subjects are taught in combinations. In the first row in Table I the figure "28" in the first column with the heading "Agriculture" means that twenty-eight subject combinations of administrators show agriculture as their only teaching duty. In the same row in column eighteen we find the figure "35" under "Mathematics" which indicated that thirty-five administrators were teaching mathematics in combination with agriculture.



TABLE 1

TEACHING COMBINATIONS OF ADMINISTRATORS IN THE HIGH SCHOOLS OF KENTUCKY\*  
(1931-1932)

Subject	Agriculture	Athletics	Bible	Biology	Chemistry	Civics & Government	Commercial	Drawing	English	French	General Science	Geography
Agriculture	28	1	1	9	1	4			5		11	6
Athletics	1			3	1	2						
Bible	1								1			
Biology	9	3		1	6	8		1	13	1	13	5
Chemistry	1	1		6		1			1		5	
Civics & Government	4	2		8	1	1	2		23		2	3
Commercial						2			5			
Drawing				1								
English	5		1	13	1	23	3		9	2	19	5
French				1					2			
General Science	11			13	5	2			19		1	2
Geography	8			5		3			5		2	
History & Soc. Sci.	24	7		23	2	56	3		59	2	20	26
Home Economics						1			1	1		
Latin		1		1		8			29	3	3	
Library									1			
Manual Training		1		1		1			1			
Mathematics	35	17	2	66	2	44	13		95	9	69	50
Music						1						
Penmanship				1					1			
Physics	6			7		2			1		7	1
Physical Ed., Boys				2					1			1
Physical Ed., Girls												
Physiology	1			5	2				2		1	
Science	2	1		2	1	5				1	1	
Vocational Guidance	1			1					1		1	

\* Data for the above table were secured from Principals' reports on file

TABLE I  
OF KENTUCKY\*

French	General Science	Geography	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Penmanship	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Vocational Guidance
	11	5	24					35			6			1	2	1
			7		1		1	17							1	
1	13	5	23		1		1	66		1	7	2		5	2	1
	5		2					2						2	1	
	2	3	56	1	8		1	44	1		2				3	
			3					13								
2	19	5	59	1	29	1	1	95		1	1	1		2		1
	1	2	2	1	3			9							1	
	2		20		3			69			7			1	1	1
2	20	26	26					50			1	1				
1			6		17	1	2	115	2		11	6		4	9	1
3	3		17		3	1		48			2					1
			1		1											
			2					2	1		1					
9	69	50	115	1	48		2	58	5	2	24	15	3	18	6	5
			2				1	5								
	7	1	11		2		1	24								
		1	6					15							2	
								3							1	
	1		4					18								
1	1		9					6			2	1				
	1		1		1			5								

ports on file

in the State Department of Education.

There is much variety in the combinations taught by administrators. Table I showed that they taught in every field except German and Spanish. This table discloses the fact that comparatively few administrators teach in a single field. It also indicates that there is a preference for mathematics with history, English, biology, general science, civics, agriculture and Latin following the order named. The variety of subjects taught by administrators may be due to an established custom of administrators having to teach subjects that other teachers cannot or do not want to teach.

TEACHING COMBINATIONS OF TEACHERS IN THE HIGH SCHOOLS IN KENT  
(1931-1932)

Subject	Agriculture	Art	Athletics	Bible	Biology	Chemistry	Civics & Government	Commercial	Drawing
Agriculture	21			1	23	2	6	1	
Art		14					1		
Athletics					9	1	5	2	
Bible	1			1	1				
Biology	23		9	1	12	9	11	4	1
Chemistry	2		1		9	8			
Civics & Government	6	1	5		11		2	3	
Commercial	1		2		4		5	92	
Drawing					1				9
English	21	2	13	3	34	1	75	15	3
French					1		2	1	
General Science	19		8		58	8	5	5	
Geography	3		1		19		8		
History & Soc. Sci.	15	2	18	3	32		129	8	
Home Economics		17	1	1	14	5	10	3	
Latin	2		1		7	1	6	2	
Library					2	1	1	2	
Manual Training	2		1				2	1	5
Mathematics	23		32	2	66	14	35	7	2
Music	1		2				3		
Penmanship							1	3	
Physics	7		2	1	28	10			
Physical Ed., Boys	1		5		8		1	1	
Physical Ed., Girls									
Physiology	5		1		14	2	1		
Science	3				10	4			
Spanish					1	1		1	
Vocational Guidance					2				

\* Data for the above table were secured from Principals' reports

LUCKY\* TABLE II

English	French	General Science	Geography	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Penmanship	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish	Vocational Guidance
21		10	3	15		2		2	23	1		7	1		5	3		
2				2	17													
13		8	1	18	1	1		1	32	2		2	5		1			
3				3	1				2			1						
34	1	58	19	32	14	7	2		66			28	8		14	10	1	2
1		8			3	1	1		14			10			2	4	1	
75	2	5	8	129	10	6	1	2	35	3	1		1		1			
15	1	5		8	3	2	2	1	7		3		1					
3								5	2								1	
240	47	24	41	196	28	128	18	3	89	11	3	6	6	6	24	5	8	1
47	12	3	1	15	4	32	2		10	2					2			
24	5	2	6	24	23	6		2	60	3		15	2		5	12	15	
41	1	6	2	46	4	3	1		19							3		
196	15	24	46	74	22	40	4	2	89	8		11	6	1	14	6	2	5
28	4	23	4	22	69	7	2		17	3		1			12	10		
128	32	6	3	40	7	35	3	1	48									
18	2		1	4	2	3	18		7	1			1			1	1	1
3		2		2		1		31	3									
89	10	60	19	89	17	48	7	3	156	8	1	25	11	2	14	17	2	1
11	2	3		8	3		1		8	23								
3									1									
6		15		11	1				25			7				1		
6		2		6			1		11							6		1
6				1					2						1	2		
24	2	5		14	12				14				1	5		1		
5		12	3	6	10	1		1	17		1	6	2	1	2		5	
8	15			2		1			2									
1			1	5		1			1			1					7	

arts filed in the State Department of Education.

Teachers' Programs

Table II shows the combinations of subjects which make up the programs of the 2259 teachers whose programs are being used in this study. The red figures, as in Table I, indicate the number of times a subject is taught singly, and the black, as mentioned before, indicate the number of times the subject in the column is taught in combination with the subject in the row. As explained before, the figure "240" in red in row ten and column ten means that English is taught singly 240 times. The black figures on the same row, totaling 811, indicate that English was taught 811 times in combination with other subjects by teachers in the high schools. English was taught more times singly and in combination than any other subject presented. Of the 811 times that English appears in combination with other subjects, it appears 196 times with history, 128 times with Latin, 89 times with mathematics and so on as shown in row ten in Table II. After English, other subjects appear according to their dominance as follows: history, mathematics, biology, Latin, civics, general science and home economics. Further interpretation will be given in connection with the sub-tables showing similar data regarding the different classes of schools.

Primary Tables

While the major tables present splendid general pictures of the subject combinations taught in the state as a unit, further light may be shed on the situation by presenting the group of tables III to VIII. Table III has been constructed entirely from programs of teachers teaching in one-teacher high schools; Table IV from two-teacher high schools; Table V from three-teacher high schools; Table VI from four-teacher high schools; Table VII from five-to-nine-teacher high schools; Table VIII from ten-or-more-teacher high schools. These tables have been constructed on the same plan as Tables I and II and are read in the same manner. Although Table III properly belongs in the administrative group, it is used in this group for comparative purposes. The other tables have been constructed entirely from teachers' programs from the different types of schools.

TABLE III  
TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS HAVING ONE TEACHER\*  
(1931-1932)

Subject	Agriculture	Biology	Civics & Government	English	General Science	Geography	History & Soc. Sci.	Latin	Mathematics	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Vocational Guidance
Agriculture							2		3						
Biology				3					10						
Civics & Government				7	1		1		8						
English		3	7		9	2	17	4	55			1			
General Science			1	9			3		14						
Geography				2			2		5						
History & Soc. Sci.	2		1	17	3	2			32	2					
Latin				4					11						
Mathematics	3	10	8	55	14	5	32	11		1	1	2	4	2	2
Physics							2		1						
Physical Ed., Boys									1						
Physical Ed., Girls									2						
Physiology				1					4						
Science									2						
Vocational Guidance									2						

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.



TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS (1931-1932) TABLE IV HAVING TWO

Subject	Agriculture	Athletics	Bible	Biology	Commercial	Civics & Government	Drawing	English	French	General Science	Geography
Agriculture				1		2		15		1	
Athletics								1			
Bible						3	1	17		3	
Biology	1							2			
Commercial				3				41		1	
Civics & Government	2			1				1			
Drawing				17	2	41	1	5	4	10	19
English	15	1						4			
French				5		1		10			
General Science	1							19			
Geography						9		78		2	5
History & Soc. Sci.	2		1	2				1			
Home Economics							1	31		1	1
Latin	1							44	1	12	4
Mathematics	7	6		17	2	10		1			
Music								1			
Penmanship								1			
Physics					1			3			
Physical Ed., Boys								1			
Physical Ed., Girls								11			
Physiology	1				1			1			
Science								1			
Spanish											
Vocational Guidance											

\* Data for the above table were secured from Principals' reports on

E IV  
 HAVING TWO TEACHERS\*

General Science	Geography	History & Soc. Sci.	Home Economics	Latin	Mathematics	Music	Penmanship	Physice	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish	Vocational Guidance
1		2		1	7						1			
		1			6									
3		2			17				1		1			
					2									
1		9		1	10									
10	19	76	1	31	44	1	1	1	3	1	11	1	1	
		2		1	12									
		5		1	4									
2	5			7	20							1		1
1	1	7			11									
12	4	20		11	1	1		2		1	2	2		
					1									
					2									
					1									
					2									
		1			2									
		1												

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TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS H  
(1931-1932)

Subject	Agriculture	Art	Athletics	Bible	Biology	Chemistry	Commercial	Civics & Government	Drawing
Agriculture				1	5				
Art									
Athletics									
Bible	1							3	
Biology	5								
Chemistry							1		
Commercial									
Civics & Government					3				
Drawing							3	18	
English	2	1	1	1	5				
French								1	
General Science	5				2			1	
Geography					1			1	
History & Soc. Sci.	8			3	1	6		14	
Home Economics	1	2						5	
Latin						2		5	
Library									
Manual Training									
Mathematics	6			5	16	2	1	7	1
Music	1								
Pennanship									
Physics	3								
Physical Ed., Boys								1	
Physical Ed., Girls									
Physiology	1								
Science						1	1		
Spanish									
Vocational Guidance									

\* Data for the above table were secured from Principals' rep

TABLE V  
HAVING THREE TEACHERS\*

English	French	General Science	Geography	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Penmanship	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish	Vocational Guidance
2		5		8					6	1		3			1			
1					2													
1				3					5									
1				1														
5		2	1	6		2			16							1		
									2							1		
3									1									
18		1	1	14	5	3			7				1					
									1									
14	7	7	9	50	9	27	1	1	17	3	2	2		1	6		1	
7	1			1														
7			1	7	3	2			14			1			1	2		
9		1		11					2							1		
50	1	7	11	1	3	3			27	1		2			2	1	1	1
9		3		3		1			8						2			
27		2		3	1				8									
1																		
1																		
17		14	2	27	8	8			6	2		3	4	1	8	3	1	1
3				1					2									
2																		
2		1		2					3									
									4									
1									1									
6		1		2	2				8									
		2	1	1					3									
1				1					1									
				1					1									

ports on file in the State Department of Education.

In Table III we find that mathematics is decidedly dominant, in the ratio of approximately 3 to 2 to English which is second. History and social science follow a close third. A fact brought out by Table III is that while these teachers may teach a large number of subjects, they confine their effort largely to basic subjects of the classical type.

In Table IV, the dominance swings from mathematics to English, with English predominating about two to one. In this group history, and social science, remain third. Here again teachers' duties indicate that their efforts are confined to basal subjects.

Table V presents much the same picture as Table IV, except that history supersedes mathematics as second dominant. In the three-teacher high schools we find a greater variety of combinations and new subjects are being stressed more. As in the two-teacher high schools English remains dominant with history, mathematics, general science, civics, agriculture, and biology following in the order mentioned. Twenty-three teachers in this group reported as teaching only one combination.

TABLE VI

TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS HAVING  
(1931-1932)

Subject	Agriculture	Art	Athletics	Biology	Chemistry	Commercial	Civics & Government	Drawing	English	French	General Science
Agriculture	1			6		1	1		1		5
Art							1				
Athletics				3	1	1	1		6		3
Biology	6		3	1		2	2		3		15
Chemistry			1								
Commercial	1		1	2			1		2		2
Civics & Government	1	1	1	2		1			7		
Drawing									1		
English	1		6	3		2	7	1	24	7	5
French									7		1
General Science	5		3	15		2			5	1	
Geography				6					4		1
History & Soc. Sci.	3	1	4	9		2	33		21	1	4
Home Economics		1		4	2		3		6	1	8
Latin				1			1		27		
Library									3		
Manual Training											
Mathematics	4		6	15	1		6		10	1	5
Music							2		2		
Physics	3		1	3							2
Physical Ed., Boys	1			3					2		1
Physical Ed., Girls									1		
Physiology	2			4			1		5		3
Science				3							1
Spanish				1		1					

\* Data for the above table were secured from Principals' reports on

TABLE VI  
SCHOOLS HAVING FOUR TEACHERS\*

English	French	General Science	Geography	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish
1		5		3					4		3	1		2		
6		2		1	1											
3		15		4					6		1					
2		2		4	4	1			15		3	3		4	3	1
7				2	2				1							
1				33	3	1			6	2				1		1
24	7	5		21	6	27	3		10	2		2	1	5		
7		1		1	1				1							
5	1			1	4	8			5		2	1		2	1	
4		1		14	2				4							
21	1	4		5	12	8	1	1	17	2	4	3		3	3	
6	1	8		2	12	3	2	1	4					4	1	
27				8	2	1	1	1	8						1	
3				1	1	1										
10	1	5		1	1	1		1	1							
2				4	17	4	8	1	13		1	2		3	2	
		2		2	2					1						
2		1		4					1						1	
1				3					2					1	1	
5		2			3	4						1				
		1		3	1	1			2		1	1			1	

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TABLE  
ING FIV

TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS HA  
(1931-1932)

Subject	Agriculture	Art	Athletics	Bible	Biology	Chemistry	Commercial	Civics & Government	Drawing	English	French	General Science
Agriculture	15				8	1		5		2		7
Art		1								1		4
Athletics					5	1		5		3		
Bible				1	1					2	1	29
Biology	8		5	1	1	5	1	2		4		5
Chemistry	1		1		3						1	3
Commercial					1		14	1		4		5
Civics & Government	5		3		2		1	1		7		
Drawing										1	18	6
English	2	1	3	2	4		4	7	1	78	1	1
French					1		1			18	1	
General Science	7		4		29	5	3	3		6	1	3
Geography	2				8			6		4	1	
German											11	9
History & Soc. Sci.	1		18		10		5	45		27	2	11
Home Economics		15	1	1	6	1	2			6	16	3
Latin					5		2			56		
Library					1		3	1		10		1
Manual Training	2		1					1	3	1	4	17
Mathematics	6		15	2	15	4	1	9		13	2	2
Music			1					1		4		
Penmanship												10
Physics	1		1	1	16	5		1		5		1
Physical Ed., Boys					5		1			1		
Physical Ed., Girls										1	2	2
Physiology	1		1		5					2		5
Science	2				3	1				1	1	
Spanish												
Vocational Guidance					1							

\* Data for the above table were secured from Principals' reports on f



TABLE VII  
 ING FIVE TO NINE TEACHERS\*

French	General Science	Geography	German	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Penmanship	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish	Vocational Guidance
	7	2		1				2	6			1			1	2		
	4			18	13			1	15	1		1			1			
1	29	8		10	6	5	1		15			16	3		5	3		1
1	5				1				4			3				1		
1	3			5	2	2	5		1				1					
	5	6		45			1	1	9	1		1						
18	6	4		27	6	36	10	1	15	4		3	1	1	2	1		
1	1	1	1	11	2	16			4	2					2		1	
1		3		9	11	3		1	17	2		10	1		2	5		
1	3	1		16	1	1	1		6									
1						1												
11	9	16		13	8	16	5	1	21	3		6	1	1	8	2		
2	11	1		8	19	3	1		4	3		1			5	8		
16	3	1	1	16	3	4	2		14									1
		1		3	1	2	2		3	1			1					
	1			1				5	2							1		
4	17	6		21	4	14	3	2	52	3		12	3			6		
2	2			3	3		1		3	3								
															1			
	10			6	1				12									1
	1			1			1		3									
				1														
2	2			8	3						1						1	
	5			2	8			1	6						1	1		
1						1												
												1						

ts on file in the State Department of Education.

TEACHING COMBINATIONS OF TEACHERS IN KENTUCKY HIGH SCHOOLS  
(1931-1932)

TABLE VIII  
TEACHING TEN OR MORE

Subject	Agriculture	Art	Athletics	Biology	Chemistry	Commercial	Civics & Government	Drawing	English	General Science	Geography	German
Agriculture	7			3	1					1	1	
Art		11										
Athletics				1		1	1			1	1	
Biology	3		1	10	6	1	1			12	3	
Chemistry	1			6	8					3		
Commercial			1	1		67	1					
Civics & Government			1	1		1	1				1	
Drawing								9				
English			2	3	1	4	6		126	2	2	
French							2					
General Science	1		1	12	5					2	1	
Geography	1		1	3			1			1	1	
German												
History & Soc. Sci.			5	2		1	26		21			2
Home Economics		1		4		1	2		6	1	1	1
Latin	1		1	1	1		1		12			1
Library				1	1				4	2		
Manual Training						1		2	1		1	
Mathematics			4	9	7	3	2	1	9	4	14	5
Music									1		1	
Penmanship						3			1			
Physics				10	7						4	
Physical Ed., Boys			5	1					1			
Physical Ed., Girls									2			
Physiology				5	2						1	
Science	1			1	2				3		1	2
Spanish									6	4		
Vocational Guidance				1					1			1

\* Data for the above table were secured from Principals' reports on file

TABLE VIII  
SCHOOL TEACHERS HAVING TEN OR MORE TEACHERS\*

ENGLISH	General Science	Geography	German	History & Soc. Sci.	Home Economics	Latin	Library	Manual Training	Mathematics	Music	Penmanship	Physics	Physical Ed., Boys	Physical Ed., Girls	Physiology	Science	Spanish	Vocational Guidance
	1	1				1										1		
2	1	1		5	1	1			4				5					
1	12	5		2	4	1	1		9			10	1		5	1		1
1	3					1	1		7			7			2	2		
4				1	1			1	3		3							
6		1		26	2	1			2									
26								2	1									
9	2	2		21	6	12	4	1	9	1	1		1	2		5	6	1
2				1	1	16	2		4						1	1	14	
2	2	1		1	1			1	14	1		4				2		1
2	1	1		2	1	1			3									1
21			1						1						1		1	3
6		2		52		6			8	2		1	2		1		1	
1	1	1			47				1			1			2	1		
12		1		6		50			7									1
4							16		2									
1								25										
9	4	14	5	1	8	1	7	2	84	2	1	6	3		1	2		
1		1		2					2	19								
1									1									
1		4		1	1				6			7					2	
1				2					3				8	1			1	
2													1	9			1	
				1	2				1						2			
3		1	2		1				2			2	1	1			5	
6	4			1	1													7
1		1		3		1												

Reports on file in the State Department of Education.

In the four-teacher high schools we find that while there are fewer subjects taught they are taught in more fields. Table VI also shows that there is less tendency for the classical groups to dominate the field. The inclusion of the social science subjects with history is doubtless the cause of bringing history to the front. Following history and social science, English, mathematics, biology, civics, and home economics assert dominance in the order named. In these schools fifty teachers reported as teaching only one combination.

Table VII presents information that shows tendencies of the teachers to teach fewer subjects, but as a group they are teaching in more fields. Of the 673 teachers reporting from the five-to-nine-teacher high schools, 210 reported as teaching one subject only. In this class of schools English replaces history as the dominant subject taught. History, mathematics, general science, biology, Latin, and home economics assume dominance in the order named.

Table VIII shows that of the 852 teachers reporting from the ten-or-more-teacher high schools, 561 indicate that they teach only one subject. Here again, more fields are stressed as will be noticed by the frequency with which the different subjects appear in the tables. In this class of high schools English remains dominant as in Class V, five-to-nine-teacher schools, with history being supplanted by mathematics as second dominant. With history in position of third dominance, Latin, biology, home economics, general science, and civics follow in the order named. There seems to be a definite tendency in this class to limit teachers to their major and minor fields.

### Per Cent of Combinations

We have just reviewed tables constructed to show the number of times subjects were reported as taught singly and in combination. These tables present comparisons and point to trends but do not set up tangible material to show how many or what per cent of teachers teach one, two or more subject combinations in the different types of high schools. Tables IX and X have been constructed for this purpose.

Table IX has been arranged to summarize results obtained from tabulation of teaching combinations reported by administrators from the high schools of the State. The table shows the per cent of administrators teaching different combinations in the different classes of high schools. To be more explicit, of the 130 administrators reporting as teaching in three-teacher high schools, tabulated on row three of Table IX, 10 per cent taught only one subject, 45.38 per cent taught two, 26.92 per cent three, 11.54 per cent four, 3.85 per cent five, 1.54 per cent six, and .77 per cent seven subjects. The table shows that in high schools having ten or more teachers no more than three subjects were taught by administrators. At the same time it shows that one administrator reported as teaching seven subjects. This report came from a three-teacher high school. The number of subjects taught by the administrators of the different types of high schools tend to vary inversely with the size of the high school in which they are teaching.

TABLE IX

PERCENT OF ADMINISTRATORS TEACHING ONE, TWO OR MORE SUBJECT  
COMBINATIONS IN THE HIGH SCHOOLS OF KENTUCKY\*  
(1931-1932)

Type of School	Number of Subjects Taught							%
	One	Two	Three	Four	Five	Six	Seven	
One-teacher	.		7.81	59.38	25.	7.81		100
Two-teacher	1.01	14.14	41.41	33.33	9.09	1.01		99.99
Three-teacher	10.	45.38	26.92	11.54	3.85	1.54	.77	100.
Four-teacher	28.13	37.50	18.75	13.54	2.08			100
Five-to-nine- teacher	24.79	37.60	29.06	7.69	.85			100
Ten-or-more- teacher	42.31	38.46	19.23					100
Total	13.	28.05	28.37	22.35	6.66	1.43	.16	100.02

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

Table X has been arranged after the same plan as Table IX and may be read in the same manner. The table provides a summarization of the different per cents of teachers teaching in one, two or more subjects in the different types of high schools in Kentucky. The results as shown in this table disclose the fact that here again the number of subjects taught by high-school teachers varies inversely to the size of the high school. The Table would seem to indicate that there are some teachers who teach many subjects even in some of the larger high schools. These cases occurred in rural consolidated high schools where one teacher in the system seems to carry extra classes. The general trend as shown by the table may be seen by reading down column one. We find that 2.59 per cent or five of the teachers reported as teaching only one subject in the two-teacher type of high schools, while 65.38 per cent or 557 teachers reported as teaching only one subject in the ten-or-more-teacher high schools.

TABLE X

PERCENT OF TEACHERS TEACHING ONE, TWO OR MORE SUBJECT COMBINATIONS IN THE HIGH SCHOOLS OF KENTUCKY\*  
(1931-1932)

Type of School	Number of subjects taught							%
	One	Two	Three	Four	Five	Six	Seven	
Two-teacher	2.59	21.76	38.86	30.05	6.21	.52		99.99
Three-teacher	8.59	39.45	36.33	12.11	3.52			100
Four-teacher	16.14	39.65	29.82	10.18	4.21			100
Five-to-nine-teacher	30.61	38.19	22.73	6.98	1.34	.15		100
Ten-or-more-teacher	65.38	24.53	8.57	1.41	.12			100.01
Total	37.	31.97	21.20	7.84	1.9	.09		100

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.



## Teaching Combinations

To know that certain per cents of administrators and teachers are teaching one, two or more subject combinations in the different types of high schools is information and may be used for comparative purposes, but to know what fields they are actually teaching in is of more value. Tables XI to XXXIII inclusive show the number of times the various subjects are taught alone in the different types of high schools together with the most frequent combinations taught with them. An explanation of Table XI will provide adequate instruction for interpretation of the remaining tables in the group.

Table XI shows the number of times agriculture is taught alone and the most frequent combinations taught with it in the different types of high schools. Combinations are arranged according to dominance as indicated in the total column. Row one in Table XI may be interpreted to read: agriculture is not taught alone in one and two-teacher high schools; is taught alone four times in three-teacher; nine times in four-teacher; twenty-seven times in five-to-nine-teacher-; and nine times in ten-or-more-teacher high schools. Reading down column five we find that agriculture is taught twenty-seven times in the five-to-nine-teacher high schools of the State. Reading down the same column we find that it is taught in combination with mathematics twelve times, history seven, biology ten times and so on. Tables have been arranged for art, athletics, biology, chemistry, drawing, civics and government, commercial, English, French, general science, geography, history and social science, home economics, Latin, library, manual train-

ing, mathematics, music, Spanish, physics, physiology and science. They have been numbered consecutively from XI to XXXIII inclusive and may be interpreted in the same manner as Table XI.

TABLE XI  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH AGRICULTURE IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Agriculture Alone	0	0	4	9	27	9	49
In combination with Mathematics	3	19	14	10	12	0	58
History	2	9	16	5	7	0	39
Biology	0	4	6	9	10	3	32
General Science	0	4	12	5	8	1	30
English	0	18	3	2	3	0	26
Physics	0	0	6	4	3	0	13
Geography	0	2	3	1	4	1	11
Civics	0	4	1	1	4	0	10
Physiology	0	1	2	2	1	0	6
Science	0	0	0	1	3	1	5

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XII  
TWO MOST FREQUENT COMBINATIONS TAUGHT WITH ART IN KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Art Alone	0	0	0	0	2	12	14
In combination with Home Economics	0	0	2	1	13	1	17
English	0	0	1	0	1	0	2

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XIII  
SEVEN MOST FREQUENT COMBINATIONS TAUGHT WITH ATHLETICS IN KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Athletics Alone	0	0	0	0	0	0	0
In combination with Mathematics	0	8	8	10	19	4	49
History	0	0	6	4	10	5	25
English	0	1	1	6	3	2	13
Biology	0	0	1	3	7	1	12
General Science	0	0	0	3	4	1	8
Civics	0	0	1	2	3	1	7
Phys. Ed., Boys	0	0	0	0	0	5	5

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XIV  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH BIOLOGY IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Biology Alone	0	1	0	1	1	10	13
In combination with Mathematics	10	54	25	17	17	9	132
General Science	0	5	5	16	34	11	71
History	1	13	12	13	12	4	55
English	3	26	6	5	4	3	47
Physics	0	0	0	5	19	11	35
Agriculture	0	4	6	9	10	3	32
Geography	0	2	3	8	8	3	24
Civics	0	8	3	3	4	1	19
Physiology	0	2	2	5	5	5	19
Chemistry	0	0	1	1	6	7	15

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XV  
FIVE MOST FREQUENT COMBINATIONS TAUGHT WITH CHEMISTRY IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Chemistry Alone	0	0	0	0	0	8	8
In combination with Mathematics	0	0	2	2	5	7	16
Biology	0	0	1	1	6	7	15
General Science	0	0	0	2	7	4	13
Physics	0	0	0	1	2	7	10
Science	0	0	1	0	1	3	5

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XVI  
FOUR MOST FREQUENT COMBINATIONS TAUGHT WITH DRAWING IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Drawing Alone	0	0	0	0	0	9	9
In combination with Manual Training	0	0	0	0	3	2	5
English	0	1	0	1	1	0	3
Biology	0	2	0	0	0	0	2
History	0	0	1	0	0	1	2

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XVII  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH CIVICS IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Civics and Government Alone	0	0	0	0	1	2	3
In combination with History	5	24	24	49	56	27	185
English	6	55	17	7	7	6	98
Mathematics	8	35	12	8	13	3	79
Biology	0	8	3	3	4	1	19
Latin	0	2	6	1	4	1	14
Home Economics	0	0	4	5	0	2	11
Geography	0	0	2	2	6	1	11
Agriculture	0	4	1	1	4	0	10
General Science	1	2	1	0	3	0	7
Athletics	0	0	1	2	3	1	7

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XVIII  
SIX MOST FREQUENT COMBINATIONS TAUGHT WITH COMMERCIAL WORK IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Commercial Alone	0	0	1	0	19	72	92
In combination with Mathematics	0	6	5	5	3	3	20
English	0	2	4	3	5	4	18
History	0	0	2	3	5	1	11
Civics	0	0	1	2	1	1	5
General Science	0	0	0	2	3	0	5
Biology	0	0	0	2	1	1	4

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.



TABLE XIX  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH ENGLISH IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
English Alone	0	8	15	23	79	124	249
In combination with History	17	101	59	25	30	23	255
Mathematics	53	70	22	12	17	10	184
Latin	4	42	29	30	39	13	157
Civics	6	55	17	7	7	6	98
French	0	6	7	8	19	9	49
Biology	3	26	6	5	4	3	47
Geography	2	22	10	6	4	2	46
General Science	8	16	7	5	6	1	43
Home Economics	0	2	9	6	6	6	29
Agriculture	0	18	3	2	3	0	26

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XX  
SIX MOST FREQUENT COMBINATIONS TAUGHT WITH FRENCH IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
French Alone	0	0	0	0	1	11	12
In combination with English	0	6	7	8	19	9	49
Latin	0	0	0	0	19	16	35
Mathematics	0	5	2	3	5	4	19
History	0	0	2	3	11	1	17
Spanish	0	0	0	0	1	14	15
Home Economics	0	1	0	1	2	1	5

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXI  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH GENERAL SCIENCE IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
General Sci. Alone	0	0	0	0	1	2	3
In combination with Mathematics	14	49	22	7	23	14	129
Biology	0	5	5	16	34	11	71
History	3	14	13	4	10	0	44
English	8	16	7	5	6	1	43
Agriculture	0	4	12	5	8	1	30
Home Economics	0	0	3	8	11	1	23
Physics	0	1	2	3	12	4	22
Chemistry	0	0	0	2	7	4	13
Science	0	0	3	3	6	1	13
Latin	0	3	2	1	3	0	9

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXII  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH GEOGRAPHY IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Geography Alone	0	0	0	0	1	1	2
In combination with History	2	14	21	15	18	2	72
Mathematics	5	17	8	7	9	3	49
English	2	22	10	6	4	2	46
Biology	0	2	3	8	8	3	24
Agriculture	0	2	3	1	4	1	11
Civics	0	0	2	2	6	1	11
General Science	0	2	1	1	3	1	8
Home Economics	0	0	0	2	1	1	4
Latin	0	1	0	0	1	1	3
Science	0	0	1	0	0	2	3

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXIII  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH HISTORY AND SOCIAL  
SCIENCE IN KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
History and Social Sci. Alone	0	0	4	7	16	53	80
In combination with English	17	101	59	25	30	23	255
Mathematics	32	68	37	25	32	10	204
Civics	5	24	24	49	56	27	185
Geography	2	14	21	15	18	2	72
Latin	0	11	9	12	19	6	57
Biology	1	13	12	13	12	4	55
General Science	3	14	13	4	10	0	44
Agriculture	2	9	16	5	7	0	39
Art	0	0	6	4	10	5	25
Physics	2	4	5	4	6	1	22
Home Economics	0	0	3	12	7	0	22

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXIV  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH HOME ECONOMICS IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Home Ec. Alone	0	0	0	3	19	47	69
In combination with English	0	2	9	6	6	6	29
General Science	0	0	3	8	11	1	23
History	0	0	3	12	7	0	22
Mathematics	0	0	8	5	4	1	18
Art	0	0	2	1	13	1	17
Biology	0	0	0	4	6	4	14
Physiology	0	0	3	4	3	2	12
Civics	0	0	4	5	0	2	11
Science	0	0	0	1	8	1	10
Latin	0	0	1	3	3	0	7

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXV  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH LATIN IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Latin Alone	0	0	0	0	5	33	38
In combination with English	4	42	29	30	39	13	157
Mathematics	11	34	15	12	17	7	96
History	0	11	9	12	19	6	57
French	0	0	0	0	19	16	35
Civics	0	2	6	1	4	1	14
General Science	0	3	2	1	3	0	9
Biology	0	0	3	1	3	1	8
Home Economics	0	0	1	3	3	0	7
Library	0	0	0	2	2	0	4
Geography	0	1	0	0	1	1	3

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXVI  
FOUR MOST FREQUENT COMBINATIONS TAUGHT IN CONNECTION WITH  
LIBRARY WORK IN KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Library Alone	0	0	0	0	2	16	18
In combination with English	0	0	1	4	10	4	19
Mathematics	0	0	0	2	3	2	7
History	0	0	0	2	3	0	5
Latin	0	0	0	2	2	0	4

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXVII  
FOUR MOST FREQUENT COMBINATIONS TAUGHT WITH MANUAL TRAINING IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Manual Train. Alone	0	0	0	1	5	25	31
In combination with Drawing	0	0	0	0	5	2	5
Mathematics	0	0	1	2	2	0	5
English	0	0	1	0	2	1	4
History	0	0	1	1	2	0	4

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.



TABLE XXVIII  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH MATHEMATICS IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Mathematics Alone	0	3	12	29	63	87	194
In combination with History	32	68	37	25	32	10	204
English	53	70	22	12	17	10	184
Biology	10	54	25	17	17	9	132
General Science	14	49	22	7	23	14	129
Latin	11	34	15	12	17	7	96
Civics	8	35	12	8	13	3	79
Agriculture	3	19	14	10	12	0	58
Physics	1	12	9	6	14	7	49
Geography	5	17	6	7	9	3	49
Athletics	0	8	8	10	19	4	49

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXIX  
FOUR MOST FREQUENT COMBINATIONS TAUGHT WITH MUSIC IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Music Alone	0	0	1	1	3	18	23
In combination with Mathematics	0	4	3	1	3	2	13
English	0	1	3	2	4	1	11
History	0	0	3	2	3	2	10
Civics	0	0	0	0	2	2	4

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXX  
FOUR MOST FREQUENT COMBINATIONS TAUGHT WITH SPANISH IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Spanish Alone	0	0	0	0	0	7	7
In combination with French	0	0	0	0	1	14	15
English	0	1	1	0	0	6	8
Mathematics	0	0	1	1	0	0	2
History	0	0	1	0	0	1	2

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXXI  
EIGHT MOST FREQUENT COMBINATIONS TAUGHT WITH PHYSICS IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Physics. Alone	0	0	0	0	0	7	7
In combination with Mathematics	1	12	9	6	14	7	49
Biology	0	0	0	5	19	11	35
General Science	0	1	2	3	12	4	22
History	2	4	5	4	6	1	22
Agriculture	0	0	6	4	3	0	13
Chemistry	0	0	0	1	2	7	10
Science	0	0	0	3	2	3	8
English	0	2	2	0	3	0	7

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXXII  
SEVEN MOST FREQUENT COMBINATIONS TAUGHT WITH PHYSIOLOGY IN  
KENTUCKY HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Physiology Alone	0	0	0	0	0	2	2
In combination with Mathematics	4	15	9	3	0	1	32
English	0	12	7	5	2	0	26
Biology	0	2	2	5	5	5	19
History	0	1	4	4	8	1	18
Home Economics	0	0	3	4	3	2	12
General Science	0	0	2	1	2	1	6
Agriculture	0	1	2	2	1	0	6

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXXIII  
 NINE MOST FREQUENT COMBINATIONS TAUGHT WITH SCIENCE IN KENTUCKY  
 HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Science Alone	0	0	0	1	1	3	5
In combination with Mathematics	2	2	5	4	8	2	23
History	0	1	5	6	2	1	15
General Science	0	0	3	3	6	1	13
Biology	0	0	2	5	4	1	12
Home Economics	0	0	0	1	8	1	10
Physics	0	0	0	3	2	3	8
Chemistry	0	0	1	0	1	3	5
English	0	1	0	0	1	3	5
Agriculture	0	0	0	1	3	1	5

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

TABLE XXXIV  
TEN MOST FREQUENT COMBINATIONS TAUGHT WITH ECONOMICS IN KENTUCKY  
HIGH SCHOOLS (1931-1932)\*

Subject Combinations	Type of Schools						Total
	One Teacher	Two Teacher	Three Teacher	Four Teacher	Five to nine Teacher	Ten or more Teacher	
Economics Alone	0	0	0	0	0	0	0
In combination with History	1	10	13	5	8	9	46
Civics & Government	0	7	7	2	3	5	24
English	1	11	4	2	1	5	24
Mathematics	1	8	8	1	1	1	20
General Science	0	4	2	3	1	0	10
Biology	0	2	2	3	1	0	8
Latin	1	2	2	0	1	2	8
Science	0	2	2	0	2	1	7
Physiology	0	4	0	1	1	1	7
Athletics	0	1	0	2	2	2	7

\* Data for the above table were secured from Principals' reports on file in the State Department of Education.

## Status of Combinations

An attempt has been made to present as much as possible of the findings in Tables XI to XXXIV in summary so that Table XXXV which is a compilation from these tables could be read and interpreted easily. The intention has been to show the number of times each subject used in the study was taught singly together with the subject most frequently taught with it listed as first dominant, second most frequent combination second dominant, and third most frequent combination as third dominant. As stated this is a compilation of cases as they exist and is not intended as a guide in the preparation of teachers. However this table is set up to show the great need of working out proper programs for both administrators and teachers.

Table XXXV is so constructed that column one shows the number of times a subject is taught singly by the high-school teachers of the State; and columns two, three, and four show the number of times the different subjects are taught in combination with the subject on the same row in column one.

TABLE XXXV  
STATUS OF TEACHING COMBINATIONS (1931-1932)©©

Subjects taught singly	Dominants			
	First Dom.	Second Dom.	Third Dom.	
Agriculture	49' Math.	58' History	39' Biology	32
Art	14' Home Ec.	17' English	2'	
Athletics	0' Math.	49' History	25' English	13
Bible	1' English	4' Math.	4' History	3
Biology	13' Math.	132' Gen. Sci.	71' History	55
Chemistry	8' Math.	16' Biology	15' Gen. Sci.	13
Civics & Gov't	3' History	185' English	98' Math.	79
Commercial	92' Math.	20' English	18' History	11
Drawing	9' Man. Train.	5' English	3' Biology	2
English	249' History	255' Math.	184' Latin	157
French	12' English	49' Latin	35' Math.	19
General Sci.	3' Math.	129' Biology	71' History	44
Geography	2' History	72' Math.	49' English	46
Hist. & Soc. Sci.	80' English	255' Math.	204' Civics	185
Home Ec.	69' English	29' Gen. Sci.	23' History	22
Latin	38' English	157' Math.	96' History	57
Library	18' English	19' Math.	7' History	5
Manual Train.	35' Drawing	5' Math.	5' English	4
Mathematics	194' History	204' English	184' Biology	132
Music	23' Math.	13' English	11' History	10
Penmanship	0' English	4' Math.	3' Gen. Sci.	3
Physics	7' Math.	49' Biology	35' Gen. Sci.	22
Phys. Ed., Boys	9' Math.	26' History	12' Biology	10
Phys. Ed., Girls	8' English	6' Math.	5'	
Physiology	2' Math.	32' English	26' Biology	19
Science	5' Math.	23' History	15' Gen. Sci.	13
Spanish	7' French	15' English	8' Math.	2
Voc. Guid.	0' History	6' Math.	4' Biology	3
Economics	0' History	46' Civics & G.	24' English	24

© Note: Figures in column one indicate the number of times designated subjects were taught alone.

©© Data for the above table were secured from Principals' reports on file in the State Department of Education.



In Table XXXV it will be noted that mathematics appears eleven times as first dominant, ten times as second dominant and three times as third dominant.

English appears eight times as first dominant, eight times as second and four times as third dominant.

History appears six times as first dominant, four times as second, and seven times as third dominant.

Study of the table will show that biology appears three times as second dominant and six times as third dominant; while general science appears two times as second dominant and three times as third dominant.

There are a number of other dominants that appear among these groups of dominants, but it can easily be seen that mathematics, English and history are taught more often as first, second and third dominants than other subjects.

### Comparison With Other States

In Table XXXVI it will be noticed that different states have been studied with reference to findings in regard to the subject combinations taught in those states. Per cents have been calculated to show the portion of teachers teaching one-subject, two-subject combinations and so on.

Although the study made in regard to combinations taught in the state of Washington was as early as 1918, it shows a much higher per cent of smaller combinations than does the state of Kentucky even at this late date.

The study made of the North Central High Schools of Michigan in the year 1924-25 shows the highest per cent of small subject combinations of all the studies reviewed.

In a study made of the state of Illinois for the year 1929-30, this state ranked second highest in the per cent of small subject combinations.

The fact that Kentucky shows less than one-third of her teachers teaching one subject makes her condition appear really worse than it is, because the large number of small high schools cause the larger high schools to show up disadvantageously.

TABLE XXXVI  
COMPARISON OF THE PER CENT OF TEACHERS TEACHING ONE OR MORE SUBJECTS AS FOUND IN THE  
VARIOUS STUDIES, INCLUDING THE PRESENT STUDY (KENTUCKY)

State	School Year	Per Cent of Teachers Teaching							%
		One Subject	Two Subject	Three Subject	Four Subject	Five Subject	Six Subject	Seven Subject	
Illinois	1929-30	71.4	22.4	5.2	1.	0.1			100.1
Iowa	1924-25	40.1	59.1*						99.2
Kentucky Class I	1931-32			7.81	59.37	25.	7.81		99.99
Class II	1931-32	1.79	17.9	40.15	31.71	7.67	0.79		100.01
Class III	1931-32	9.07	41.45	33.16	11.91	3.62	0.54	0.25	100
Class IV	1931-32	19.17	39.11	27.03	11.02	3.67			100
Class V	1931-32	29.74	38.1	23.67	7.09	1.27	0.13		100
Class VI	1931-32	64.69	24.94	8.88	1.37	0.11			99.99
As a Whole	1931-32	31.76	31.11	22.77	11.	2.94	0.38	0.04	100
Michigan	1924-25	74.5	22.2	3.1	0.2				100
Pennsylvania	1926-27	45.2	45.	8.6	0.3				99.1
Washington	1917-18	55.2	26.2	11.2	5.7	1.3	0.4		100

\* Note: This figure includes two and more subject combinations.

## SUMMARY AND CONCLUSION

## Summary

In the following discussion an attempt will be made to point out some of the most important conditions brought to light through this study. It may be said without fear of contradiction that the number of subjects taught by many of the teachers in the State is too large, and that the fields are often too little related to secure the best teaching results. This variation in administrators' and teachers' programs together with the large number of subjects taught is probably due to insufficient control over the setting up of local curricula. No attempt has been made to evaluate the factors that determine either the number or variety of subjects taught, but there is an opportunity for much investigation here. The crux of the problem has been the study of teachers' and administrators' programs to find out what they were actually teaching. It is hoped that this information will be of value to teacher-training institutions, the State Department of Education, administrators and school boards for use as a basis for remedial educational programming.

There are certain facts that may be reemphasized either because they may have some significance or because they have almost been lost sight of in the educational program.

Agriculture is taught only a few times in one-teacher high schools and always in combination. In ten-or-more-teacher schools it is taught seldom either alone or in combination.

There seems to be a greater tendency for commercial teachers to remain in their field than there is for teachers of other subjects. The reasons for this condition are: (1)

that commercial teachers are trained and certified in the commercial field, and usually remain in it, and (2) because of lack of preparation in other fields, they are usually excused from teaching in them. Here is the answer to the problem of certification. Teachers will be more inclined to teach those subjects for which they have definitely prepared themselves.

Art and drawing are stressed very little in the high schools, both large and small, throughout the state,

Penmanship while properly in the commercial group was carried as a single subject. It was found that it was never taught alone and only thirteen times in combination in all of the programs studied. There seems to be no inclination to stimulate penmanship either as an art or for practical business purposes.

#### Conclusions

After investigating conditions existing in the high schools of Kentucky relative to the number of subjects taught together with the combinations that are being taught, the following conclusions have been drawn:

1. Teachers should be trained for teaching by teacher-training institutions.
2. Teachers should be certificated by the State Department of Education on presentation of transcript from the State teacher-training institutions.
3. No teacher should be certificated in a subject in which he has had less than twelve semester hours.
4. Under present conditions, teachers should be prepared

to teach in four fields.

5. There should be an harmonious agreement between boards of education, administrators, teacher-training institutions, and the State Department of Education in setting up programs for prospective teachers in teacher-training institutions.

6. A vigorous consolidation program would help greatly in reducing subject combinations taught.

7. The number of combinations could be reduced materially if superintendents, principals, and school boards followed the course of study set up by the State High School Inspector.

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