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A study of the subject offerings and teaching combinations of three hundred forty-seven Indiana secondary schools

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A STUDY OF THE SUBJECT OFFERINGS AND TEACHING COMBINATIONS OF THREE HUNDRED FORTY-SEVEN INDIANA SECONDARY SCHOOLS

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

I. THE PROBLEM

The licensing department of the Department of Public Instruction of the State of Indiana at present accepts and licenses any subject to any teacher who has satisfied training requirements of an approved teacher-training course in an approved institution provided that teacher meets certain physical and moral standards.

The institutions of higher learning in Indiana offering teacher-training courses permit the entering student to select any subject combination he chooses subject in a greater or lesser degree to rather poorly developed or even non-existent guidance courses.

The teacher-training institution instructs the prospective teacher along well-defined lines and recommends the student to the licensing department of the Department of Public Instruction of the State of Indiana which in turn issues the license. Both the institution and the state department perform their respective duties without consideration as to supply and demand of these prospective teachers with their varied assortment of teaching combinations. This

may not, however, be any concern of the licensing division.

Since the state licensing department recognizes about twenty distinct teaching licenses, random selection from these departments could, and does, lead to an almost infinite number of teaching combinations.

To aggravate the situation, the subject offerings of the schools vary considerably. The small rural schools vary greatly from larger urban schools, and rightly so. In fact, it is doubtful whether there is enough variation in many cases to satisfy local needs.

All of the aforementioned factors working in conjunction tend to produce the following undesirable situations:

1. Students enter teacher-training institutions with little or no knowledge of the demands of the educational profession as to logical and proper teaching combinations, frequency of occurrence of a particular combination, or knowledge of the subject offerings of the school.

2. Employers, especially in smaller secondary schools, frequently experience difficulty in finding teachers with proper teaching combinations.

3. A lack of efficiency pervades the whole teacher-training, licensing, and employment field in so far as students' combinations and employers' needs often do not coincide.

4. In order to make schedules fit the schools, teachers

are forced to teach many weird teaching combinations consisting sometimes of many unrelated subjects.

5. The teacher's daily preparation for unrelated classes is increased, assuming that preparation is more difficult in several subjects than in a single subject. There is an increased burden if the subjects are unrelated.

6. All of the five foregoing difficulties lead to teaching inefficiency and general lowering of teacher morale throughout the system.

7. Because of possession of the wrong subject combination either through original combination or changes within the system creating need for a teacher with a different combination, teachers are often forced to spend vacations in summer school attendance.

8. The state of Indiana, in providing teacher-training institutions in order to secure adequately-trained teachers for the schools of the state, trains many teachers whose subject combinations do not coincide with the demands of the schools. Thus the state of Indiana is needlessly spending much money every year without accomplishing its original purpose, namely, providing an adequate number of well-trained teachers with the proper teaching combinations.

Statement of the problem. In full recognition of the foregoing difficulties, it is the purpose of this study to:

1. List the kinds and frequencies of occurrence of all teaching combinations found in this representative group of Indiana secondary schools.

2. List the total department offerings of these schools to aid students, student counsellors, and hiring officials to know the demand for teachers in Indiana secondary schools in so far as these departmental offerings affect teacher employment.

3. Discover what size of schools trend toward certain teaching combinations, and if possible extract from the data presented, ways to correct existing and future teaching combinations.

4. Determine to what extent the college preparation or academic curriculum is dominating the curriculum as a whole.

5. Determine the correlation existing between the number of classes taught daily and the number of departments in which the teacher was teaching.

6. Determine the relation between the size of the school and certain logical teaching combinations.

7. Show the deficiencies of various departmental offerings in certain schools.

8. Show the average pupil-teacher ratio in all the schools surveyed.

9. Show correlation between the pupil-teacher ratio and the number of teaching duties per day.

10. Show the correlation between the number of teaching duties per day and other duties performed while school is in session.

Importance of the study. The foregoing statement of the problem in a large degree explains the importance of the problem. More detailed consideration will reveal the dilemma the foregoing situation has created.

Undoubtedly certain subjects in the curriculum are more closely related than others. Mathematics and physics, home economics and chemistry, music and art, and English and the foreign languages might be classic examples. By such combinations teachers can develop their interest and knowledge along more definite lines than is possible with an illogical and haphazard teaching combination. Such logical combinations should lighten the teaching loads of the teachers. Although extreme specialization is undesirable on the part of the teacher, it remains a personal problem for the teacher as to whether or not he will allow himself to become narrowed to the exclusion of other worthwhile interests. This fault would likely be the fault of the individual and not necessarily the fault of the teaching combinations.

Perhaps personal likes and dislikes have tended to cause students entering teachers' colleges to choose subject

fields that are rather related.

Administrators in small schools have found it necessary to create illogical teaching combinations in order to arrange a program of subject offerings prescribed by the State of Indiana.

Hiring officials have often engaged teachers for services without consulting the administrators as to the possible changes such an engagement would entail.

Perhaps personal preference for certain teaching combinations has been a contributing factor in creating these illogical combinations.

As to the second consideration of this study, which deals with the subject offerings of these schools, one would expect to find certain variations in subject offerings in different communities. For example, a greater offering in agriculture would be expected in smaller schools, while a greater offering in industrial arts would be expected in larger schools.

The adoption of any new type of training and licensing procedure in Indiana must necessarily take into consideration the size of the schools throughout the State. It would be extremely difficult to formulate any program that would give adequate recognition to every school.

The other stated purposes of this study show clearly

the need for analysis of the curricular offerings and teaching combinations. A composite picture with indication of certain trends will do much to indicate what corrective measures should be taken.

Simon has found that lack of the necessary subject combination is only very slightly exceeded by weakness in discipline as a reason for dismissal of teachers in the smaller secondary schools of Indiana.[1]

The problem is thus a vital one that demands a thorough investigation. Thus is the purpose of this study.

II. DEFINITIONS OF TERMS USED

Subject offerings. Subject offerings is interpreted as meaning the individual offerings of the various schools as determined by one class period which may occur any number of times during the week.

Teaching combination. Teaching combination is regarded as any single subject or group of subjects within a given department or group of subjects in more than one department.

Department. Department is regarded as a general

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[1] Donald L. Simon, "Turnover Among Teachers in the Smaller Secondary Schools of Indiana," School Review, XLIV (February, 1936), 122.

classification of related subjects for which the Licensing Division of the State Department of Public Instruction of Indiana issues license. A typical department might be English, science, or mathematics.

Pupil-teacher ratio. Pupil-teacher ratio is here regarded as the number of pupils enrolled divided by the number of teachers in the school system. It is the average number of enrolled students per teaching unit.

III. ORGANIZATION OF STUDY

Chapter I deals with the problem as seen by the author. It also deals with previous related studies, bringing the history of the research up to date with criticism of previous studies and statement of the limitations of this study. Chapter I further deals with method of procedure and sources of data.

Chapter II deals with the subject offerings of the various schools with consideration being given to the frequency of occurrence of various subjects, with the size of the school as a determining factor.

Shapter III attempts to portray the present status of the subject combinations taught by teachers in the Indiana secondary schools.

Chapter IV summarizes by giving findings, conclusions, and recommendations.

IV. REVIEW OF PREVIOUS RELATED STUDIES

Any study vitally affecting the importance of this study must deal with a similar situation. Since the licensing procedure of Indiana seems to be unique, such studies must necessarily deal with this state.

Rufe in his study of the teaching combinations in Indiana high schools for the year 1938-39, listed the various teaching combinations as found in the Indiana School Directory. This source of data is admittedly inaccurate since there is a lack of uniformity in filing the reports from which the Directory was compiled. In some instances the various departments were broken down into subjects; for example, some teachers were listed as teaching science while at other times teachers were listed as teaching biology, chemistry, physics, etc.

This study contents itself with merely listing the various teaching combinations and the frequency of occurrence of each. Little attempt has been made toward analysis of the data. The accumulated data remains, for the most part, unclassified and untreated.

Although some conclusions are given, the bulk of the report remains, for the most part, a large amount of unclassified data. Mr. Rufe's report doubtless served the purpose for which it was intended. The purpose and scope of this study are much greater and more comprehensive than were those of Mr. Rufe's study.[1]

Limitations of data of this study. The limitations of this data appear to the author to be only two in number. They are:

1. The reports of the subject offerings and teaching combinations may be slightly inaccurate since smaller schools are forced to alternate their subject offerings from semester to semester or from year to year in order to have a varied offering or, in some cases, to meet minimum standards prescribed by the Inspection Division of the Department of Public Instruction of the State of Indiana. This varied offering would create a few more teaching combinations and subject offerings than those listed. However, assuming that the sampling has been accurate, the total number of subject offerings would not be affected materially.

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[1] Benjamin Lewis Rufe, "A Study of Teaching Combinations in Indiana High Schools for the Year 1938-39" (unpublished study of the Bureau of Teacher Recommendations, Indiana University, Bloomington, 1939), p. 196.

2. Since the information received from many schools did not specify whether or not agriculture was taught by a Smith-Hughes teacher or a science teacher, all science subjects and agriculture subjects were included under the heading of science. Further justification for this classification is found in the failure of the two state teachers' colleges to offer Smith-Hughes vocational agriculture courses. This creates a problem since the one institution offering the Smith-Hughes vocational agriculture course is Purdue University. Although its school of education is subject to the Licensing Division, this school is not primarily a teacher-training institution.

V. METHOD OF PROCEDURE AND SOURCE OF DATA

During the month of November, 1939, letters were sent to approximately six hundred of the 819 secondary schools of Indiana asking them for lists of recitation schedules and subject offerings. The enrollment distribution of the high schools of the State of Indiana for the school year 1939-1940 is shown in Table I.

TABLE I

ENROLLMENT DISTRIBUTION OF INDIANA HIGH SCHOOLS, 1939-1940[1]

0-99	100-199	200-299	300-399	400-499	500 and above	Totals
361	259	75	33	16	74	819

No attempt was made to analyze the subject offerings and teaching combinations of all Indiana high schools. A generous sampling within each of the above groups, together with the percentage of each group for which data were received.

Table I and Table II show that a very generous sampling has been obtained. Thus inadequate sampling does not constitute a limitation of data.

To simplify reference to schools, various groupings on the basis of enrollment were made. Hereafter schools will be referred to according to the following classification: Group I, 0-99; Group II, 100-199; Group III, 200-299; Group IV, 300-399; Group V, 400-499; Group VI, 500 and above.

The information received was recorded on printed

[1] Indiana State School Directory, 1939-1940 (Indianapolis, Indiana: Indiana State Department of Public Instruction, 1939), pp. 1-197.

master forms, one of which is bound at the end of this report. This form will be designated hereafter as Form I.

From Form I the subject combinations were transferred to forms showing single-subject combinations to as much as six-subject combinations. These forms will be referred to as Forms II-A, II-B, etc., to II-F, respectively.

In order that the various subject combinations might be located by looking under any one subject of the combination, these combinations were recorded and cross-indexed. These will be referred to later.

TABLE II

NUMBER OF SCHEDULES RECEIVED AND PERCENTAGE OF SCHOOLS ANSWERING IN EACH GROUP

Enrollment	Schedules received	Per cent of schools answering
Group I, 0-99	124	47.8
Group II, 100-199	104	40.1
Group III, 200-299	39	52
Group IV, 300-399	18	54.5
Group V, 400-499	9	56.2
Group VI, 500 and above	53	71.6
Totals	347	42.3

CHAPTER II

THE SUBJECT OFFERINGS OF TYPICAL INDIANA HIGH SCHOOLS

While Table II shows that an adequate sampling of the schools of the state has been obtained, it does not refer to the location of the schools within the s tate. However, let it suffice to say that the schools are evenly distributed throughout the state, thus increasing the validity of the sampling.

The first procedure in determining the extent of the subject offerings of these schools was to record them as in Table II and Table IV.

These two tables are essentially the same, except that the former records the information in numbers, while the later refers to them by per cents. However, Table III records other vital information in the last four rows that is now shown in Table IV.

TABLE III

DEPARTMENTAL OFFERINGS OF SCHOOLS

Department	Number of Departmental Offerings						
	Group I 0-99	Group II 100-199	Group III 200-299	Group IV 300-399	Group V 400-499	Group VI 500 & up	Total
English	645	719	468	235	154	2219	4440
For. Lang.	159	184	114	82	50	836	1425
Mathematics	451	490	277	146	89	1158	2611
Soc. Studies	575	544	351	171	103	1597	3281
Science	549	657	321	173	98	1208	3006
Industrial Arts	98	117	117	93	47	1201	1673
Home Economics	364	386	187	100	52	806	1895
Music	295	361	207	103	38	540	1544
Fine Arts	111	114	101	68	25	379	798
Phys. Education	411	429	267	145	70	954	2276
Commerce	419	578	279	162	83	1079	2540
Miscellaneous	975	929	436	201	105	972	3618
Total offerings	4992	5448	3125	1679	914	12,949	29,107
No. schools in group	124	104	39	18	9	53	347
Average class offering per day	40.92	52.38	82.22	93.28	101.56	249.01	87.77
Total enrollment	8770	14,080	9013	6124	4136	58,044	100,167
Average enrollment	70.7	135.4	231.1	340.2	459.6	1093.3	288.7

TABLE IV

PER CENT EACH DEPARTMENTAL OFFERING IS OF ENTIRE OFFERING

Department	Group I 0-99	Group II 100-199	Group III 200-299	Group IV 300-399	Group V 400-499	Group VI 500 & up
English	12.90	13.01	14.97	13.99	16.85	17.35
Foreign Language	3.16	3.45	3.64	4.88	5.47	6.46
Mathematics	9.02	8.87	8.86	8.69	9.73	8.95
Social Studies	11.47	9.96	11.23	10.18	11.27	12.33
Science	10.93	12.12	10.27	10.30	10.72	9.33
Industrial Arts	1.89	2.24	3.74	5.53	5.14	9.51
Home Economics	7.32	6.95	5.98	5.96	5.69	6.22
Music	5.86	6.68	6.62	6.13	4.15	4.17
Fine Arts	2.23	1.99	3.23	4.05	2.73	2.93
Physical Education	8.21	7.91	8.54	8.63	7.77	7.37
Commerce	8.41	10.61	8.92	9.65	9.08	8.33
Miscellaneous	19.02	17.09	13.95	11.97	11.48	7.51
Totals	100.42	100.88	99.95	99.96	100.08	100.46

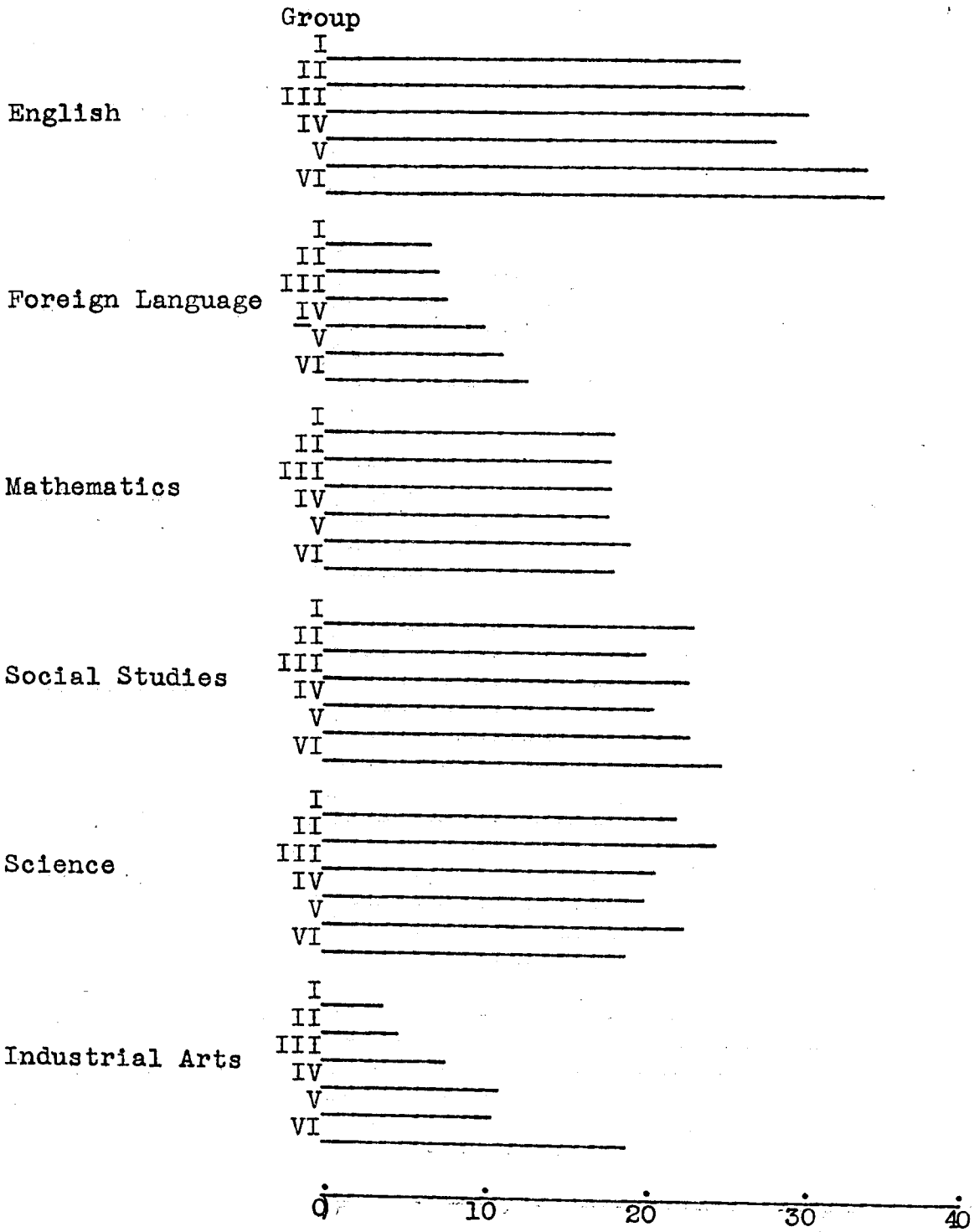

Figure 1. Departmental Offerings of Indiana High Schools in Percentage of Total Offerings

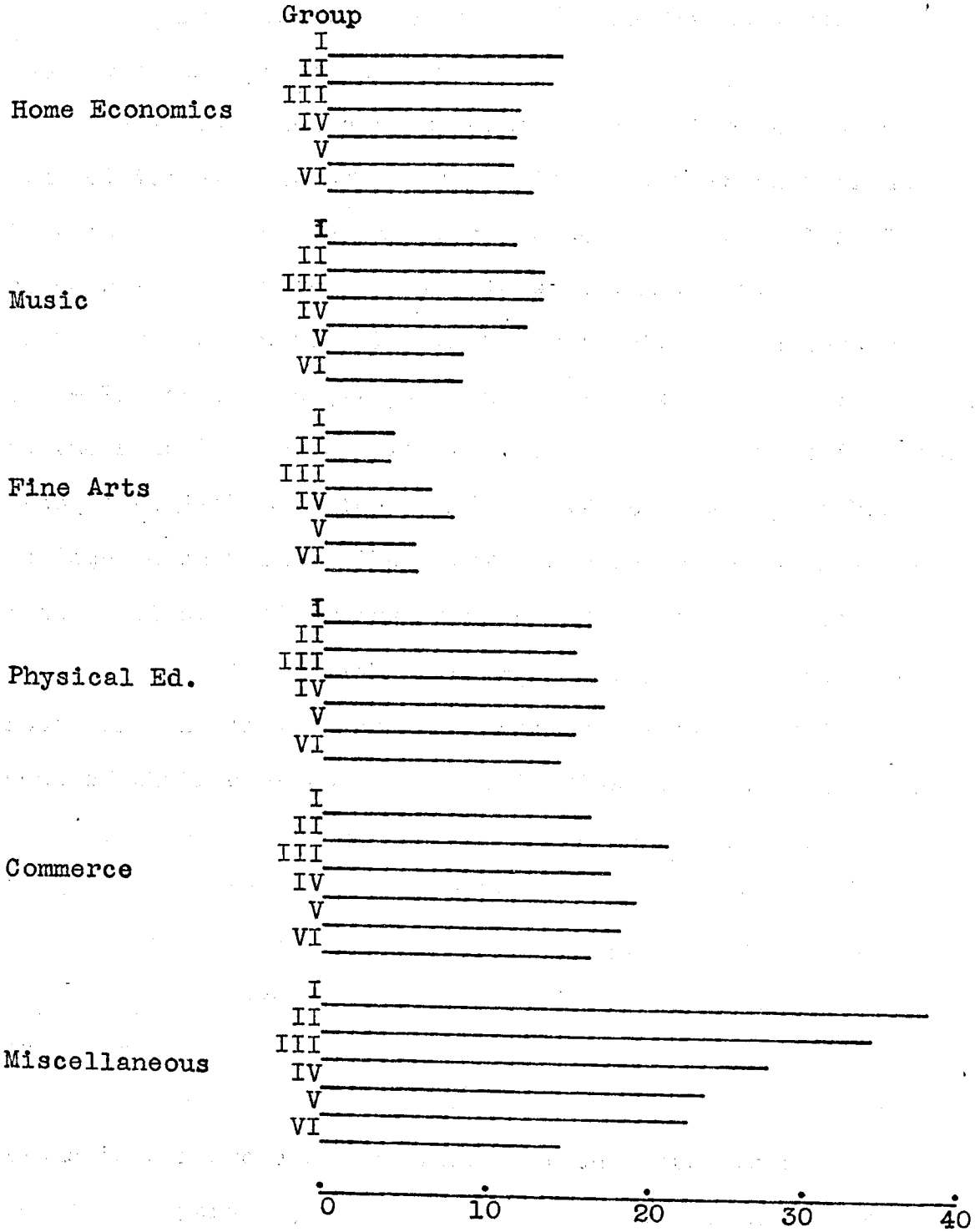

Figure 1. Continued

Figure I records the same information as Table IV but gives it in graphic form.

Analyzing the various departmental offerings shows a gradual increase in the English offerings with an increase in the size of the school in all cases but one. Class IV schools seem to have slightly less of their curriculum devoted to English than Class III and Class V schools. Although Table II reveals that replies were received from 54.5 per cent of the schools, there were only 33 schools in Group IV. The drop in English offerings in Class IV schools may be due to inadequate sampling. The great increase in commercial and industrial arts offerings, however, tends to compensate for this loss in English offerings. It is significant to note that in Class VI schools English comprises 17.35 per cent of their curriculum, while in Class I schools English comprises only 12.9 per cent of the offerings. This might tend to imply that Class VI schools are more of the "college preparation" or "academic" type. Certain other subjects discussed later will tend to prove this supposition to be true.

The next department group, namely, foreign languages, seems to corroborate the claim that the percentage of college preparatory or academic offerings increases with the size of the school. This may not be so significant as the

figures seem to indicate since the advent of the so-called "general curriculum" in the larger schools may account for the great increase in foreign language offerings. Perhaps another important fact to be considered is that the majority of the larger schools are in northern Indiana, where the percentage of pupils of foreign extraction greatly exceeds that of the pupils in southern Indiana and the state taken as a whole.

It is likely that these students of foreign extraction might show a greater preference for the foreign languages than the students of native extraction. Furthermore, the larger schools have a much greater variation in the kinds of foreign languages offered. Some of the Group VI schools offer as many as four or five different foreign languages, while the offering of most schools of Group I and II consist of only Latin. Notwithstanding the facts, it is still unlikely that the percentage of the foreign language offering in Group VI should be twice that of Group I if the former group did not tend to be more college preparatory or academic in nature.

Since there is a range of only 0.8 per cent of the offerings in mathematics as compared to the entire curricular offering, it would seem that no single group of schools may be said to be more of the college preparatory type than any other

group, in so far as mathematics is used as a criterion. Other departments, however, do not agree.

The range in social studies is slightly greater, being 2.4 per cent. With the exception of Group I, there is a gradual rise in the percentage of the social studies.

Group II exceeds all other groups in the percentage of science offering. This rise is likely due, however, to the inclusion of agriculture in the science offering. This inclusion is not necessarily a valid one; however it seems to be the only practical one since both three-year, four-year, and six-year high schools are included in this study, and the agriculture offering is sometimes taught by regular science teachers and sometimes by licensed Smith-Hughes vocational agriculture teachers. Since the Smith-Hughes offering is much greater than the regular agriculture offering, Group II schools thus seem to surpass all other groups in the science offering. Since Group VI schools have the smallest percentage of their curriculum taken by science, it can be assumed that those schools offer little or no agriculture.

In no other subject offering is the variation between schools so great as it is in industrial arts. Also, in no other subject does the percentage offering correlate so closely with the school enrollment. It is to be expected,

however, that the offering should vary in this way since equipment for these classes is very expensive. The demand for industrial workers generally varies directly with the size of the school corporation and the size of the school. Group VI offers almost twice the percentage of industrial arts that Group V offers and five hundred per cent as much as Group I.

In contrast to industrial arts, the percentage offering of home economics in most cases varies inversely as the size of the school. The one exception to this is Group VI. It is expected that the Smith-Hughes vocational home economics course would attract, and rightly so, many students in the smaller schools. The drop of the percentage in the larger schools, with the exception of Group VI, indicates a trend toward preparation for the commercial field, which will later be discussed in connection with commerce.

Rather surprising is the fact that, generally speaking, there is a decline in the music offerings with the increase in the size of the school. The greatest exception is Group I; however its offerings are greater than Group V or Group VI. The fact that many of the schools of Group I offer no music whatsoever accounts for this small percentage. Most of these schools offering no music are denominational or parochial achools and private academies. Most of these

schools occur in Group I. Thus it might be said safely that in all public schools offering music, the percentage of the curriculum or subject offerings devoted to music varies inversely as the size of the school. It is to be expected that the offering is more varied in the larger schools, thus permitting a greater degree of selection.

A curve showing the percentage offerings in fine arts would show the extremes of the curve turned upward followed by depressions toward the middle and a rise in the center. Group IV greatly exceeds all other schools in percentage offering for fine arts. Inspection reveals that there is a very low correlation between the percentage offerings in music and the fine arts in all the groups of schools.

There are only slight variations in the various schools in the degree to which the physical education offerings comprise the curriculum or subject offerings. This is doubtless due to the fact that the state of Indiana requires a certain number of credits or hours in physical education. All other physical education is considered as extra-curricular.

The offerings in commerce do not vary either directly or indirectly as the size of the school. In every group except Group II there is an inverse relationship between commerce and home economics. This is due to the selection of either home economics or commerce as a career. Since boys

and girls alike elect commerce but seldom cut across sex lines in electing home economics and industrial arts, the percentage of offerings in commerce is doubtless decreased in Group VI by the increase in industrial arts.

Assuming that the overwhelming majority of students in home economics are girls and those in industrial arts are boys, it would be safe to add the offerings of both subjects in similar groups to obtain a correlation between the vocational subjects (home economics and industrial arts) and the commercial subjects.

Table VI shows clearly that in the smaller schools the number of offerings in commerce are much the same as those in industrial arts and home economics combined. With the exception of Group II schools, there is a gradual increase in the industrial arts and home economics offering. The reason for this discrepancy may be found in Figure 2, page 24, when one sees the high percentage of home economics offering and low percentage of industrial arts offering in Group I schools. This finding shows a trend for Group II schools to employ the more enriched and fuller Smith-Hughes curriculum. The Smith-Hughes curriculum, as found in lower schools, tends to give a more varied and fuller offering in home economics, but the course most often taken by male students generally consists of agriculture and related subjects.

Smith-Hughes courses in industrial arts were seldom, if ever, found in Group I and Group II schools. Since Groups III to VI, inclusive, offer about the same fractional part of a class in industrial arts and home economics no apparent significance is indicated by Figure 2, page 44. However, Table V, page 33, shows that there is a gradual increase in the per cent of the entire curriculum industrial arts comprises. Figure 2, page 44, and Table V, page 33, do parallel each other in the fractional part of a class offered in home economics, and the per cent this department is of the entire department.

Since the term miscellaneous includes several unclassified offerings, no attempt is made to draw any conclusions from this general classification.

All of the consideration given to the subject offerings must necessarily be considered in the light of many influential factors. One of the most important of these factors is the average number of classes per school. This factor must also greatly affect the number of teachers per school. These in turn must be influenced by the enrollment and pupil-teacher ratio. Therefore, before judging the adequacy or inadequacy of any curriculum it was necessary to find the total number of classes in the various departments or subjects, the average number of classes in each department or subject and the fractional part of a class for each pupil.

TABLE V

DIFFERENCE BETWEEN VOCATIONAL OFFERINGS AND COMMERCE IN THE SIX GROUPS OF SCHOOLS

	Percentage of entire curriculum offering					
	Group I	Group II	Group III	Group IV	Group V	Group VI
Combined offerings in industrial arts and home economics	9.2	9.3	9.72	11.49	10.83	15.73
Offerings in commerce	8.5	10.6	8.92	9.65	9.08	8.33
Difference	0.7	-1.3	0.8	1.84	1.75	7.40

Tables VI to XI, inclusive, were compiled to show the offerings of the schools as related to the availability of classes or the opportunity for students to select certain classes. The average number of classes per school was obtained by dividing the total number of classes per subject by the number of schools in the group. The average part of a class per pupil was obtained by dividing the average number of classes per school by the average enrollment of the schools in the group. It is readily seen that the offering per pupil as determined by the average part of a class per pupil in each department is slightly less for Group I schools than it is for Group II schools. The offering for art in Group II schools is 227 per cent of the offering in Group I schools as determined by the class offering per pupil. This fact becomes especially significant when the small enrollment in Group I schools is taken into consideration. To enlarge upon this point, the average enrollment is 70.7 students in Group I schools and 135.4 students in Group II schools. The average number of teachers for Group I schools is 6.16 while Group II schools have an average of 8.41 teachers. Table XII, page 41, shows that the pupil-teacher ratio of Group I and II is 11.48 to one and 16.10 to one, respectively. Thus Group I schools with a smaller enrollment and a rather low (few pupils per teacher) ratio have a much lower class offering per pupil than Group II schools.

TABLE VI

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP I SCHOOLS

Departments	Total classes	Average number of classes per school	Average part of a class per pupil*
Art	111	0.89	.012
Commerce	419	3.38	.048
English	645	5.20	.075
Foreign Language	159	1.28	.018
Home Economics	364	2.93	.041
Industrial Arts	98	0.79	.011
Mathematics	451	3.63	.051
Music	295	2.37	.034
Physical Ed.	411	3.31	.047
Science	549	4.42	.062
Social Studies	515	4.15	.059
Miscellaneous	975	7.86	.111
Totals	4992	40.21	.569

Average enrollment 70.7; average number of teachers employed in Group I schools 6.16.

*Obtained by dividing the average number of classes per school by the average enrollment for Group II schools. The figure .027 is construed that there is a ratio of 27 classes in art in Group II schools for every 1000 pupils enrolled.

TABLE VII

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP II SCHOOLS

Departments	Total classes	Average number of classes per school	Average part of a class per pupil
Art	68	3.77	.027
Commerce	162	9.00	.067
English	235	13.05	.095
Foreign Language	82	4.55	.033
Home Economics	100	5.55	.041
Industrial Arts	93	5.16	.038
Mathematics	146	8.11	.059
Music	103	5.72	.042
Physical Ed.	145	8.06	.058
Science	173	9.61	.071
Social Studies	171	9.6	.071
Miscellaneous	201	11.16	.082
Totals	1679	93.27	.688

Average enrollment 135.4; average number of teachers employed in Group II schools, 8.41.

TABLE VIII

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP III SCHOOLS

Departments	Total classes	Average number of classes per school	Average part of a class per pupil
Art	101	2.59	.011
Commerce	279	7.41	.032
English	468	12.0	.051
Foreign Language	114	2.92	.012
Home Economics	187	4.79	.021
Industrial Arts	117	3.00	.013
Mathematics	277	7.10	.035
Music	207	5.30	.022
Physical Ed.	267	6.84	.029
Science	321	8.23	.035
Social Studies	351	9.00	.039
Miscellaneous	436	11.18	.048
Totals	3125	80.12	.348

Average enrollment, 231.1; average number of teachers employed in Group III schools, 12.82.

TABLE IX

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP IV SCHOOLS

Department	Total classes	Average number of classes per school	Average part of a class per pupil
Art	68	3.77	.011
Commerce	162	9.00	.026
English	235	13.05	.038
Foreign Language	82	4.55	.013
Home Economics	100	5.55	.016
Industrial Arts	93	5.16	.015
Mathematics	146	8.11	.023
Music	103	5.72	.016
Physical Ed.	145	8.06	.023
Science	173	9.61	.028
Social Studies	171	9.6	.028
Miscellaneous	201	11.16	.032
Totals	1679	93.27	.269

Average enrollment, 340.2; average number of teachers in Group IV schools, 16.83

TABLE X

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP V SCHOOLS

Department	Total classes	Average number of classes per school	Average part of a class per pupil
Art	25	1.77	.003
Commerce	83	9.22	.020
English	154	17.11	.037
Foreign Language	50	5.55	.012
Home Economics	52	5.77	.012
Industrial Arts	47	5.22	.012
Mathematics	89	9.88	.022
Music	38	4.22	.009
Physical Ed.	70	7.77	.017
Science	98	10.88	.024
Social Studies	103	11.44	.025
Miscellaneous	105	11.66	.025
Totals	914	101.55	.220

Average enrollment, 459.6; average number of teachers in Group V schools, 22.33.

TABLE XI

THE DEPARTMENTAL DISTRIBUTION OF TEACHING AND OTHER ASSIGNMENTS IN GROUP VI SCHOOLS

Department	Total classes	Average number of classes per school	Average part of a class per pupil
Art	379	7.15	.006
Commerce	1079	20.3	.018
English	2219	41.86	.038
Foreign Language	836	15.77	.014
Home Economics	806	15.20	.013
Industrial Arts	1201	22.67	.020
Mathematics	1158	21.84	.010
Music	540	10.18	.009
Physical Ed.	954	18.00	.016
Science	1208	22.79	.021
Social Studies	1597	30.13	.028
Miscellaneous	972	18.6	.017
Totals	12,949	244.3	.223

Average enrollment, 1093.3; average number of teachers in Group VI schools, 44.86.

TABLE XII

THE PUPIL-TEACHER RATIO OF THE VARIOUS GROUPS OF INDIANA SECONDARY SCHOOLS

	Group I	Group II	Group III	Group IV	Group V	Group VI	Average for all schools
Average enrollment	70.7	135.4	231.1	340.2	459.6	1093.3	288.7
Average No. of teachers per school	6.16	8.41	12.82	16.83	22.33	44.86	18.57
Average pupil-teacher ratio	11.48	16.10	18.03	20.81	20.58	24.59	15.54
Per cent of pupil-teacher load based on Group I	100	141	157	181	179	214	135

Figure 2, page 44, corroborates the assertion in the preceding paragraph. It shows also the high degree of parallelism existing in the subject offerings of the various groups of schools. A lack of parallelism in Group II schools is shown only in the home economics offering. This matter was considered on pages 31 and 32.

It should not be assumed that while the pupil-teacher ratio of the various groups of schools varies directly as the size of the schools in the group, the teachers of the smaller schools have less to do. Table XIV shows that smaller schools have more assigned duties than larger schools. These added duties more than compensate for the smaller pupil-teacher ratio. In Group VI schools (500 and above) the teachers have slightly greater duties than in Group V schools. The duties considered here are those regularly assigned duties occurring in the regular schedule. This rise in duties in Group VI schools is likely due to the tendency in larger schools to assign a place in the curriculum to certain duties which would be considered extra curricular in the smaller schools with time given to them outside of school hours. However, the number of duties assigned to each teacher correlates rather closely with the number of subject offerings per teacher.

It may, therefore, be said that while the pupil-teacher ratio is lower in the smaller schools, the teachers of these schools have to teach in more departments and in more classes per day. (See Table XIII) Thus preparation would be more difficult for the teachers of smaller schools. The teachers in smaller schools would have to broaden their interests instead of narrow them. The teacher of the smaller school must generalize rather than specialize.

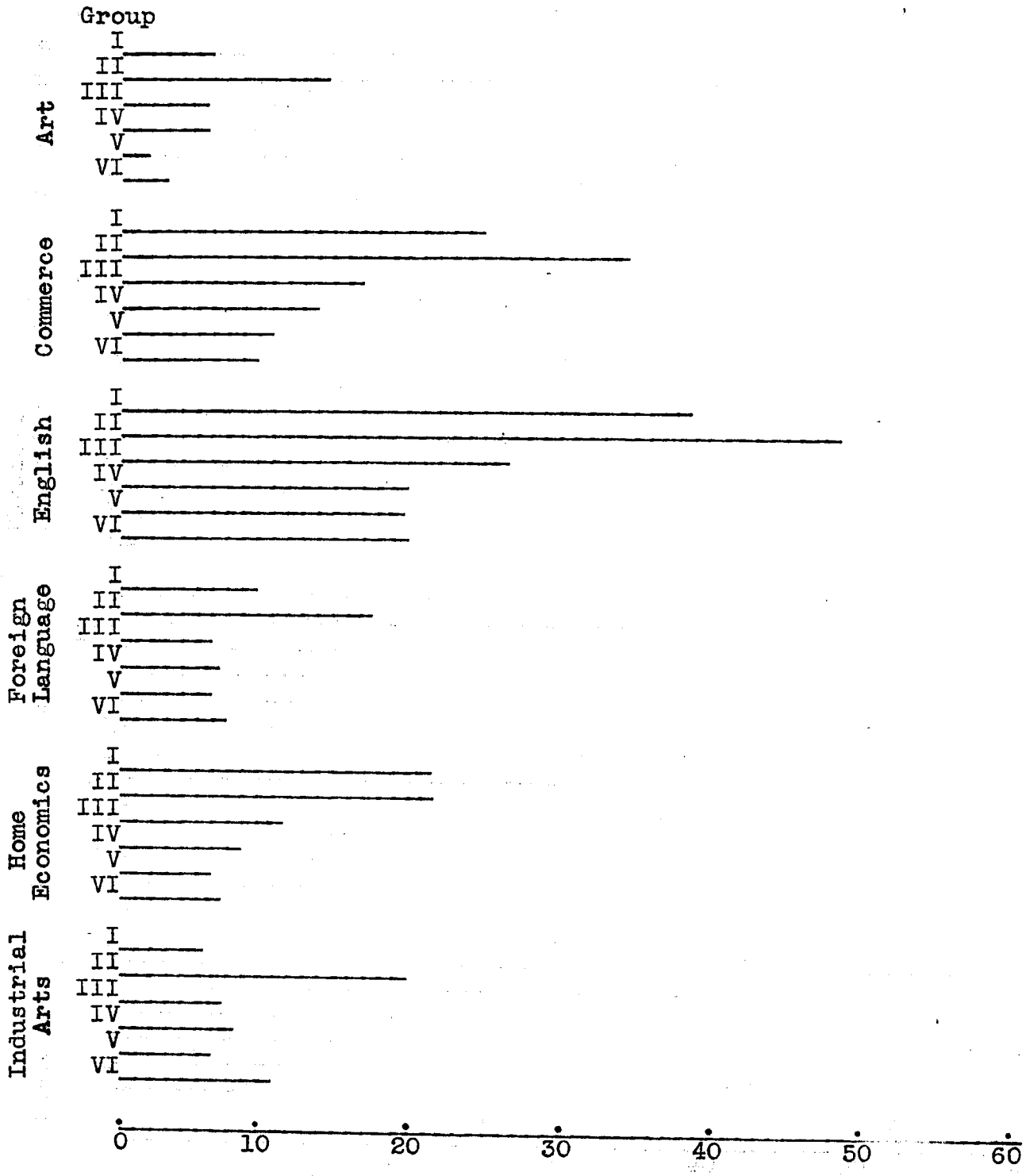

Figure 2. The Average Part of a Class Per Pupil in the Various Departments of Typical Indiana Secondary Schools

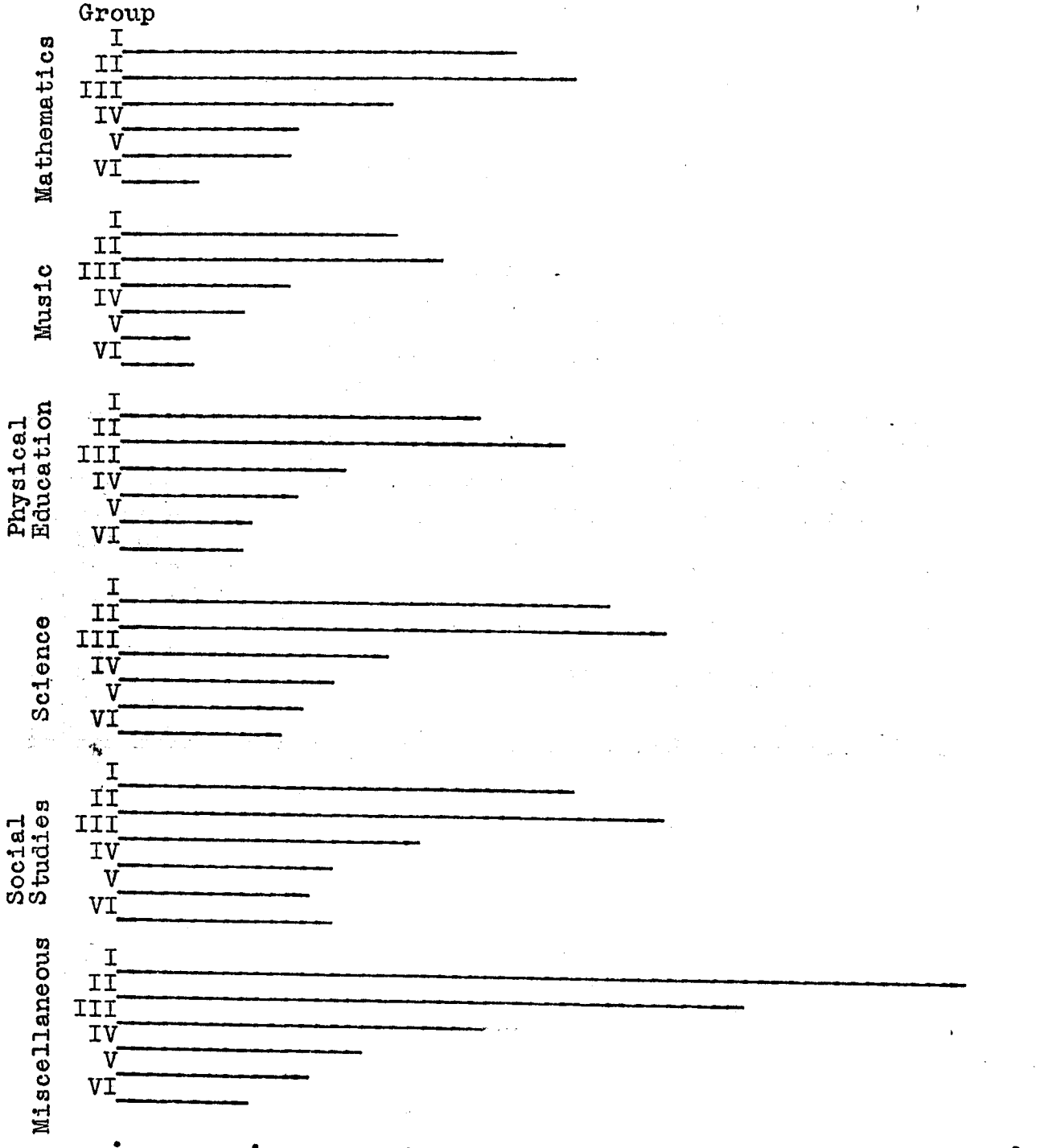

Figure 2. Continued

TABLE XIII

THE TOTAL AND THE AVERAGE NUMBER OF CLASSES PER TEACHER

	Group I	Group II	Group III	Group IV	Group V	Group VI
Total offering	4992	5448	3125	1679	914	12,949
Number of schools in group	124	104	39	18	9	53
Average offering per school	40.92	52.38	82.22	93.28	101.56	249.01
Average number of teachers	6.16	8.41	12.82	16.83	22.33	44.86
Average offering per teacher	6.64	6.23	6.41	5.54	4.55	5.55

TABLE XIV

TOTAL TEACHERS, TOTAL ASSIGNMENTS, AVERAGE ASSIGNMENTS, AND TOTAL PUPILS CONSIDERED IN EACH OF THE ENROLLMENT GROUPS

Enrollment groups	Total teachers	Total assigned duties	Average No. of assigned duties	Total enrolled pupils
0-99	764	4992	6.53	8770
100-199	875	5448	6.22	14,080
200-299	500	3125	6.25	9,013
300-399	303	1679	5.54	6,124
400-499	201	914	4.54	4,136
500 and above	2378	12,949	5.44	58,044
Totals	5021	29,107	5.79	100,167

CHAPTER III

THE TEACHING COMBINATIONS OF INDIANA HIGH SCHOOLS

Although previous mention has been made of the importance of the problem of teaching combinations, the full importance remains to be appreciated until corroborated and validated by factual material.

It is impossible to separate the problem of teaching combinations and subject offerings and to determine under what headings certain topics should be classed and discussed. It is, however, the purpose of this chapter to discuss the phases of the study related to teaching combinations as listed in Chapter I.

Although replies were not received from all secondary schools in the State of Indiana, it has been shown that an adequate sampling has been received. It should be borne in mind, however, that while replies were received from 42.3 per cent of all Indiana secondary schools, there remain 57.7 per cent of the schools from which no replies were received. Therefore, in listing the numerous teaching combinations it should be remembered that the number of schools not replying is 136 per cent as great as that of the replying schools. Thus the number of teaching combinations

listed in this study constitutes approximately forty-two per cent of all the teaching combinations found in all the secondary schools of Indiana.

In dealing with teaching combinations, the schools retained the same classification or grouping they had in the part of the study dealing with the subject offerings. The various combinations and their frequencies were listed on blank forms like those shown in the appendix entitled Blank Form IIA, IIB, IIC, IID, IIE, and IIF.

The teaching combinations were considered in two ways, namely, (a) with the inclusion of duties and assignments as part of the teaching combination and (b) with the inclusion of only subject-matter fields and departments. An example of the former would be the listing of mathematics, science, and study hall as a teaching combination. An example of the latter would be home economics, science, and English. The former classification is useful in augmenting and supplementing the information on teaching loads discussed in the chapter immediately preceding this one. The latter classification is perhaps the more important of the two so far as this study is concerned and is more applicable to the problems of this study.

Although frequent reference has been made to teaching

combinations, the duties of many teachers are confined to one department. In so far as the schedules that were received permitted, such teaching assignments were broken down or separated into their various parts. For example, mathematics might be broken down to algebra, geometry, and trigonometry. In several instances, part of the one-department group are listed only under the department heading; that is, they are not broken down because of the lack of specific information on the schedules received from the schools.

The first consideration will be the extent to which the assignments of teachers were divided. Table XV, page 54, shows this with absolute numbers and percentages. Part III in this table concerns the total number of teachers teaching in one department. Here the percentage varies directly with the size of the school. In Group I schools only ten per cent or one-tenth of the teachers are teaching in one department. The situation is only a little better in Group II schools, being in this case 12.9 per cent. More than one-fifth or 22.6 per cent of the teachers in Group II schools teach in only one department. In Group IV 44.4 per cent of the teachers teach in one department. In Group V exactly fifty per cent or one-half of the teachers teach in one department. Group VI forms the modal group with 68

per cent of the teachers teaching in only one department. As a total, 43.5 per cent of the teachers of the schools surveyed were teaching in only one department. It should be noted here that these foregoing figures are percentages of teachers and not schools.

As to the number and percentages of teachers teaching in two departments, 19.8 per cent of them in Group I schools were teaching such combinations. In Group II schools 26.8 per cent of the teachers were teaching in two departments. Group III schools set the mode in this instance with 37.5 per cent of the teachers teaching in two departments. Groups IV, V, and VI taper off with percentages of 31.3, 31.1, and 24 respectively. As a total, 25.5 per cent of all the teachers in the schools surveyed were teaching in two departments.

The mode for teaching in these departments fell to Group II schools, having 37.2 per cent of the teachers whose duties were thus diversified. Group I was next to highest in this group, having 32 per cent of the teachers teaching in three departments. Three-department teaching fell slightly in Group III schools, which had 28.1 per cent of the teachers teaching three-subject combinations. The percentages of teachers teaching in three departments fall sharply as school enrollments increase, being for Groups IV, V, and VI,

18.7, 12.8, and 6.9 respectively. The average percentage of teachers in all groups surveyed that were teaching in three departments was 18.7 per cent.

The mode for teachers teaching in four departments was in Group I which had 29.3 per cent of the teachers teaching with such combinations. Only 17.8 per cent of the teachers in Group II are teaching four-subject combinations, while Group III has only 10.3 per cent of the teachers with such assignments. Groups IV and V have only 4.6 per cent and 5.4 per cent, respectively. Group VI has the negligible amount of 0.7 per cent of the teachers teaching four-subject combinations. The median of 9.5 per cent for all schools surveyed shows that, for the entire group, the percentage of teachers teaching in four departments is not alarming. Yet it must be remembered that this average is greatly influenced by the large number of teachers in Group VI. The problem still remains a vital one in Group I, Group II, and even Group III schools.

The problem of teaching in five departments is not a serious one in any size of school. The fact, however, that 6.7 per cent and 4.5 per cent of the teachers in Groups I and II, respectively, teach in five departments merits some consideration. It indicates that such cases are occasionally found. Percentages of 0.7, 0.8, 0.0, and .015 for Group III,

IV, V, and VI, respectively, show the problem to be practically non-existent. The entire group of schools surveyed has only 1.9 per cent of the teachers teaching in five departments.

No group of schools has enough teachers teaching in six departments to warrant great concern. However, it is interesting to note that Group I schools still have 2.2 per cent of the teachers teaching in six departments. The other percentages of 0.58, 0.2, 0, 0.6, and 0 with an average of 0.5 per cent may be dismissed with the remark that they show that such large combinations do occur but rarely in the larger schools.

To portray more graphically the facts of Table XV, page 54, and to summarize the foregoing explanation or comments, Table XVI was prepared. It portrays more clearly the percentages of teachers by groups.

To repeat the information of Table XVI, the modes for the various groups are three departments (barely missing four departments) for Group I schools, three departments for Group II schools, two departments for Group III schools, and one department for Groups IV, V, and VI.

Teachers teaching in one department. Of the total of teachers teaching in the schools surveyed, 2194 of the 5036 teachers or 43.5 per cent of the total were teaching in one department only. This large percentage was due to the many large schools surveyed.

TABLE XV

Number of teachers and percentages of total teachers in each enrollment group, teaching in the "alone" group (III), teaching in two departments (IV), teaching in three departments (V), teaching in four departments (VI), teaching in five departments (VII), and in six departments (VIII).

	High School Enrollment						
	Group I	Group II	Group III	Group IV	Group V	Group VI	Total
I Total teachers shown by the teacher count	764	875	500	303	201	2378	5021
II Total teachers shown by distribution count	843	852	415	236	164	2526	5036
III Total number teaching in 1 department	84	110	94	105	82	1719	2194
Per cent	10	12.9	22.6	44.4	50	68	43.5
IV Total number teaching in 2 departments	167	229	156	74	51	608	1285
Per cent	19.8	26.8	37.5	31.3	31.1	24	25.5
V Total number teaching in 3 departments	270	317	117	44	21	176	945
Per cent	32.0	37.2	28.1	18.7	12.8	6.9	18.7
VI Total number teaching in 4 departments	247	152	43	11	9	19	481
Per cent	29.3	17.8	10.3	4.6	5.4	0.7	9.5
VII Total number teaching in 5 departments	57	39	3	2		4	105
Per cent	6.7	4.5	0.7	0.8		.015	1.9
VIII Total number teaching in 6 departments	18	5	1		1		25
Per cent	2.2	0.58	.2		.6		0.5

TABLE XVI

PERCENTAGES OF TEACHERS IN EACH ENROLLMENT GROUP TEACHING IN ONE, TWO, THREE, FOUR, FIVE, AND SIX DEPARTMENTS

	One dept.	Two depts.	Three depts.	Four depts.	Five depts.	Six depts.
Group I	10	19.8	32	29.3	6.7	2.2
Group II	12.9	26.8	37.2	17.8	4.5	0.58
Group III	22.6	37.5	28.0	10.3	0.7	0.2
Group IV	44.4	31.3	18.7	4.6	0.8	0.0
Group V	50	31.1	12.8	5.4	0.0	0.6
Group VI	43.5	25.5	18.7	9.5	1.9	0.5

Since teaching in one department was modal for Groups IV, V, and VI, and since the number of teachers and pupils in Group VI schools comprised almost half of the total amount, it is easily seen why 43.5 per cent of the total teachers were teaching in one department.

As attempt was made to see whether teaching in one department was peculiar to any certain department. The department having the largest number of teachers teaching in one department is English with a total of 359 cases, 292 of which are in Group VI alone. The remaining departments follow in ranking order with the numbers of teachers therein given after each department or activity: Social Studies, 257; Commerce, 244; Industrial Arts, 215; Science, 201; Music, 187; Mathematics, 177; Physical Education, 173; Home Economics, 163; Art, 89; Foreign Language, 79; Library, 33; Comference and all other assignments, 17. Of the total of 2194 teaching in one department alone, 1719, or more than 78 per cent are in Group VI schools. There is no intent on the part of the writer to infer that this is a desirable situation. It merely gives existing conditions.

Much speculation might advance numerous reasons as to why certain of these departments stand high or low on the list. Perhaps the only one which can be proved by logical reasoning is that the number of teachers teaching in only one department varies directly as the number of hours of

offering in that subject. One discrepancy may seem to be that of home economics. However, it should be remembered that the home economics offering is comparatively small in Group VI schools. To determine more accurately this supposition that has been advanced, namely, that the number of teachers teaching in only one department varies directly with the size of the offering within a particular department, an attempt has been to obtain the coefficient of correlation between the two. Since the greatest number of teachers are teaching in Group VI schools and the tendency to teach in one department is more marked in this same group, the coefficient of correlation was calculated for this group only.

The results of the calculation for the coefficient of correlation by the rank-difference method in Table XVII reveals a correlation of .74 with a probable error of .11. Since 79 per cent of the teachers who were teaching in one department were in Group VI schools, the total teachers in all schools in each department was used. If accurate data had been obtained for the teachers teaching in certain departments in Group VI schools alone, the correlation would very likely have been still higher.

In full relization of the limitations of the above calculation, it is reasonable to assume that a rather high correlation exists between the number of teachers teaching in a single department and the size of the particular departmental offering.

TABLE XVII

THE COEFFICIENT OF CORRELATION BETWEEN THE NUMBER OF TEACHERS TEACHING IN ONLY ONE DEPARTMENT AND THE SIZE OF THE DEPARTMENTAL OFFERING OF THAT CERTAIN DEPARTMENT FOR GROUP VI SCHOOLS

Subject	Teachers teaching in only that department	Total offering	Rank in teachers teaching in only that department	Rank in total offering	Difference between ranks	Difference squared
English	359	2219	1	1	0	0
Social Studies	257	1597	2	2	0	0
Commerce	244	1079	3	6	3	9
Industrial Arts	215	1201	4	4	0	0
Science	201	1208	5	3	2	4
Music	187	540	6	11	5	25
Mathematics	177	1158	7	5	2	4
Physical Education	173	954	8	8	0	0
Home Economics	163	806	9	10	1	1
Art	89	379	10	12	2	4
Foreign Language	79	836	11	9	2	4
Conference	50	972	12	7	5	25

$p = .74$ $PE_p = .11$ $r = .74 \pm .11$

Since such a correlation is obtained for large schools, it is likewise reasonable to assume that the teachers' average teaching combinations will be relatively lower, that is, contain fewer other departments in those departments that stand high in the number of teachers teaching in only one department. The assumption that those departments standing low in the number of teachers teaching in one department (in Group VI schools) would have more departments in their average teaching combination naturally follows.

Teachers teaching in more than one department. Much attention needs to be given to those combinations which include two or more departments. The problem is a serious one for Group I, Group II, and Group III schools since the modes for them are three, three, and two departments, respectively.

It was one of the purposes of this study to attempt to discover seemingly logical teaching combinations. Little agreement would likely be found as to what constitutes such a logical combination. Many factors enter in to cause teachers to teach their particular combinations. However, assuming that the teacher were free to choose in the teacher training institution the majors he wanted, and that, in the majority of cases, the teacher's teaching combinations closely paralleled that college major, it seems reasonable to assume that there might often have been some sound reasons

underlying the selection. The multiplicity of interacting factors would be much complicated to attempt to show their effect on each other. Nevertheless, certain factors would seem to, and do, produce high frequencies in certain teaching combinations.

There follows in this chapter several pages listing all of the teaching combinations found in the high schools of Indiana included in this survey. After each table listing combinations is a short table showing the frequencies of offerings of the various combinations in the department listed immediately preceding that table. In order to select teaching combinations occurring frequently, a minimum total frequency of twenty was arbitrarily set. These with their code numbers appear in Table XVIII. Table XIX contains the same information as Table XVIII except that the frequencies have been converted in order rank to facilitate easier comparison.

By far the most frequently occurring combination is English and foreign language, being first in half the groups of schools. This combination is a natural one; that is, the interest field, content, and method of teaching are much the same. It is natural that the languages should group themselves thus. It is also gratifying to know that the most frequently occurring combination is one whose component subjects are so closely related. This combination also occurs frequently because the subject offering is greatest in English.

TABLE XVIII

FREQUENCY OF TEACHING COMBINATIONS OCCURRING
A TOTAL OF TWENTY OR MORE TIMES

Code	Combinations	Groups I	II	III	IV	V	VI	TOTAL
2E-1	English-Foreign Language	25	41	14	9	10	45	145
2Ma-3	Mathematics - Science	26	25	17	12	5	33	118
2P-3	Physical Ed. - Soc. Studies	31	37	18	6	1	29	122
2E-9	English - Social Studies	28	28	20	7	6	26	115
2P-2	Physical Education - Science	15	21	19	2	6	22	85
2C-1	Commerce - English	13	11	3	11	5	23	66
2Sc-2	Science - Social Studies	10	20	8	5	6	16	65
2E-6	English - Physical Education	9	23	11	7	-	9	59
2A-6	Art - Music	15	25	12	4	1	1	58
2Ma-2	Mathematics - Physical Ed.	12	17	7	4	2	13	55
2Ma-4	Mathematics - Social Studies	7	13	7	6	1	15	49
2E-4	English - Mathematics	7	12	5	1	2	5	43
2H-3	Home Economics - Physical Ed.	9	20	5	1	2	5	42
2H-5	Home Economics - Science	10	25	5	1	-	1	42
3P-4	Physical Ed.-Science-Soc. St.	26	10	5	-	-	1	42
2C-7	Commerce - Physical Ed.	17	10	8	-	1	3	39
2E-5	English - Music	13	15	7	-	1	3	39
2C-5	Commerce - Mathematics	4	11	4	3	1	14	37
3Ma-7	Mathematics-Phys. Ed.-Science	19	12	2	1	-	2	36
2E-2	English - Home Economics	12	7	6	2	1	6	34
2F-3	Foreign Language - Mathematics	5	9	4	1	1	8	28
2F-2	Foreign Language - Ind. Arts	5	9	4	1	1	8	28
2I-1	Industrial Arts - Mathematics	1	8	4	3	2	7	25
2I-4	Industrial Arts - Science	6	9	6	2	-	1	24
3E-31	English - Phys. Ed. - Science	5	13	2	1	1	2	24
3H-10	Home Economics - Phys. Ed.	9	14	1	-	-	-	24
2C-9	Commerce - Social Studies	8	9	-	2	-	4	23
2L-7	Foreign Language - Soc. St.	5	5	4	1	1	6	22

TABLE XIX

ORDER RANK OF TEACHING COMBINATIONS OCCURRING A TOTAL OF TWENTY OR MORE TIMES

Code	Combinations	I	II	III	IV	V	VI	TOTAL
2E-1	English-For. Lang.	5	1	5	2	1	1	1
2P-3	Phys. Ed.-Soc. St.	1	2	3	5.5	15.5	3	2
2Ma-3	Mathematics-Sceince	3.5	5	4	1	5.5	2	3
2E-9	English-Soc. Studies	2	3	1	3.5	3	4	4
2P-2	Physical Ed.-Sceince	8.5	8	2	14.5	3	6	5
2C-1	Commerce - English	10.5	18.4	24	20.5	5.5	5	6
2Sc-2	Science-Social Studies	14.5	9.5	8.5	7	3	7	7
2E-6	English-Phys. Ed.	17	7	7	3.5	-	12	8
2A-6	Art - Music	8.5	5	6	9	15.5	25	9
2Ma-2	Mathematics-Phys. Ed.	12.5	11	11	9	9	10	10
2Ma-4	Mathematics-Soc. St.	20.5	14	11	5.5	15.5	8	11
2E-4	English-Mathematics	20.5	16.5	16.5	9	7	11	12
2H-3	Home Ec. - Phys. Ed.	17	9.5	16.5	20.5	9	18	14
2H-5	Home Ec. - Sceince	14.5	5	16.5	20.5	-	25	14
3P-4	Phys. Ed.-Sci.-Soc.St.	3.5	20.5	16.5	-	-	25	14
2C-7	Commerce-Phys. Ed.	7	20.5	8.5	26.5	15.5	20.5	16
2E-5	English - Music	10.5	12	11	26.5	15.5	20.5	17
2C-5	Commerce-Mathematics	27	18.5	21	11.5	15.5	9	18
2Ma-7	Mathematics-Phys. Ed.	6	16.5	25.5	20.5	-	22.5	19
2E-2	English - Home Ec.	12.5	27	13.5	14.5	15.5	16.5	20
2F-3	Foreign Lang.-Math.	24.5	23.5	21	20.5	15.5	13.5	21.5
2F-2	Foreign Lang.-Ind. Arts	24.5	23.5	21	20.5	15.5	13.5	21.5
2I-1	Industrial Arts-Math.	28	26	21	11.5	9	15	23
2I-4	Ind. Arts-Science	22	23.5	13.5	14.5	-	25	25
3E-31	Eng.-Phys. Ed.-Sci.	24.5	14.5	25.5	20.5	15.5	22.5	25
3H-10	Home Ec.-Phys.Ed-Sci.	22	13	27	-	-	-	25
2C-9	Commerce-Soc. Studies	19	23.5	28	14.5	-	19	27
2L-7	For. Lang.-Soc. St.	24.5	5	21	20.5	15.5	16.5	28

The combination occurring next to most frequently is physical education and social studies. There seems to be no logical connection here. It is quite likely that the recent ruling of the Department of Public Instruction of the State of Indiana requiring physical education teachers to teach students of their own sex has affected this combination. This ruling applied particularly to men teaching girl students. As a result, many women secured physical education licenses upon request rather than by choice. It was a matter of satisfying a need rather than making a choice to satisfy a preference.

It should also be noted at this point that social studies ranked next to highest in subject offering. This would naturally affect the ranking of this combination.

Science and mathematics, the third most frequently occurring combination, are probably more closely related than any other two subjects, with the possible exception of English and foreign language. Certain phases of mathematics are particularly related to science, while other phases are only very remotely related. For example, physics is closely related to mathematics, while biology is related remotely. However, both subjects deal with concrete subjects and tend to have a nature of practicality.

No other reason can be given for English and social studies occupying fourth place other than the fact that English and social studies occupy first and second places, respectively, in subject offerings.

If the facts were known, it is quite likely that the majority of teachers teaching physical education and science would be male teachers since these are concrete subjects having a masculine appeal. Because of absence of facts, this remains only a supposition.

No good reasons can be given for the rather frequent occurrence of commerce and English, science and social studies, and English and physical education.

Art and music both being fine arts would naturally be expected in combination. This combination ranks higher in smaller schools. When the ranking of these two departments is very low as to subject offerings as shown by Table V, page 33, their importance at once becomes greater. It is this subject combination that the hiring officials in the small school and the public expect. This teaching combination is found quite frequently in Group I, II, III, and IV schools. However, in Groups V and VI it occurs quite infrequently, having an order of 15.5 and 25 respectively out of the twenty-eight combinations listed.

Mathematics and physical education appear frequently in the schools of all groups. Both of these departments taken collectively compose 16.32 per cent of the entire curricular offering. This is an average offering since this study recognizes twelve departments. However, the appearance of these subjects in combination greatly exceeds their frequency of appearance in the curriculum.

No explanation of the frequent appearance of mathematics and social studies in combination is offered other than that they form a large per cent of the curricula of the schools listed in this study.

It would be extremely difficult to offer reasons for the frequent appearance in combination of the other combinations listed on Table XVIII. The departments group themselves in the order and frequency listed. Little more than this can be said.

CHAPTER IV

CONCLUSIONS

Since the purpose of this study is two-fold, the conclusions will naturally divide themselves on that basis.

The first consideration, namely that of subject offerings, shows larger schools to have a greater part of their curriculum devoted to so called college preparatory subjects than have the smaller schools. This naturally suggests that more pupils are pursuing a course of that type. However, it must be remembered that the larger schools in their varied offerings afford greater opportunity for selection than do the smaller schools.

There is a tendency for the schools to have an offering of vocational subjects increasing directly as the size of the schools.

The offerings in fine arts tend to increase indirectly with the size of the school. However, in many of the smaller schools, no music or art is indicated as being offered.

In all but the larger schools the subject offerings are too narrow to permit any degree of selection on the part of the pupil.

There is a trend in the larger schools away from home economics to commercial subjects. Since most of the

larger schools are located in urban areas, and most all of those enrolled in the subject of home economics are girls, there seems to be a preference on the part of the urban girl for the so-called career life, while rural girls seem to prefer preparation for domestic life.

Since some of the smaller schools offer no music, it may be safely concluded that the music offering in the smaller schools is inadequate.

The larger schools would seem to be more of the college preparatory type than are the smaller schools; however, the offerings of larger schools are considerably more varied than the smaller schools, thus permitting a greater choice of curriculum. Thus if pupils in the larger schools pursue the acedemic or college preparatory curriculum, they do so voluntarily.

The subject offerings in the larger schools are often rather specialized, while those in the smaller schools are rather generalized.

In regard to teaching combinations, it may be concluded that any prospective teacher should be prepared and licensed to teach in at least three and preferably four departments if he expects to teach in a school having an enrollment of less than one hundred pupils. It would seem that three major subjects would be advisable for teachers hoping to teach in

schools having enrollments from two hundred to three hundred pupils. To teach in schools having enrollments greater than three hundred pupils, the prospective teacher, in the majority of cases, would need only two subject majors; however, one-fifth of the teachers are teaching in three departments.

The conclusions regarding the choice of departments in which the prospective teacher should major can be only very indefinite. Those majors listed in the foregoing chapter that are frequently found would make chances of employment greater. When compared to the total number of different combinations, the combinations that occur frequently are few. The situation in its present state seems almost hopeless if any degree of efficiency is hoped to be reached in the teacher-training and teacher-employing institutions. The situation is more acute in smaller schools. It is these schools that constitute the problem.

Since many small schools frequently have more than one teacher teaching exactly the same three, four, or five-subject combination, the cause of the problem seems to be in administration. The principal, however, may be powerless to rectify the trouble. The solution of the problem thus becomes the task of the State Department of Public Instruction. It is this Department that prescribes the teacher-training courses. This Department along can limit

the number of departments in which any teacher may teach if such limitation is advisable.

One solution of the teaching combination problem lies in the plan of requiring students entering teacher-training institutions to take certain, set majors or to permit the student to select only his first major. The second major would automatically accompany the first, or the student have a choice of two prescribed subjects. These second majors would be chosen so as to form logical combinations, that is, combinations in which the interest, ability, and preparation were much the same. Such a plan would likely complicate the teacher-training program for several years until most of the present teachers are replaced by the ones coming under the new plan.

A second, but perhaps unwise, plan would be to prescribe a general curriculum which all teachers would take. This general curriculum would permit the teacher to teach any subject in the curriculum.

It was not the primary purpose of this study to prescribe, but to analyze and diagnose the various aspects of the problem.

The solution doubtless lies with the State Department of Public Instruction. It was, in a large measure, their creation, and the solution is up to them.

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APPENDIX

TABLE XX

All the teaching combinations in which commerce is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

	COMMERCE COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-1	Commerce - Art	1						1
3A-9	Commerce - Art - English	2						2
3A-10	Commerce - Art - Mathematics	1						1
3A-11	Commerce - Music	2						2
5A-35	Commerce - Art - For. Lang.- Phys. Ed. - Soc. St.	1						1
5A-41	Commerce - Art - For. Lang.- Math. - Phys. Ed.	1						1
2C-1	Commerce - English	13	11	3	1	5	33	66
2C-2	Commerce - Foreign Language	5	4			1		10
2C-3	Commerce - Home Economics	5	1				1	7
2C-4	Commerce - Industrial Arts		1	1			1	3
2C-5	Commerce - Mathematics	4	11	4	3	1	14	37
2C-6	Commerce - Music	8	8		1		2	19
2C-7	Commerce - Physical Education	17	10	8		1	3	39
2C-8	Commerce - Science					1	5	6
2C-9	Commerce - Social Studies	8	9		2		4	23
3C-10	Commerce - Eng. -For. Lang.	3	3	1				7
3C-11	Commerce - Eng. - Ind. Arts			1				1
3C-12	Commerce - Eng. - Mathematics			1	2	1		4
3C-13	Commerce - English - Music	1	1					2

TABLE XX (Continued)

All the teaching combinations in which commerce is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

COMMERCE COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3C-14 Commerce - Eng. - Phys. Ed.	5		1				6
3C-15 Commerce - Eng. - Religion		1					1
3C-16 Commerce - Eng. - Science		1					1
3C-17 Commerce - Eng. - Social St.	2	1					3
3C-18 Commerce - For. Lang. - Math.	2	1	2			1	6
3C-19 Commerce - For. Lang. - Music	1						1
3C-20 Commerce - For. Lang. - Phys. Ed.	1	1					2
3C-21 Commerce - Foreign Language - Science	1						1
3C-22 Commerce - Home Ec.-Phys. Ed.	1						1
3C-23 Commerce - Home Economics Social Studies			1				1
3C-24 Commerce - Industrial Arts - Science	1						1
3C-25 Commerce - Industrial Arts - Social Studies			1				1
3C-26 Commerce - Math. - Music	1						1
3C-27 Commerce - Math. - Phys. Ed.	5	4	4	1			14
3C-28 Commerce - Math. - Science	5	4	1	1			11
3C-29 Commerce - Mathematics - Social Studies		1					1
3C-30 Commerce - Music - Phys. Ed.		2					2
3C-31 Commerce - Phys. Ed. - Science	1	2				1	4

TABLE XX (Continued)

All the teaching combinations in which commerce is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

COMMERCE COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3C-32 Commerce - Physical Education Social Studies	4	4				2	10
3C-33 Commerce - Religion - Social Studies			1		1		2
3C-34 Commerce - Science - Social Studies	1	1					2
4C-35 Commerce - English - For. Lang. - Phys. Ed.	1						1
4C-36 Commerce - English - For. Lang. - Social Studies	1		1				2
4C-37 Commerce - English - For. Lang. - Home Economics	4						4
4C-38 Commerce - English - Math. - Social Studies	1		1				2
4C-39 Commerce - English - Phys. Ed. - Social Studies	1						1
4C-40 Commerce - English - Religion- Social Studies			1				1
4C-41 Commerce - For. Lang. - Math.- Social Studies	1						1
4C-42 Commerce - Industrial Arts - Mathematics - Science	1						1
4C-43 Commerce - Mathematics - Phys. Ed. - Science		1					1
4C-44 Commerce - Mathematics - Phys. Ed. - Soc. Studies			1				1
4C-45 Commerce - Music - Phys. Ed - Social Studies			1				1
4C-46 Commerce - Phys. Ed. - Science Social Studies	1						1
5C-47 Commerce - Eng. - For. Lang. - Math. - Phys. Ed.			1				1
5C-48 Commerce - Eng. - For. Lang.- Phys. Ed. - Science	1						1
5C-49 Commerce - Eng. - Home Ec. - Phys. Ed. - Soc. Studies	1						1
Total	116	83	36	11	11	67	324

TABLE XXI

The frequency of offerings of the various combinations with commerce in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Schools having a given combination once	22	10	16	4	6	5	63
Schools having a given combination twice	4	2	1	2		2	11
Schools having a given combination 3 times	1	1	1	1		1	5
Schools having a given combination 4 times	3	4	2			1	10
Schools having a given combination 5 times	5				1	1	7
Schools having a given combination 6-10 times	2	3	1				6
Schools having a given combination 11-20 times	2	2				1	5
Schools having a given combination 21 & more times						1	1
Totals	39	22	21	7	6	12	108

TABLE XXII

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-2 English - Art	2	1	5	3		1	12
3A-9 English - Art - Commerce	2						2
3A-12 English - Art - Foreign Lang.			1		1		2
3A-13 English - Art - Mathematics	1						1
3A-14 English - Art - Music	11	6	1			1	19
3A-15 English - Art - Phys. Ed.		2					2
3A-16 English - Art - Soc. Studies		1				1	2
4A-24 English - Art - Foreign Lang. - Music		1					1
4A-25 English - Art - For. Lang. - Home Economics	1						1
4A-26 English - Art - Home Ec. - Music	3						3
4A-27 English - Art - Home Ec. - Phys. Ed.	1						1
4A-28 English - Art - Mathematics - Music	1						1
4A-29 English - Art - Mathematics - Social Studies	1						1
4A-30 English - Art - Music - Phys. Education	1						1
4A-31 English - Art - Music - Religion	1						1
4A-32 English - Art - Music - Social Studies	1						1
5A-36 English - Art - For. Lang. - Math. - Phys. Education	1						1
5A-37 English - Art - Home Ec. - Phys. Ed. - Soc. Studies	1						1
5A-38 English - Art Math. - Phys. Ed. - Soc. Studies		1					1

TABLE XXII (Continued)

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5A-39 English - Art - Math. - Phys. Ed. - Science		1					1
6A-42 English - Art - For. Lang. - Math. - Phys. Ed.- Soc. St.		1					1
2C-1 English - Commerce	13	11	3	1	5	33	66
3C-10 English - Commerce - For. Language	3	3	1				7
3C-11 English - Commerce - Industrial Arts			1				1
3C-12 English - Commerce - Math.			1	2	1		4
3C-13 English - Commerce - Music	1	1					2
3C-14 English - Commerce - Phys. Ed.	5		1				6
3C-15 English - Commerce - Religion		1					1
3C-16 English - Commerce - Science		1					1
3C-17 English - Commerce - Soc. St.	2	1					3
4C-35 English - Commerce - For. Lang. - Physical Ed.	1						1
4C-36 English - Commerce - Social Studies - For. Language	1	1					2
4C-37 English - Commerce - Home Ec.- Foreign Language	4						4
4C-38 English - Commerce - Math.- Social Studies	1		1				2
4C-39 English - Commerce - Phys. Ed. - Social Studies	1						1
4C- 40 English - Commerce - Religion- Social Studies			1				1
5C-47 English - Commerce - For. Lang. - Math. - Phys. Ed.			1				1

TABLE XXII (Continued)

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5C-48 English - Commerce - For. Lang. - Phys. Ed. - Science	1						1
5C-49 English - Commerce - Home Ec. - Phys. Ed. - Soc. St.	1						1
2E-1 English - Foreign Language	25	41	14	9	10	45	145
2E-2 English - Home Economics	12	7	6	2	1	6	34
2E-3 English - Industrial Arts						1	1
2E-4 English - Mathematics	7	12	5	4	3	12	43
2E-5 English - Music	13	15	7		1	3	39
2E-6 English - Physical Education	9	23	11	7		9	59
2E-7 English-Religion					3	1	4
2E-8 English - Science	4	7	1	1	1	4	18
2E-9 English - Social Studies	28	28	20	7	6	26	115
3E-10 English - For. Lang.- Home Ec.		1					1
3E-11 English - For. Lang.- Math.	6	4					10
3E-12 English - For. Lang.- Music	4				1		5
3E-13 English - Foreign Language - Physical Education	6	5	3				14
3E-14 English - Foreign Language - Religion			2				2
3E-15 English - Foreign Language - Science		1					1
3E-16 English - Foreign Language - Social Studies	6	3	1	1			11

TABLE XXII (Continued)

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3E-17 English - Home Ec. - Math.	3		1				4
3E-18 English - Home Ec. - Music	1						1
3E-19 English - Home Ec. - Phys.Ed.	7	2	1				10
3E-20 English - Home Ec. - Science	3		1				4
3E-21 English - Home Economics - Social Studies		1				1	2
3E-22 English - Industrial Arts - Science	1						1
3E-23 English - Industrial Arts - Physical Education	1						1
3E-24 English - Industrial Arts - Social Studies	1	1				1	3
3E-26 English - Mathematics - Science	2	2	3		1	1	9
3E-27 English - Mathematics - Social Studies	4		1	1			6
3E-28 English - Music - Physical Education	4	2					6
3E-29 English - Music - Science	1						1
3E-30 English - Music - Social St.	1	1					2
3E-31 English - Phys. Ed. - Science	5	13	2	1	1	2	24
3E-32 English - Phys. Ed. - Social Studies	5	3	4			1	13
3E-33 English - Science - Social Studies	6	6	2	1			15
3E-34 English - Math. - Phys. Ed.		1	1				2

TABLE XXII (Continued)

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4E-35 English - Foreign Language - Home Economics - Science		3					3
4E-36 English - Foreign Language - Mathematics - Phys. Ed	2						2
4E-37 English - Foreign Language - Mathematics - Religion			1				1
4E-38 English - Foreign Language - Mathematics - Science			1				1
4E-39 English - Foreign Language - Mathematics - Soc. Studies	1	1					2
4E-40 English - Foreign Language - Phys. Ed. - Science	1						1
4E-41 English - Foreign Language - Science - Soc. Studies			1				1
4E-42 English - Home Economics - Mathematics - Phys. Ed.	1						1
4E-43 English - Home Economics - Music - Phys. Education	1						1
4E-44 English - Home Economics - Phys. Ed. - Science	3	1					4
4E-45 English - Home Economics - Science - Soc. Studies		1					1
4E-46 English - Industrial Arts - Mathematics - Science		1					1
4E-47 English - Math. - Music - Phys. Education		1					1
4E-48 English - Mathematics - Science - Social Studies	1	1	1				3
4E-49 English - Mathematics - Phys. Education - Soc. St.	2	1	1				4
4E-50 English - Music - Science - Social Studies	1						1
4E-51 English - Phys. Education - Science - Social Studies		3	1				4
4E-52 English - Mathematics - Physical Ed. - Science		1					1

TABLE XXII (Continued)

All the teaching combinations in which English is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ENGLISH AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5E-53 English - Mathematics - Physical Ed. Science - Soc. St.	1						1
5E-54 English - For. Lang. - Math. - Phys. Ed. - Science		1					1
Total	238	228	110	40	35	149	802

TABLE XXIII

The frequency of offerings of the various combinations with English in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	29	26	22	6	8	9	100
Number of combinations having 2 frequencies	6	4	3	2		1	16
Number of combinations having 3 frequencies	5	5	3	1	2	1	17
Number of combinations having 4 frequencies	5	1	1	1		1	9
Number of combinations having 5 frequencies	3	1	2		1		7
Number of combinations having 6-10 frequencies	7	4	2	3	2	2	20
Number of combinations having 11-20 frequencies	4	4	3			3	14
Number of combinations having 21 or more frequencies	2	3					5
Total	61	48	36	13	13	17	188

TABLE XXIV

All the teaching combinations in which home economics is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

HOME ECONOMICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-4 Home Ec. - Art	1	4				1	6
3A-17 Home Ec. - Art - Science	1						1
3A-18 Home Ec. - Art - Physical Ed.	2				1		3
3A-19 Home Ec. - Art - Music	6	2					8
4A-22 Home Ec. - Art - Music - Phys. Ed.	1						1
4A-23 Home Ec. - Art - Math. - Science	1						1
4A-25 Home Ec. - Art - English - Home Ec.	1						1
4A-26 Home Ec. - Art - English - Music	3						3
4A-27 Home Ec. - Art - English - Physical Education	1						1
5A-37 Home Ec. - Art - English - Phys. Ed. - Soc. Studies	1						1
5A-40 Home Ec. - Art - Music - Phys. Ed. - Soc. Studies	1						1
2C-3 Home Ec. - Commerce	5	1				1	7
3C-22 Home Ec. - Commerce - Phys.Ed.	1						1
3C-23 Home Ec. - Commerce - Soc. St.			1				1
4C-37 Home Ec. - Commerce - English - Foreign Language	4						4
5C-49 Home Ec. - Commerce - English - Phys. Ed. - Soc. Studies	1						1
2E-2 Home Ec. - English	12	7	6	2	1	6	34
3E-10 Home Ec. - English - Foreign Language		1					1

TABLE XXIV (Continued)

All the teaching combination in which home economics is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

HOME ECONOMICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3E-17 Home Ec. - English - Math.	3		1				4
3E-18 Home Ec. - English - Music	1						1
3E-19 Home Ec. - English - Phys. Ed.	7	2	1				10
3E-20 Home Ec. - English - Science	3		1				4
3E-21 Home Ec. - English - Social Studies	1					1	2
3E-35 Home Ec. - English - For. Language - Science		3					3
4E-42 Home Ec. - English - Math. - Phys. Ed.	1						1
4E-43 Home Ec. - English - Music - Phys. Ed.	1						1
4E-44 Home Ec. - English - Phys. Ed. - Science	3	1					4
2L-1 Home Ec. - Foreign Language	1	3					4
3L-8 Home Ec. - Foreign Language - Mathematics	1						1
3L-9 Home Ec. - Foreign Language - Physical Education	1		1				2
2H-1 Home Ec. - Mathematics	1						1
2H-2 Home Ec. - Music	2	1					3
2H-3 Home Ec. - Physical Ed.	9	20	5	1	2	5	42
2H-4 Home Ec. - Safety						1	1
2H-5 Home Ec. - Science	10	25	5	1		1	42
2H-6 Home Ec. - Social Studies	1					1	2

TABLE XXIV (Continued)

All the teaching combinations in which home economics is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

HOME ECONOMICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3H-7 Home Ec. - Mathematics - Science	1						1
3H-8 Home Ec. - Music - Phys. Ed.	2	1					3
3H-9 Home Ec. - Music - Science	1						1
3H-10 Home Ec. - Physical Ed. - Science	9	14	1				24
3H-11 Home Ec. - Physical Ed. - Social Studies	1	1					2
3H-12 Home Ec. - Science - Social Studies		1					1
3H-13 Home Ec. - Foreign Language - Mathematics	1	1					2
4H-14 Home Ec. - Math. - Phys. Ed. - Science	1	1					2
4H-15 Home Ec. - Phys. Ed. - Science - Social Studies	1						1
5H-16 Home Ec. - Math. - Phys. Ed. - Science - Social Studies	1						1
Total	105	91	22	4	4	18	244

TABLE XXV

The frequency of offerings of the various combinations with home economics in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having "1" frequency	25	11	6	2	2	7	53
Number of combinations having "2" frequencies	3	2		1	1		7
Number of combinations having "3" frequencies	4	2					6
Number of combinations having "4" frequencies	1						1
Number of combinations having "5" frequencies	1		2			1	4
Number of combinations having "6-10" frequencies	5	1	1			1	8
Number of combinations having "11-20" frequencies	1	1					2
Number of combinations having "21-above" frequencies		1					1
Total	40	18	9	3	3	9	82

TABLE XXVI

All the teaching combinations in which industrial arts is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

	INDUSTRIAL ARTS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2C-4	Industrial Arts - Commerce		1	1			1	3
3C-11	Industrial Arts - Commerce - English		1					1
3C-24	Industrial Arts - Commerce - Science	1						1
3C-25	Industrial Arts - Commerce - Social Studies			1				1
4C-42	Industrial Arts - Commerce - Math. - Science	1						1
2E-3	Industrial Arts - English						1	1
3E-22	Industrial Arts - English - Science	1						1
3E-23	Industrial Arts - English - Phys. Ed.	1						1
3E-24	Industrial Arts - English - Social Studies	1	1				1	3
4E-46	Industrial Arts - English - Math. - Science		1					1
2L-2	Industrial Arts - For. Lang. -						1	1
2I-1	Industrial Arts - Mathematics	1	8	4	3	2	7	25
2I-2	Industrial Arts - Music	2						2
2I-3	Industrial Arts - Phys. Ed.	2	5	4	4		2	17
2I-4	Industrial Arts - Science	6	9	6	2		1	24
2I-5	Industrial Arts - Soc. St.	4	2	4		1		11
3I-6	Industrial Arts - Math. - Phys. Ed.		2					2

TABLE XXVI (Continued)

All the teaching combinations in which industrial arts is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

	INDUSTRIAL ARTS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3I-7	Industrial Arts - Mathematics - Science	7	1				2	10
3I-8	Industrial Arts - Mathematics - Social Studies		1	1				2
3I-9	Industrial Arts - Music Phys. Ed.		1					1
3I-10	Industrial Arts - Phys. Ed. - Science	6	4					10
3I-11	Industrial Arts - Phys. Ed. - Social Studies	5	3		1		1	10
3I-12	Industrial Arts - Science - Social Studies	2	2	1				5
4I-13	Industrial Arts - Math. - Phys. Ed. - Science	4	1	1				6
4I-14	Industrial Arts - Math. - Science - Social Studies	2						2
Total		46	42	24	10	3	17	142

TABLE XXVII

The frequency of offerings of the various combinations with industrial arts in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having "1" frequency	6	7	6	1	1	6	27
Number of combinations having "2" frequencies	4	3		1	1	2	11
Number of combinations having "3" frequencies		1		1			2
Number of combinations having "4" frequencies	2	1	3	1			7
Number of combinations having "5" frequencies	1	1					2
Number of combinations having "6-10" frequencies	3	2	1			1	7
Number of combinations having "11-20" frequencies							
Number of combinations having "21and above" frequencies							
Total	16	15	10	4	2	9	56

TABLE XXVIII

All the teaching combinations in which mathematics is found, together with the frequency of occurrence of each combination in each of the six groups.

MATHEMATICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-5 Mathematics - Art			1				1
3A-10 Mathematics - Art - Commerce	1						1
3A-13 Mathematics - Art - English	1						1
4A-23 Mathematics - Art - Home Ec.-Science	1						1
4A-28 Mathematics - Art - English-Music			1				1
4A-34 Mathematics - Art - Science-Social Studies		1					1
5A-36 Mathematics - Art - English-For. Lang. - Phys. Ed.	1						1
5A-38 Mathematics - Art - English-Phys. Ed. - Soc. Studies		1					1
5A-41 Mathematics - Art - English-For. Lang. - Phys. Ed.	1						1
6A-42 Mathematics - Art - English-For. Lang. Phys. Ed.-Soc.St.	1						1
2C-5 Mathematics - Commerce	4	11	4	3	1	14	37
2C-12 Mathematics - Commerce - Eng.			1	2	1		4
3C-18 Mathematics - Commerce - Foreign Language	2	1	2			1	6
3C-26 Mathematics - Commerce - Music	1						1
3C-27 Mathematics - Commerce - Physical Education	5	4	4	1			14
3C-28 Mathematics - Commerce - Science	5	4	1	1			12
3C-29 Mathematics - Commerce - Social Studies		1					1
4C-41 Mathematics - Commerce - For. Lang. - Soc. St.	1						1

TABLE XXVIII (Continued)

All the teaching combinations in which mathematics is found, together with the frequency of occurrence of each combination in each of the six groups.

MATHEMATICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4C-42 Mathematics - Commerce - Ind. Arts. - Science	1						1
4C-43 Mathematics - Commerce - Phys. Ed. - Science		1					1
4C-44 Mathematics - Commerce - Phys. Ed. - Soc. Studies			1				1
5C-47 Mathematics - Commerce - Eng. - For. Lang.-Phys. Ed.			1				1
2E-4 Mathematics - English	7	12	5	4	3	12	43
3E-11 Mathematics - English - Foreign Language	6	4					10
3E-17 Mathematics - English - Home Economics	3		1				4
3E-26 Mathematics - English - Science	2	2	3		1	1	9
3E-27 Mathematics - English - Social Studies	4		1	1			6
3E-34 Mathematics - English - Physical Education		1	1				2
3E-36 Mathematics - English - For. Lang. - Phys. Ed.	2						2
4E-37 Mathematics - English - For. Lang. - Religion			1				1
4E-38 Mathematics - English - For. Lang. - Science			1				1
4E-39 Mathematics - English - For. Lang. - Soc. Studies	1	1					2
4E-42 Mathematics - English - Home Ec. - Phys. Ed.	1						1
4E-46 Mathematics - English - Ind. Arts - Science		1					1
4E-47 Mathematics - English - Music Phys. Ed.		1					1
4E-48 Mathematics - English - Science - Soc. Studies	1	1	1				3

TABLE XXVIII (Continued)

All the teaching combinations in which mathematics is found, together with the frequency of occurrence of each combination in each of the six groups.

MATHEMATICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4E-49 Mathematics - English - Phys. Ed. - Soc. Studies	2	1	1				4
4E-52 Mathematics - English - Phys. Ed. - Science		1					1
5E-53 Mathematics - English - Phys. Ed. - Science - Soc. St.		1					1
5E-54 Mathematics - Eng. - For. Lang. - Phys. Ed.-Science		1					1
2L-3 Mathematics - For. Lang.	5	9	4	1	1	8	28
3L-8 Mathematics - Foreign Lang. - Home Ec.	1						1
3L-11 Mathematics - Foreign Language - Phys. Ed.	2	2	2	1			7
3L-12 Mathematics - Foreign Language - Science	2	4		1			7
3L-13 Mathematics - Foreign Language - Soc. Studies	2		3				5
3L-14 Mathematics - Foreign Language - Phys. Ed.	1						1
3L-15 Mathematics - Foreign Language - Soc. Studies	1						1
4L-19 Mathematics - For. Lang. - Phys. Ed. - Science	4						4
4L-20 Mathematics - For. Lang. - Science - Soc. Studies	1	2					3
4L-22 Mathematics - For. Lang. - Phys. Ed. - Soc. Studies		1					1
2H-1 Mathematics - Home Ec.	1						1
3H-7 Mathematics - Home Ec. - Science	1						1
3H-13 Mathematics - Home Ec. - Foreign Language	1	1					2
4H-14 Mathematics - Home Ec. - Phys. Ed. - Science	1	1					2

TABLE XXVIII (Continued)

All the teaching combinations in which mathematics is found, together with the frequency of occurrence of each combination in each of the six groups.

MATHEMATICS AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5H-16 Mathematics - Home Ec. Phys. Ec. - Science - Soc. St.	1						1
2I-1 Mathematics - Industrial Arts	1	8	4	3	2	7	25
3I-6 Mathematics - Ind. Arts - Phys. Ed.		2					2
3I-7 Mathematics - Ind. Arts - Science	7	1				2	10
3I-8 Mathematics - Ind. Arts - Social Studies		1	1				2
4I-13 Mathematics - Ind. Arts - Phys. Ed. - Science	4	1	1				6
4I-14 Mathematics - Ind. Arts - Science - Soc. Studies	2						2
2Ma-1 Mathematics - Music	1	3	1	1		1	7
2Ma-2 Mathematics - Phys. Ed.	12	17	7	4	2	13	55
2Ma-3 Mathematics - Science	26	25	17	12	5	33	118
2Ma-4 Mathematics - Social St.	7	13	7	6	1	15	49
3Ma-5 Mathematics - Bible - Social Studies	1						1
3Ma-6 Mathematics - Music - Phys. Education	1						1
3Ma-7 Mathematics - Phys. Ed. - Science	19	12	2	1		2	36
3Ma-8 Mathematics - Phys. Ed. - Social Studies	5	3	1				9
3Ma-9 Mathematics - Science - Social Studies	7	9					16
4Ma-10 Mathematics - Phys. Ed. - Science - Soc. Studies	2	1	1				4
Total	172	168	81	42	17	110	590

TABLE XXIX

The frequency of offerings of the various combinations with mathematics in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having "1" frequency	24	22	17	8	5	4	80
Number of combinations having "2" frequencies	9	4	3	1	2	2	21
Number of combinations having "3" frequencies	1	2	2	2	1		8
Number of combinations having "4" frequencies	4	4	4	2			14
Number of combinations having "5" frequencies	4		1		1		6
Number of combinations having "6-10" frequencies	5	3	2	1		2	13
Number of combinations having "11-20" frequencies	2	5	1	1		4	13
Number of combinations having "21 or above" frequencies	1	1				1	3
Total	50	41	30	15	9	13	158

TABLE XXX

All the teaching combinations in which music is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

MUSIC AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-6 Music - Art	15	25	12	4	1	1	58
3A-11 Music - Art - Commerce	2						2
3A-14 Music - Art - English	11	6	1			1	19
3A-19 Music - Art - Home Ec.	6	2					8
3A-20 Music - Art - Phys. Ed.	3	4					7
3A-21 Music - Art - Social Studies		1					1
4A-22 Music - Art - Home Ec. - Phys. Education	1						1
4A-26 Music - Art - Home Ec. - Music	3						3
4A-28 Music - Art - English - Mathematics	1						1
4A-30 Music - Art - English - Phys. - Education	1						1
4A-31 Music - Art - English - Religion	1						1
4A-32 Music - Art - English - Social Studies	1						1
4A-33 Music - Art - Mathematics - Science	1						1
5A-39 Music - Art - English - Phys. Ed. - Science		1					1
5A-40 Music - Art - Home Ec. - Phys. Ed. - Science	1						1
2C-6 Music - Commerce	8	8		1		2	19
3C-13 Music - Commerce - English	1	1					2
3C-19 Music - Commerce - For. Lang.	1						1

TABLE XXX (Continued)

All the teaching combinations in which music is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

MUSIC AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3C-26 Music - Commerce - Mathematics	1						1
3C-30 Music - Commerce - Phys. Ed.	2						2
4C-45 Music - Commerce - Phys. Ed. - Social Studies			1				1
2E-5 Music - English	13	15	7		1	3	39
3E-12 Music - English - For. Lang.	4				1		5
3E-18 Music - English - Home Ec.	1						1
3E-28 Music - English - Phys. Ed.	4	2					6
3E-29 Music - English - Science	1						1
3E-30 Music - English - Social St.	1	1					2
4E-43 Music - English - Home Ec. - Phys. Ed.	1						1
4E-47 Music - English - Math. - Phys. Education		1					1
4E-50 Music - English - Science Social Studies	1						1
2L-4 Music - Foreign Language	2	2	1		1		6
2H-2 Music - Home Economics	2	1					3
3H-8 Music - Home Economics - Physical Education	2	1					3
2Ma-1 Music - Mathematics	1	3	1	1		1	7
3Ma-6 Music - Mathematics - Phys. Education	1						1

TABLE XXX (Continued)

All the teaching combinations in which music is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

MUSIC AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2Mu-1 Music - Physical Education	3		1			1	5
2Mu-2 Music - Science		1					1
2Mu-3 Music - Social Studies	2	2		1			5
3Mu-4 Music - Science - Soc. Studies		1					1
Total	99	78	24	7	4	9	221

TABLE XXXI

The frequency of offerings of the various combinations with music in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	17	9	5	3	4	4	42
Number of combinations having 2 frequencies	6	4				1	11
Number of combinations having 3 frequencies	3	1				1	5
Number of combinations having 4 frequencies	2	1		1			4
Number of combinations having 5 frequencies							
Number of combinations having 6-10 frequencies	2	2	1				5
Number of combinations having 11-20 frequencies	3	1	1				5
Number of combinations having 21-& more frequencies		1					1
Total	33	19	7	4	4	6	73

TABLE XXXII

All the teaching combinations in which physical education is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

PHYSICAL EDUCATION AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-7 Physical Education - Art		2	2				4
3A-15 Physical Ed. - Art - English		2					2
3A-18 Physical Ed. - Art - Home Ec.		2			1		3
3A-20 Physical Ed. - Art - Music		3	4				7
4A-22 Physical Ed. - Art - Music - Home Ec.	1						1
4A-27 Physical Ed. - Art - English - Home Ec.	1						1
4A-30 Physical Ed. - Art - English - Music	1						1
5A-35 Physical Ed. - Art - Commerce- For. Lang. - Soc. Studies	1						1
5A-36 Physical Ed. - Art - English - For. Lang. - Math.	1						1
5A-37 Physical Ed. - Art - English - Home Ec. - Soc. Studies	1						1
5A-38 Physical Ed. - Art - English - Math. - Social Studies	1						1
5A-39 Physical Ed. - Art - English - Music - Science		1					1
5A-40 Physical Ed. - Art - Home Ec.- Music - Science	1						1
5A-41 Physical Ed. - Art - Com. - For. Lang. - Math.	1						1
6A-42 Physical Ed. - Art - English - For. Lang. - Soc. Studies		1					1
2C-7 Physical Ed. - Commerce	17	10	8		1	3	39
3C-14 Physical Ed. - Commerce - English	5		1				6
3C-20 Physical Ed. - Commerce - Foreign Language	1		1				2

TABLE XXXII (Continued)

All the teaching combinations in which physical edcuation is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

PHYSICAL EDUCATION AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3C-22 Physical Ed. - Commerce - Home Economics	1						1
3C-27 Physical Ed. - Commerce - Mathematics	5	4	4	1			14
3C-30 Physical Ed. - Commerce - Music		2					2
3C-31 Physical Ed. - Commerce - Science	1	2			1		4
3C-32 Physical Ed. - Commerce - Social Studies	4	4			2		10
4C-35 Physical Ed. - Commerce - English - For. Lang.	1						1
4C-43 Physical Ed. - Commerce - Math. - Science		1					1
4C-44 Physical Ed. - Commerce - Math. - Social Studies			1				1
4C-45 Physical Ed. - Commerce - Music - Social Studies			1				1
4C-46 Physical Ed. - Commerce - Science - Social Studies	1						1
5C-47 Physical Ed. - Commerce - Eng. - For. Lang. - Math.			1				1
5C-48 Physical Ed. - Commerce - Eng. - For. Lang. - Science	1						1
5C-49 Physical Ed. - Commerce - Eng. - Home Ec. - Soc. St.	1						1
2E-6 Physical Ed. - English	9	23	11	7	9		59
3E-13 Physical Ed. - English - Foreign Language	6	5	3				14
3E-19 Physical Ed. - English - Home Economics	7	2	1				10
3E-21 Physical Ed. - English - Industrial Arts	1						1
3E-28 Physical Ed. - English - Music	4	2					6

TABLE XXXII (Continued)

All the teaching combinations in which physical education is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

PHYSICAL EDUCATION AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3E-31 Physical Ed. - English - Science	5	13	2	1	1	2	24
3E-32 Physical Ed. - English - Social Studies	5	3	4			1	13
3E-34 Physical Ed. - English - Mathematics		1	1				2
3E-36 Physical Ed. - English - Foreign Lang. - Math.	2						2
3E-40 Physical Ed. - English - Foreign Lang. - Science	1						1
4E-42 Physical Ed. - English - Home Ec. - Mathematics	1						1
4E-43 Physical Ed. - English - Home Ec. - Music	1						1
4E-44 Physical Ed. - English - Home Ec. - Science	3	1					4
4E-47 Physical Ed. - English - Math. - Music		1					1
4E-49 Physical Ed. - English - Math. - Social Studies	2	1	1				4
4E-51 Physical Ed. - English - Science - Soc. Studies		3	1				4
4E-52 Physical Ed. - English - Math. - Science		1					1
5E-53 Physical Ed. - English - Math. - Science - Soc. St.		1					1
5E-54 Physical Ed. - Eng. - For. Lang. - Math. - Science		1					1
2L-5 Physical Ed. - Foreign Language				1		2	3
3L-9 Physical Ed. - For. Lang. - Home Ec.	1		1				2
3L-10 Physical Ed. - For. Lang. - Library			1				1
3L-11 Physical Ed. - For. Lang. - Mathematics	2	2	2	1			7

TABLE XXXII (Continued)

All the teaching combinations in which physical education is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

PHYSICAL EDUCATION AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3L-14 Physical Ed. - For. Lang. - Mathematics	1						1
3L-16 Physical Ed. - For. Lang. - Science	1		1				2
3L-17 Physical Ed. - For. Lang. - Social Studies	1	1	1				3
4L-19 Physical Ed. - For. Lang. - Math. - Science	4						4
4L-21 Physical Ed. - For. Lang. - Science - Social Studies	2	1					3
41-22 Physical Ed. - For. Lang. - Math. - Social Studies		1					1
2H-3 Physical Ed. - Home Economics	9	20	5	1	2	5	42
3H-8 Physical Ed. - Home Ec. - Music	2	1					3
3H-10 Physical Ed. - Home Ec. - Science	9	14	1				24
4H-14 Physical Ed. - Home Ec. - Math. - Science	1	1					2
4H-15 Physical Ed. - Home Ec. - Science - Soc. Studies	1						1
5H-16 Physical Ed. - Home Ec. - Math. - Science - Soc. St.	1						1
2Ma-2 Physical Ed. - Mathematics	12	17	7	4	2	13	55
3Ma-6 Physical Ed. - Math. - Music	1						1
3Ma-7 Physical Ed. - Math. - Science	19	12	2	1		2	36
3Ma-8 Physical Ed. - Math. - Social Studies	5	3	1				9
4Ma-10 Physical Ed. - Math. - Science - Soc. Studies	2	1	1				4
2Mu-1 Physical Ed. - Music	3		1			1	5

TABLE XXXII (Continued)

All the teaching combinations in which physical education is found, together with the frequency of occurrence of each combination in each of the six groups of schools.

PHYSICAL EDUCATION AND COMBINATIONS		I	II	III	IV	V	VI	TOTAL
2P-1	Physical Education - Religion					1		1
2P-2	Physical Education - Science	15	21	19	2	6	22	85
2P-3	Physical Education - Soc. St.	31	37	18	6	1	29	122
3P-4	Physical Ed. - Science - Soc. Studies	26	10	5			1	42
2I-3	Physical Ed. - Industrial Arts	2	5	4	4		2	17
Total		244	237	117	29	15	95	737

TABLE XXXIII

The frequency of offerings of the various combinations with physical education in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	27	14	17	6	5	4	73
Number of combinations having 2 frequencies	6	8	4	1	2	4	25
Number of combinations having 3 frequencies	2	4	1			1	8
Number of combinations having 4 frequencies	3	2	3	1			9
Number of combinations having 5 frequencies	5	1	1			1	8
Number of combinations having 6-10 frequencies	5	2	2	2	1	1	13
Number of combinations having 11-20 frequencies	4	5	3			1	13
Number of combinations having 21 & above frequencies	2	2				2	6
Total	54	38	31	10	8	14	155

TABLE XXXIV

All the teaching combinations in which art is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

	ART AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-1	Art - Commerce	1						1
2A-2	Art - English	2	1	5	3		1	12
2A-3	Art - Foreign Language				1			1
2A-4	Art - Home Economics	1	4				1	6
2A-5	Art - Mathematics			1				1
2A-6	Art - Music	15	25	12	4	1	1	58
2A-7	Art - Physical Education		2	2				4
2A-8	Art - Social Studies	1	1				1	3
3A-9	Art - Commerce - English	2						2
3A-10	Art - Commerce - Mathematics	1						1
3A-11	Art - Commerce - Music	2						2
3A-12	Art - English - For. Lang.		1			1		2
3A-13	Art - English - Mathematics	1						1
3A-14	Art - English - Music	11	6	1			1	19
3A-15	Art - English - Phys. Ed.		2					2
3A-16	Art - English - Soc. Studies		1				1	2
3A-17	Art - Home Economics - Science		1					1
3A-18	Art - Home Economics - Physical Education	2				1		3
3A-19	Art - Music - Home Economics	6	2					8

TABLE XXXIV (Continued)

All the teaching combinations in which art is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ART AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3A-20 Art - Music - Physical Ed.	3	4					7
3A-21 Art - Music - Social Studies		1					1
4A-22 Art - Home Ec. - Music - Phys. Ed.	1						1
4A-23 Art - Home Ec. - Math. - Science	1						1
4A-24 Art - English - Foreign Lang. - Music		1					1
4A-25 Art - English - Foreign Lang. - Home Ec.	1						1
4A-26 Art - English - Home Ec. - Music	3						3
4A-27 Art - English - Home Ec. - Phys. Ed.	1						1
4A-28 Art - English - Math. - Music	1						1
4A-29 Art - English - Math. - Social Studies	1						1
4A-30 Art - English - Music - Phys. Ed.	1						1
4A-31 Art - English - Music - Religion	1						1
4A-32 Art - English - Music - Social Studies	1						1
4A-33 Art - Math. - Music - Science	1						1
4A-34 Art - Math. - Science - Social Studies		1					1
5A-35 Art - Commerce - For. Lang. - Phys. Ed. - Soc. Studies	1						1
5A-36 Art - English - For. Lang. - Math. - Phys. Ed.	1						1
5A-37 Art - English - Home Ec. - Phys. Ed. - Soc. Studies	1						1

TABLE XXXIV (Continued)

All the teaching combinations in which art is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

ART AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5A-38 Art - English - Math. - Phys. Ed. - Soc. Studies		1					1
5A-39 Art - English - Music - Phys. Ed. - Science		1					1
5A-40 Art - Home Ec. - Music Phys. Ed. - Social Studies	1						1
5A-41 Art - Commerce - For. Lang. - Math. - Phys. Ed.	1						1
6A-42 Art - Eng. - For. Lang. - Math. - Phys. Ed. - Soc. St.		1					1
Total	65	55	23	8	3	6	160

TABLE XXXV

The frequency of offerings of the various combinations with art in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	19	10	4	1	3	6	43
Number of combinations having 2 frequencies	4	3	1				8
Number of combinations having 3 frequencies	2						2
Number of combinations having 4 frequencies		2		1			3
Number of combinations having 5 frequencies			1				1
Number of combinations having 6-10 frequencies	1	1					2
Number of combinations having 11-20 frequencies	2		1				3
Number of combinations having 21 & more frequencies		1					1
Total	28	17	7	2	3	6	63

TABLE XXXVI

All the teaching combinations in which social studies is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

SOCIAL STUDIES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-8 Social Studies - Art		1	1			1	3
3A-16 Social Studies - Art - English		1					1
3A-21 Social Studies - Art - Music		1					1
4A-29 Social Studies - Art - English - Math.	1						1
4A-34 Social Studies - Art - Math. - Science		1					1
5A-35 Social Studies - Art - Com. - For. Lang. - Phys. Ed.	1						1
5A-37 Social Studies - Art - Eng. - Home Ec. - Phys. Ed.	1						1
5A-38 Social Studies - Art - Eng. - Math. - Phys. Ed.		1					1
6A-42 Social Studies - Art - Eng. - For. Lang. - Math. - Phys.Ed.		1					1
2C-9 Social Studies - Commerce	8	9		2		4	23
3C-17 Social Studies - Commerce - English	2	1					3
3C-23 Social Studies - Commerce - Home Economics			1				1
3C-25 Social Studies - Commerce - Industrial Arts			1				1
3C-29 Social Studies - Commerce - Mathematics		1					1
3C-32 Social Studies - Commerce - Physical Education	4	4				2	10
3C-33 Social Studies - Commerce - Religion			1		1		2
3C-34 Social Studies - Commerce - Science	1	1					2
4C-36 Social Studies - Commerce - Eng. - Soc. Studies	1	1					2

TABLE XXXVI (Continued)

All the teaching combinations in which social studies is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

SOCIAL STUDIES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4C-41 Social Studies - Commerce - For. Lang. - Math.	1						1
4C-44 Social Studies - Commerce - Math. - Physical Ed.			1				1
4C-45 Social Studies - Commerce - Music - Social Studies			1				1
4C-46 Social Studies - Commerce - Phys. Ed. - Science	1						1
5C-49 Social Studies - Commerce - Eng. - Home Ec. -Phys. Ed.	1						1
2E-9 Social Studies - English	28	28	20	7	6	26	115
3E-16 Social Studies - English - Foreign Language	6	3	1	1			11
3E-21 Social Studies - English - Home Economics		1				1	2
3E-24 Social Studies - English - Industrial Arts	1	1				1	3
3E-26 Social Studies - English - Mathematics	4		1	1			6
3E-30 Social Studies - English - Social Studies	1	1					2
3E-32 Social Studies - English - Physical Education	5	3	4			1	13
3E-33 Social Studies - English - Science	6	6	2	1			15
4E-39 Social Studies - English - For. Lang. - Math.	1	1					2
4E-41 Social Studies - English - For. Lang. - Science			1				1
4E-45 Social Studies - English - Home Ec. - Science		1					1
4E-48 Social Studies - English - Math. - Science	1	1	1				3
4E-49 Social Studies - English - Math. - Phys. Ed.	2	1	1				4

TABLE XXXVI (Continued)

All the teaching combinations in which social studies is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

SOCIAL STUDIES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4E-50 Social Studies - English - Music - Science	1						1
4E-51 Social Studies - English - Phys. Ed. - Science		3	1				4
5E-53 Social Studies - English - Math. - Phys. Ed. - Science		1					1
2L-7 Social Studies - For. Lang.	5	5	4	1	1	6	22
3L-13 Social Studies - For. Lang. - Mathematics	3		3				6
3L-17 Social Studies - For. Lang. - Physical Education	1		1				2
3L-18 Social Studies - For. Lang. - Science	3	1	1				5
4L-20 Social Studies - For. Lang. - Mathematics - Science	1	2					3
4L-21 Social Studies - For. Lang. - Phys. Ed. - Science	2	1					3
4L-22 Social Studies - For. Lang. - Math. - Phys. Education		1					1
2H-6 Social Studies - Home Ec.	1						1
3H-11 Social Studies - Home Ec. - Physical Education	1	1					2
3H-12 Social Studies - Home Ec. - Science		1					1
4H-15 Social Studies - Home Ec. - Phys. Ed. - Science	1						1
5H-16 Social Studies - Home Ec. - Math. - Phys. Ed. - Science	1						1
2Ma-4 Social Studies - Mathematics	7	13	7	6	1	15	49
3Ma-5 Social Studies - Bible - Mathematics	1						1

TABLE XXXVI (Continued)

All the teaching combinations in which social studies is found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

SOCIAL STUDIES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
3Ma-8 Social Studies - Mathematics - Physical Education	5	3	1				9
3Ma-9 Social Studies - Math. - Science	7	9					16
4Ma-10Social Studies - Math. - Phys. Ed. - Science	2	1	1				4
2Mu-3 Social Studies - Music	2	2		1			5
3Mu-4 Social Studies - Music - Science		1					1
2P-3 Social Studies - Phys. Ed.	31	37	18	6	1	29	122
3P-4 Social Studies - Phys. Ed. - Science	26	10	5			1	42
2Sc-2 Social Studies - Science	10	20	8	5	6	16	65
2So-1 Social Studies - Safety				1			1
2So-2 Social Studies - Bible		1					1
2So-3 Social Studies - Religion					2		2
Total	188	182	87	32	18	103	610

TABLE XXXVII

The frequency of offerings of the various combinations with social studies in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	20	26	16	6	4	5	77
Number of combinations having 2 frequencies	5	2	1	1		1	10
Number of combinations having 3 frequencies	2	4	1				7
Number of combinations having 4 frequencies	2	1	1			1	5
Number of combinations having 5 frequencies	3	1	1	1			6
Number of combinations having 6-10 frequencies	6	4	2	3	2	1	18
Number of combinations having 11-20 frequencies		2	1			2	5
Number of combinations having 21 & above frequencies	3	2				2	7
Total	41	42	23	11	6	12	135

TABLE XXXVIII

All the teaching combinations in which foreign languages are found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

FOREIGN LANGUAGES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2A-3 Foreign Language - Art				1			1
3A-12 Foreign Language - Art - Eng.			1		1		1
4A-24 For. Lang. - Art - English - Music		1					1
4A-25 For. Lang. - Art - English - Home Ec.	1						1
5A-35 For. Lang. - Art - Com. - Phys. Ed. - Soc. St.	1						1
5A-36 For. Lang. - Art - Eng. - Math. - Phys. Ed.	1						1
5A-41 For. Lang. - Art - Commerce - Math. - Phys. Ed.	1						1
6A-42 For. Lang. - Art - Eng. - Math. - Phys. Ed.-Soc. St.							
2C-2 For. Lang. - Commerce	5	4			1		10
3C-10 For. Lang. - Commerce - Eng.	3	3	1				7
3C-18 For. Lang. - Commerce - Math.	2	1	2			1	6
3C-19 For. Lang. - Commerce - Music	1						1
3C-20 For. Lang. - Commerce - Phys. Education	1		1				2
3C-21 For. Lang. - Commerce - Science	1						1
4C-35 For. Lang. - Commerce - Eng. - Phys. Ed.	1						1
4C-36 For. Lang. - Commerce - Eng. - Soc. Studies	1	1					2
4C-37 For. Lang. - Commerce - Eng. - Home Ec.	4						4
4C-41 For. Lang. - Commerce - Math.- Social Studies	1						1

TABLE XXXVIII (Continued)

All the teaching combinations in which foreign languages are found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

FOREIGN LANGUAGES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
5C-47 For. Lang. - Commerce - Eng. - Math. - Phys. Ed.		1					1
5C-48 For. Lang. - Commerce - Eng. - Phys. Ed. - Science	1						1
2E-1 For. Lang. - English	25	41	15	9	10	45	145
3E-10 For. Lang. - English - Home Economics		1					1
3E-11 For. Lang. - English - Math.	6	4					10
3E-12 For. Lang. - English - Music	4				1		5
3E-13 For. Lang. - English - Physical Ed.	6	5	3				14
3E-14 For. Lang. - English - Religion		3					3
3E-15 For. Lang. - English - Science		1					1
3E-16 For. Lang. - English - Social Studies	6	3	1	1			11
4E-35 For. Lang. - English - Home Ec. - Science		3					3
4E-36 For. Lang. - English - Math. - Phys. Ed.	2						2
4E-37 For. Lang. - English - Math. - Religion			1				1
4E-38 For. Lang. - English - Math. - Science			1				1
4E-39 For. Lang. - English - Math. - Social Studies	1	1					2
4E-40 For. Lang. - English - Phys. Ed. - Science	1						1
4E-41 For. Lang. - English - Science - Social Studies			1				1
5E-54 For. Lang. - English - Math. - Phys. Ed. - Science		1					1

TABLE XXXVIII (Continued)

All the teaching combinations in which foreign languages are found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

FOREIGN LANGUAGES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
2L-1 For. Lang. - Home Ec.	1	3					4
2L-2 For. Lang. - Ind. Arts						1	1
2L-3 For. Lang. - Mathematics	5	9	4	1	1	8	28
2L-4 For. Lang. - Music	2	2	1		1		6
2L-5 For. Lang. - Phys. Ed.				1			1
2L-6 For. Lang. - Science				1			1
2L-7 For. Lang. - Soc. St.	5	5	4	1	1	6	22
3L-8 For. Lang. - Home Ec. - Math.	1						1
3L-9 For. Lang. - Home Ec.-Phys. Ed.	1		1				2
3L-10 For. Lang. - Library -Phys. Ed.				1			1
3L-11 For. Lang. - Math. - Phys. Ed.	2	2	2	1			7
3L-12 For. Lang. - Math. - Science	2	4		1			7
3L-13 For. Lang. - Math. - Soc. St.	2		3				5
3L-14 For. Lang. - Math. - Phys. Ed.	1						1
3L-17 For. Lang. - Phys. Ed. - Soc.St.	1	1	1				3
3L-18 For. Lang. - Science - Soc. St.	3	1	1				5
4L-19 For. Lang.-Math.-Phys.Ed.-Sci.	4						4
4L-20 For. Lang.-Math.-Sci.-Soc. St.	1	2					3

TABLE XXXVIII (Continued)

All the teaching combinations in which foreign languages are found, together with the frequency of occurrence of each combination in each of the six groups of high schools.

FOREIGN LANGUAGES AND COMBINATIONS	I	II	III	IV	V	VI	TOTAL
4L-21 For. Lang.-Phys. Ed.-Soc.St.-Science	2	1				3	
4L-22 For. Lang.-Math.-Phys.Ed. - Social Studies		1				1	
Totals	111	101	47	18	16	63	356

TABLE XXXIX

The frequency of offerings of the various combinations with foreign languages in the six groups of schools.

	I	II	III	IV	V	VI	TOTAL
Number of combinations having 1 frequency	21	11	12	9	6	2	61
Number of combinations having 2 frequencies	7	3	3			1	14
Number of combinations having 3 frequencies	2	4	2				8
Number of combinations having 4 frequencies	3	3	2				8
Number of combinations having 5 frequencies	3	2					5
Number of combinations having 6-10 frequencies	3	1		1	1	2	8
Number of combinations having 11-20 frequencies			1				1
Number of combinations having 21-& above frequencies	1	1				1	3
Total	40	25	20	10	7	6	108

Form I

---------------------- High School
---------------------- Enrollment
---------------------- Total Teachers
---------------------- Sched. Number

( ) 3-year High School
( ) 4-year High School
( ) 6-year High School

( ) Rural High School
( ) Joint High School
( ) Town High School
( ) City High School

I English
II Foreign Languages
III Mathematics
IV Social Studies
V Science and Agric.
VI Ind. Arts
VII Home Econ.
VIII Music
IX Fine Arts
X Phy. Ed., Health, Safety and Coaching
XI Commerce

Teacher	Total Number of Duties	On basis of total classes taught, fraction of time spent in various departments and in other scheduled duties																																											Total Depts. in which teaching	Combinations Taught
		English				Foreign Lang.				Math.		Soc. St.		Science						I. A.			H. Ec.			Music				Fine Arts			Phy. Ed., etc.				Commerce				Miscellaneous						
		Eng	Dram	Pub. Sp.		Lat.	Fr.	Ger.	Sp.	M.	Ar.			Biol.	Ch.	Ph.	Geog.	Ag.	Gen. Sci.							M	Ba.	Or.	Ch.				Phy. Ed.	Health	Safety	Coa.	C. A.	BK	Typ.	Sten.	Con.	Assem.	Lib.				

FORM IIA

_____ alone

FORM IIB

_____ with one other subject

FORM IIC

_____ with two other subjects

FORM IID

_____ with three other subjects

FORM IIE

_____ with four other subjects

FORM IIF

_____ with five other subjects

	High School Enrollments						
	0 to 99	100 to 199	200 to 299	300 to 399	400 to 499	500 to 599	Totals