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THE STATUS OF SCIENCE TEACHERS
IN THE LARGE SECONDARY SCHOOLS OF OKLAHOMA

1939-1940

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IN THE LARGE SECONDARY SCHOOLS OF OKLAHOMA
1939-1940

By

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Oklahoma Agricultural and Mechanical College

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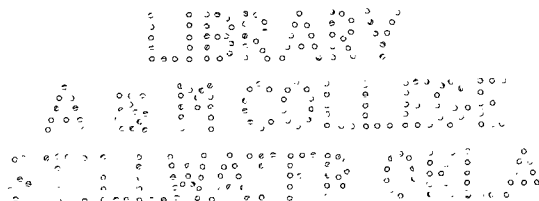
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PREFACE

The writer wishes to express his appreciation for the help given him by Dr. Clarence M. Pruitt, chairman of his advisory committee. He also wishes to acknowledge the help given by many of his friends, as it was only by their unselfish help that this thesis was completed. He takes this opportunity to thank Miss Neva Kannon and other members of the State Department of Public Instruction for their cooperation in providing an opportunity to gather this information.

Argus F. Smith

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CHAPTER I
INTRODUCTION

The purpose of this thesis is to obtain certain information relating to the status of science teachers in the large secondary schools in the state of Oklahoma. The status of science teachers, their college training, years of experience, salary, size of school, and teaching load, and certain other aspects of science teaching have been considered. This thesis should be of special interest to prospective science teachers and to those in charge of teacher training curricula. It will give them an idea as to what is demanded of science teachers as to their academic preparation, both in their science and related teaching field. Comparisons are made as to training, salary, experience, and position. This should give the beginning teacher an idea of the qualifications that lead to success in science teaching. Science teachers, supervisors, and administrators should be able to use these findings to an advantage.

The writer became interested in this problem while preparing to be a science teacher in the schools of Oklahoma. Students often become confused upon entering college and do not know exactly what to study in order to reach certain definite ends. The student may know that he wishes to become a science teacher, but he may not know what other fields or which sciences are most in demand. If the writer had known the facts contained in this thesis, he would likely have chosen different fields to go with his science. The teachers in both large and small high schools are likely to teach more than one subject, and therefore science teachers must select their minor fields carefully.

Some of the totals used in this thesis vary. This is due to the fact

that the information is not complete for all teachers. The tables were made up in every case from teachers who have given all of that particular information.

Mr. John Payne completed a thesis similar to this in 1940. His problem was to analyze the status of the teachers in the small secondary schools of Oklahoma. The small secondary schools included all high schools of five teachers or less. In his analysis he considered the college training, total years experience, years experience in their present position, salaries, professional training, qualifications, and other requirements for teaching. Since this thesis makes the same analysis for the larger schools, it should be interesting to combine the information found in the two studies, in order to see the relative standing of the large and small schools. For this reason some of Mr. Payne's most significant data have been included.

SOURCE OF DATA AND METHOD OF HANDLING

The data for this thesis were obtained from the accrediting blanks on file at the State Department of Education in Oklahoma City. These blanks were sent in to the state department by superintendents wishing to achieve an accredited rating. The information is given voluntarily, so there is no reason to believe that it is anything but accurate. Part of the information was obtained from records on file in the Educational Finance Department. These records were used in order to determine the amount of state money which should go to the various schools. Not all blanks were filled, and part of the information was not available, but the number of such cases was not large enough to detract materially from the reliability of this study.

The term "large high school" as used in this study includes any school with more than five full time teachers or the equivalent. The writer found 534 teachers in 347 such schools. Some of the teachers of the group did not give complete information in all the blanks, and therefore the tables are based only upon the number reporting the data.

The statistical method of study was used in this thesis. The data was transferred from the accrediting reports to especially prepared sheets, to facilitate handling. These sheets had places to record salary, experience, subjects, and all other information used in this thesis. Blank tables were then constructed, and the information pertinent to that phase of the investigation was tabulated. From these tables the median and the mode were obtained.

The median was obtained by dividing the total by two, and counting up to the interval having this number of cases below it. If the median were

found to be somewhere within an interval without taking all of it, the median was found by taking the number of cases needed to reach the median which were in the interval over all the cases in the interval and multiplying this fraction by the size of the interval. This answer was then added to the top end of the interval just below it.

The mode was the interval having the most cases.

CHAPTER II

GENERAL AND PROFESSIONAL FACTORS

Men and Women Science Teachers

Complete information for 498 secondary high school teachers was available. Of this number, 395 or 79% were men. This leaves 103 or 21% women teachers in the field of science.

TABLE I

TEACHING EXPERIENCE OF SECONDARY SCHOOL TEACHERS
OF SCIENCE, BY SEX - 1939-40

Years of Experience	Men	Per cent	Women	Per cent	Total	Per cent
0	24	6.07	9	8.73	33	6.62
1-3	61	15.44	24	23.30	85	17.06
4-6	92	23.29	22	21.35	114	22.89
7-9	57	15.43	13	12.62	70	14.05
10-12	52	13.16	6	5.82	58	11.64
13-15	43	10.88	12	11.65	55	11.04
16-18	26	6.58	4	3.88	30	6.02
19-21	16	4.05	5	4.85	21	4.21
22-24	7	1.77	4	3.88	11	2.20
25-27	8	2.02	1	.97	9	1.80
28-30	8	2.02	3	2.91	11	2.20
Over 30	1	.25			1	.20
Total	395	100	103	100	498	100

TABLE I continued

Median experience for men	7.05 years
Median experience for women	5.49 years
Median experience for both	6.73 years
Median experience for small high schools ¹	6.53 years

Table I shows that the median for men science teachers is 7.05 years experience as compared with 5.47 years experience for women. This gives a difference in favor of the men of 1.56 years. On the whole, then, it would seem to indicate that men have more experience as science teachers than women. There is also a larger percentage of women who are teaching their first year of science than men, but at the same time the percentage of women who have taught from 28 to 30 years is greater than the men. There are 3 women who have taught from 28 to 30 years and one man who has taught over 30 years. Mr. Payne found that the median experience for men and women in the small high schools was 6.53 years.¹ This gives the larger high schools the advantage of .20 over the small schools. This would seem to show that there is very little difference in the experience of the teachers in large and small schools. In both cases nearly half of the teachers have six or less years of experience. The greatest number of teachers in the small schools falls in the interval between 1 and 3¹, while in the case of the larger schools it is at interval 4 to 6.

¹ James Payne, The Status of Science Teachers in the Small Secondary Schools of Oklahoma, 1939-1940, page 5

YEARS EXPERIENCE WITHIN PRESENT SCHOOL DISTRICT

Complete information was available for 503 science teachers, of which 401 or 79% were men, and 102 or 21% were women. Table II shows that the median experience in the district was 1.74 years for both men and women. The men have the advantage in this case of .35 years with 1.8 years, as compared with 1.46 years for the women. There were 23 or 22.54% of the women and 83 or 20.69% of the men who were teaching in that district for the first time. There were 20 men or 4.98% of the men who had been in the district over 14 years, and 6 or 5.88% of the women. It is interesting to note that the median years experience for all teachers is 6.73 years, while the tenure in the district is only 1.46. This shows that on the average the teachers have been in 4.6 different districts during their science teaching experience. The teacher having the greatest experience in the district is a man with 25 years.

In his study of the small high schools, Mr. Payne found that the median experience in the district for both men and women is 1.68² in comparison to 1.74 years for the larger schools. This gives the teachers of the large schools .06 years more experience in the present school district. This is not enough difference to be of special significance. One might say that the tenure is just as good in the small schools as in the large ones.

² Ibid., page 7

TABLE II
YEARS EXPERIENCE WITHIN PRESENT SCHOOL DISTRICT

Years in District	Men	Per cent	Women	Per cent	Total	Per cent
0	83	20.69	23	22.54	106	21.07
1	66	16.45	22	21.56	88	17.49
2	63	15.71	13	12.74	76	15.10
3	32	7.98	6	5.88	38	7.55
4	29	7.23	7	6.86	36	7.15
5	24	5.98	4	3.92	28	5.56
6	13	3.24	1	.98	14	2.78
7	10	2.49	2	1.96	12	2.38
8	10	2.49	2	1.96	12	2.38
9	12	2.99	3	2.94	15	2.98
10	14	3.49	4	3.92	18	3.57
11	13	3.24	3	2.94	16	3.18
12	8	1.99	2	1.96	10	1.98
13	4	.99	4	3.92	8	1.59
14-over	20	4.98	6	5.88	26	5.16
Total	401	100	102	100	503	100

Median experience for men 1.81 years

Median experience for women 1.46 years

Median experience for both 1.74 years

Median experience for small high schools³ 1.68 years

³ Ibid., page 7

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE TEACHING FIELDS

The hours of training was given for 533 science teachers. Table III-A shows that of the 533 there were 86 teachers whose hours of science training was not classified as to any particular kind. This left 447 teachers for consideration in the table. Some difficulty was encountered in getting an accurate picture of the college training because of the abbreviations used to indicate physics and physiology. They were both given as Phys. Since it was impossible to determine whether or not it was physics or physiology, the writer is in doubt as to the accuracy of this table, but it is being included as a means of comparison between the large and small schools. The median for biology is 16 hours, and 18.11 for physical science. Very little geography was studied by the regular science teachers. In fact very few science teachers were found teaching geography. The small amount of geography and physiology can probably be attributed to the fact that science teachers of the large schools are highly specialized in their particular field, and so give very little time to other sciences.

Mr. Payne found in the small schools that the median for biology was 15.83 hours, and 8.46 hours for physical science.⁴ One can see from this that the larger schools have teachers with a higher median in biology and physical sciences. This would seem to give definite indications that the teachers of the larger schools are better qualified in their particular teaching fields. Many of the teachers are teaching only the one subject, and are therefore more in a position to specialize than those teaching several subjects.

⁴Ibid., page 9

TABLE III-A

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE TEACHING FIELDS

Semester Hours	Biology	Physiology	Physical Science	Geography	Unclassified
0	98	436	84	410	
1-4	15	4	3	13	1
5-8	38	5	35	16	
9-12	59	1	61	3	
13-16	63		64	3	3
17-20	31		36		5
21-24	34		36	1	7
25-28	32		32		9
29-32	18	1	22	1	7
33-36	12		19		5
37-40	6		12		6
41-44	8		7		7
45-48	6		6		3
49-52	4		6		3
53-56	4		7		2
57-60	3		1		2
Over 60	16		11		26
Total	349	11	363	37	86

Median for biology 16.00 semester hours

Median for physiology 4.25 semester hours

Median for physical science 18.11 semester hours

Median for geography 5.50 semester hours

TABLE III-A continued

⁵ Median for biology in small high schools	15.83 semester hours
Median for physiology in small high schools . .	6.22 semester hours
Median for physical science in small high schools	8.46 semester hours
Median for geography in small high schools . . .	5.40 semester hours

⁵ Ibid., page 9

TABLE III-B

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE BY SUBJECTS

Semester: Hours	Biol.:	Zool.:	Bot.:	Phy.:	Chem.:	Phys.:	Geol.:	Geog.:	Unclassi- fied
0	:	:	:	:	:	:	:	:	:
1-4	21	12	16	4	47	65	9	13	6
5-8	38	19	14	5	99	103	13	16	3
9-12	54	5	5	1	55	78	1	3	:
13-16	75	3	2	:	36	27	2	3	6
17-20	28	1	2	:	25	16	:	:	7
21-24	30	:	1	:	18	10	:	1	9
25-28	33	2	1	:	9	2	1	:	11
29-32	19	:	:	:	11	2	1	1	9
33-36	14	:	1	1	6	2	1	:	6
37-40	8	:	:	:	6	1	1	:	8
41-44	7	:	:	:	1	:	:	:	9
45-48	8	:	:	:	3	:	:	:	4
49-52	5	1	:	:	2	:	:	:	5
53-56	3	:	:	:	2	3	:	:	3
57-60	1	:	:	:	1	:	1	:	2
Over 60	19	1	:	:	10	2	:	1	26
Total	363	44	42	11	331	311	30	37	114

Median for biology 15.67 semester hours

Median for zoology 6.11 semester hours

Median for botany 5.43 semester hours

Median for physiology 4.25 semester hours

Median for chemistry 9.45 semester hours

TABLE III-B continued

Median for physics	7.67 semester hours
Median for geology	5.84 semester hours
Median for geography	4.05 semester hours

Table III-B shows the semester hours of college training in science by subjects. The median for biology is 15.67 semester hours of college work. Nineteen teachers had over 60 hours of work in botany. The median is rather high for biology due to the fact that zoology and botany are usually combined and given as hours in biology. For this reason the totals for zoology and botany are not complete. Chemistry shows the next highest median with 9.45 hours of college work. Ten teachers reported over 60 hours of work in chemistry. The median hours of college work for physics was 7.67. The mode was at the interval between 5 and 8. Two teachers reported having over 60 hours in physics.

TOTAL NUMBER OF SEMESTER HOURS OF SCIENCE

In Table IV complete information was available for 533 teachers. 428 were men and 105 were women. The median for the men was 36.44 semester hours as compared to 34.00 hours for women teachers. The median

TABLE IV

TOTAL NUMBER OF SEMESTER HOURS OF SCIENCE

Hours	Men	Per cent	Women	Per cent	Total	Per cent
0-5	2	.46	0		2	.37
6-10	7	1.63	1	.95	8	1.50
11-15	14	3.27	3	2.85	17	3.18
16-20	28	6.54	12	11.42	40	7.50
21-25	47	10.98	20	19.04	67	12.57
26-30	52	12.14	8	7.61	60	11.25
31-35	49	11.44	10	9.52	59	11.06
36-40	52	12.14	5	4.76	57	10.69
41-45	26	6.07	9	8.57	35	6.56
46-50	31	7.24	4	3.80	35	6.56
51-55	14	3.27	3	2.85	17	3.18
56-60	23	5.37	2	1.90	25	4.69
61-65	22	5.14	8	7.61	30	5.62
66-70	10	2.33	6	5.71	16	3.00
71-75	5	1.16	4	3.80	9	1.68
76-80	7	1.63	5	4.76	12	2.25
81-85	11	2.57	1	.95	12	2.25
86-90	8	1.86	1	.95	9	1.68
91 and over	20	4.67	3	2.85	23	4.31
Total	428	100	105	100	533	100

Median for men	36.44 semester hours
Median for women	34.00 semester hours
Median for both	32.72 semester hours
Median for small high schools ⁶	32.72 semester hours

for the men was 2.44 hours more than in the case of the women. The median for both men and women was 36.10 semester hours. There were two men teaching who came in the interval 0 to 5 hours. The largest number of hours in science was held by a man with 213 hours. The greatest number in the case of women was 128 hours.

The comparison between the large and small high schools shows 32.72 semester hours for the small schools and 36.10 hours for the large schools. The teachers of the large schools have 2.38 hours more science. This would indicate that science teachers are somewhat better qualified in the large schools than in the small ones.

⁶ Ibid., page 11

RELATION OF COLLEGE TRAINING TO MONTHLY SALARY

Table V shows the relation of college training to monthly salary for 493 science teachers. Seven or .018% were found to have 123 hours or less of college training. Two hundred seventy-six, or 54.15%, had between 124 and 153 hours, and 219 or 44.4% had 154 or more hours. The median salary

TABLE V

RELATION OF COLLEGE TRAINING TO MONTHLY SALARY

Salaries Per mo.	Semester Hours							
	123 and under	Per cent.	124 to 153 hrs.	Per cent.	154 or over	Per cent.	Total	Per cent.
\$ 70-85	3	42.85	31	11.61	4	1.83	38	7.70
86-100	2	28.57	71	26.59	27	12.33	100	20.28
101-115	1	14.28	44	16.47	30	13.70	75	15.21
116-130			44	16.47	23	10.50	67	13.59
131-145	1	14.28	30	11.23	19	8.68	50	10.14
146-160			25	9.36	26	11.87	51	10.34
161-175			6	2.24	21	9.89	27	5.47
176-190			6	2.24	18	8.21	24	4.86
191-205			6	2.24	15	6.85	21	4.25
206-220			3	1.12	13	5.94	16	3.24
221-235			1	.37	7	3.20	8	1.62
236-250					6	2.74	6	1.21
251-265 -over					10	4.57	10	2.02
Total	7	100	267	100	219	100	493	100

TABLE V continued

Median salary for 123 hours and under	\$ 85.00
Median salary for 124 to 153 hours	125.57
Median salary for 154 and over	148.46
Median salary for total	122.61
Median salary for small high schools ⁷	107.05

for the first group with 123 hours and under was \$85.00 per month. The teachers with 124 to 153 hours had a median salary of \$125.57, and for 154 hours and over the median was \$148.46. One can see here a direct relation between salary and amount of college work. The highest salary for any teacher of 123 hours or under was \$145.00. One teacher in the 124 to 153 hours group received between \$221.00 and \$235.00, and 2 teachers with more than 154 hours received over \$260.00 per month. About one-fifth or 20.28% of all science teachers of the large high schools receive between \$86.00 and \$100.00 per month.

In the case of small high schools studied by Mr. Payne, the median salary for teachers under 123 hours was \$93.50 per month. This is about \$10.00 better than in the case of the large schools. This is partly due to the fact that a larger per cent of such teachers are found in smaller schools, since it would be difficult to get well paid jobs in larger school systems. The median salary for teachers of 124 to 153 hours was \$104.53 per month. In this case the larger schools have the advantage with \$125.75. For 154 hours and over the small schools show a median of \$122.24 per month⁷ as compared with \$148.46 in the large schools. The median for the total is

⁷ Ibid., page 13

\$107.05 in the case of the small schools, as compared to \$122.61⁸ for the large ones, an increase of \$15.56 per month.

It is definitely indicated by this study that the status of science teachers in the large high schools is superior in regard to salary. It also shows that they have a larger per cent with a large amount of college training than in the case of the small schools.

⁸ Ibid., page 13

TABLE VI

RELATION OF EXPERIENCE TO MONTHLY SALARY

Monthly Salary	Total years of teaching experience									
	0	Per cent	1-3	Per cent	4-6	Per cent	7-9	Per cent	10-12	Per cent
\$ 70-79	2	6.06	1	1.14	0					
80-89	23	69.69	16	18.39	0					
90-99	4	12.12	17	19.54	3	2.60				
100-109	3	9.09	21	24.13	30	26.08	17	26.56	7	11.66
110-119	1	3.03	11	12.64	23	20.00	9	14.06	10	16.66
120-129			8	9.19	11	9.56	11	17.18	4	6.66
130-139			7	8.04	13	11.30	8	12.50	9	15.00
140-149			3	3.44	15	13.04	5	7.81	3	5.00
150-159			3	3.44	9	7.82	2	3.12	10	16.66
160-169					4	3.47	3	4.68	2	3.33
170-179					2	1.73	2	3.12	3	5.00
180-189					3	2.60	0		4	6.66
190-199					0		2	3.12	1	1.66
200-209					2	1.73	4	6.25	3	5.00
210-219									1	1.66
220-229									1	1.66
230-239							1	1.56		
240-over									2	3.33
Total	33	100	87	100	115	100	64	100	60	100

Median salary for teachers having no experience . . . \$88.13

Median salary for teachers having 1-3 years experience. 93.12

TABLE VI continued

Monthly Salary	Total years teaching experience							
	13-15	Per cent	16-18	Per cent	19-over	Per cent	Total	Per cent
\$ 70-79	0		0		0		3	.60
80-89	0		0		0		39	7.87
90-99	0		1	3.44	0		25	5.05
100-109	10	18.51	2	6.89	2	3.77	92	18.58
110-119	2	3.70	2	6.89	0		56	11.71
120-129	5	9.25	2	6.89	4	7.54	45	9.09
130-139	4	7.40	0		5	9.43	46	9.29
140-149	4	7.40	1	3.44	5	9.43	36	7.27
150-159	3	5.55	2	6.89	3	5.66	32	6.46
160-169	4	7.40	5	17.24	2	3.77	20	4.04
170-179	7	12.96	2	6.89	1	1.89	17	3.43
180-189	3	5.55	3	10.34	6	11.32	19	3.83
190-199	2	3.70	0		3	5.66	8	1.61
200-209	3	5.55	2	6.89	4	7.54	18	3.63
210-219	5	9.25	2	6.89	4	7.54	12	2.42
220-229	0		2	6.89	5	9.43	8	1.61
230-239	1	1.85	0		1	1.89	3	.60
240-over	1	1.85	3	10.34	8	15.09	14	2.82
Total	54	100	29	100	53	100	495	100

Median salary for teachers having 13-15 years experience . . . \$155.67

Median salary for teachers having 16-18 years experience . . . 174.00

Median salary for teachers having over 19 years experience . . . 187.00

Median salary for the 495 teachers 128.11

Median years experience for the 495 teachers 6.61

TABLE VI continued

Median salary for teachers having 4-6 years experience	\$130.82
Median salary for teachers having 7-9 years experience	134.55
Median salary for teachers having 10-12 years experience	139.00

RELATION OF EXPERIENCE TO MONTHLY SALARY

There were 495 science teachers who reported enough information for this table. The salary was found to range between \$70 per month to over \$240. The table shows very distinctly that as experience increases, salary increases. The median salary for teachers with no experience is \$88.13, while teachers with 1 to 3 years experience receive \$93.12. The largest jump in salary is found as one passes three years experience. At that time the median jumps from \$93.17 to \$130.82 per month, an increase of \$37.70. The mode lies in the interval 100 to 109, with 92 or 18.58% of the teachers. The highest salary for a teacher with no experience was not over \$109, while the highest paid teachers of from 4 to 6 years is \$209, and the lowest salary was not less than \$90.

Of the teachers with 7 to 9 years experience, of which there were 64, one received a salary of over \$230, while none receive less than \$100.

Of the 60 teachers found to have experience between 10 and 12 years 2 or 3.33% got over \$240, and the lowest paid teacher received not less than \$100.

Of the 13 to 15 years experienced teachers there were 54. Ten or 18.51% received between \$100 to \$109 per month. \$100 was the lowest salary. One teacher received over \$240, and the median for this group was \$155.67.

Of the 29 teachers having 16 to 18 years experience 3 or 10.34% received over \$240, while one was paid as low as \$90 per month. The median was \$174.00.

The 53 teachers having 19 years or over teaching experience received the largest median salary of \$187. Eight or 15.09% of the teachers received \$240 up, with none receiving less than \$100.

Part of the increase in salary of the teachers having such experience may be due to the fact that these men often become principals or superintendents of schools, but it is easily seen that an increase in experience will also probably bring an increase in salary.

The median experience for this group of teachers is 6.61 years with the mode between 4 and 6 years with 115 teachers.

In comparing the large schools with the small ones, one can see in every case that the salary is higher for the larger schools. The table below shows the median salaries as found by Mr. Payne, and the medians as found in the large high schools.

SALARIES IN LARGE AND SMALL SCHOOLS

Years of Experience	0	1-3	4-6	7-9	10-12	13-15	16-18	17-over
Small schools ⁹	\$82.12	\$92.60	\$110.06	\$122.50	\$121.50	\$120.00	\$150.00	\$140.75
Large schools	88.13	93.12	130.82	134.55	139.00	155.67	174.00	187.00
Median salary for teachers in small high schools								\$111.47
Median salary for teachers in large high schools								128.11
Median years experience in small high schools								6.53
Median years experience in large high schools								6.61

⁹Ibid., page 15

TABLE VII
RELATION OF TEACHING EXPERIENCE AND SIZE OF THE SCHOOL

Years Experience	Number of teachers in school							
	5.1-6	Per cent	5.1-7	Per cent	7.1-8	Per cent	8.1-9	Per cent
0	9	8.91	7	10.60	5	10.20	3	6.52
1-3	20	19.80	14	21.21	7	14.28	12	26.08
4-6	18	17.82	13	19.69	14	28.57	12	26.08
7-9	14	13.86	11	16.66	7	14.28	6	13.04
10-12	20	19.80	7	10.60	3	6.12	1	2.17
13-15	8	7.92	4	6.06	7	14.28	7	15.21
16-18	4	3.96	4	6.06	3	6.12	2	4.34
19-21	2	1.98	2	3.03	1	2.04	1	2.17
Over 21	6	5.94	4	6.06	2	4.08	2	4.34
Total	101	100	66	100	49	100	46	100

Median years experience for 5.1-6 teachers 86
 Median years experience for 6.1-7 teachers 6
 Median years experience for 7.1-8 teachers 3.64
 Median years experience for 8.1-9 teachers 5

TABLE VII continued

Years Experience	Number of teachers in school							
	9.1-10	Per cent	10.1-11	Per cent	11.1-12	Per cent	12.1-on	Per cent
0	4	10.25	1	5.26	0	0	4	2.35
1-3	7	17.94	3	15.78	2	22.22	21	12.35
4-6	10	25.64	5	26.31	2	22.22	43	25.29
7-9	10	25.64	4	21.05	3	33.33	14	8.23
10-12	4	10.25	3	15.78	0	0	19	11.17
13-15	1	2.56	2	10.52	1	11.11	26	15.29
16-18	2	5.12	0	0	0	0	13	7.64
19-21	0	0	1	5.26	0	0	9	5.29
Over 21	1	2.56	0	0	1	11.11	21	12.35
Total	39	100	19	100	9	100	170	100

Median years experience for 9.1-10 teachers 5.70

Median years experience for 10.1-11 teachers 6.33

Median years experience for 11.1-12 teachers 7.00

Median years experience for 12.1-on teachers 7.50

TABLE VII continued

Years Experience	Number of teachers in school	
	Total	Per cent
0	33	6.61
1-3	86	17.23
4-6	117	23.44
7-9	69	13.82
10-12	57	11.42
13-15	56	11.22
16-18	23	5.61
19-21	16	3.20
Over 21	37	7.40
Total	499	100

Median for the total 6.56

RELATION OF TEACHING EXPERIENCE AND SIZE OF SCHOOL

There were 499 teachers reporting enough information for this table. Of this number 101 or 20% taught in schools having from 5.1 to 6 teachers with a median experience of 6.86 years. The mode, however, was found to be in the interval between 10 and 12 years experience.

There were 66 or 13% of the teachers in schools with from 6.1 to 7 teachers. The median experience for the teachers in schools of this size is 6 years. The mode in this case was at the interval between 1 and 3 years.

In schools of from 7.1 to 8 teachers there were 49 or 9% of the science teachers employed. The median in this case was 3.64 years experience. The mode was at the interval between 4 and 6.

In the schools of 8.1 to 9 teachers there were 46 or 9% of the science teachers. The median in this case is 5 years experience, and the mode is at the interval 2 to 3. The interval 4 to 6 also has the same number of cases.

In schools having 9.1 to 10 teachers there were 39 or 8% of the teachers employed. The median is 5.70 years experience, and the interval 4 to 6 and 7 to 9 both have ten cases.

In schools having 10.1 to 11 teachers there were 19 or 4% of the teachers. The median of this group was 6.33 years. The mode for these teachers was at the interval between 4 and 6.

In the schools having from 11.1 to 12 teachers there were 9 or 2% of the teachers employed. The median for these teachers was 7 years experience, and the mode was at the interval between 7 and 9.

The schools of over 12 teachers had 170 or 34% of the teachers. The median for these teachers was 7.5 years experience, and the mode was at the interval between 4 and 6.

The results of this table seem to indicate that there is but little

direct relationship between the years experience and the size of the school. The median for the teachers in schools of from 5.1 to 6 teachers had a median of 6.86 years experience. This median is larger than that of any of the other schools until one gets into schools of 11 teachers or more. The lowest median was that of 3.64 years experience found in schools of from 7.1 to 8 teachers.

TABLE VIII

TEACHING LOAD OF SCIENCE TEACHERS FOR 5.1 TO 9 TEACHER SCHOOLS

Periods per wk.	Math	Eng	Hist	Sci	Ind. Arts	Home Ec	Comm	Ath	Bus-ic	Aeri	Soc	Govt	Other	To- tal
1-5	44	9	14	60	5	3	2	12	3	9	2	5	33	201
6-10	35	9	5	85	3	4	1	3	1	1	1	1	17	166
11-15	18	2	4	64	3	2		1	1	1			3	99
16-20	4	1	1	37	1	3	2			1			7	57
21-25				15		1	2	1					3	22
26-30				2		1								3
31-over				1										1
Total	101	21	24	264	12	14	7	17	5	12	3	6	63	549

Median for those teaching science 9.23

Median for those teaching mathematics 6.00

Median for those teaching history 4.28

Table VIII shows the teaching load for 264 science teachers within the 5.1 to 9 teacher schools. There are 11 subjects which science teachers may teach along with their regular science classes.

One hundred and one teach mathematics, 4 teach it 16 to 20 periods per week, 18 teach it 11 to 15 periods per week, 35 teach it 6 to 10 periods per week, and 44 teach it 1 to 5 periods per week.

Twenty-one teach English. One teaches it 16 to 20 periods per week, 2 teach it 11 to 15 periods per week, 9 teach it 6 to 10 periods per week, and 9 teach it 1 to 5 periods per week.

All of the 264 teach science. Of this group one teaches over 30 periods of science per week, 2 teach 26 to 30 periods per week, 15 teach it 21 to 25

periods per week, 37 teach it 16 to 20 periods per week, 64 teach it 11 to 15 periods per week, 85 teach it 6 to 10 periods per week, and 60 teach it 1 to 5 periods per week.

Twelve teach industrial arts. Of this number one teaches it 16 to 20 periods per week, 3 teach it 11 to 15 periods per week, 3 teach it 6 to 10 periods per week, and 5 teach it 1 to 5 periods per week.

Fourteen teach home economics. One teaches it 26 to 30 periods per week, one teaches it 21 to 25 periods per week, 3 teach it 16 to 20 periods per week, 2 teach it 11 to 15 periods per week, 4 teach it 6 to 10 periods per week, and 5 teach it 1 to 5 periods per week.

Seven teach commerce. Two teach it 21 to 25 periods per week, 2 teach it 16 to 20 periods per week, 1 teaches it 6 to 10 periods per week, and 2 teach it 1 to 5 periods per week.

Seventeen conduct athletics. One conducts it 11 to 15 periods per week, 3 conduct it 6 to 10 periods per week, and 12 conduct it 1 to 5 periods per week.

Five teach music. One teaches it 11 to 15 periods per week, one teaches it 6 to 10 periods per week, and 3 teach it 1 to 5 periods per week.

Twelve teach agriculture. Of this number one teaches it 16 to 20 periods per week, one teaches it 11 to 15 periods per week, one teaches it 6 to 10 periods per week, and 9 teach it 1 to 5 periods per week.

There are 3 sociology teachers. Of this number one teaches it 6 to 10 periods per week, and 2 teach it 1 to 5 periods per week.

Six teach government. One teaches it 6 to 10 periods per week, and 5 teach it 1 to 5 periods per week.

Sixty-three teach unclassified subjects.

The median load for science teachers teaching science, mathematics, and history, respectively, is 9.23, 6.00, and 4.00 periods per week.

TABLE IX

TEACHING LOAD OF SCIENCE TEACHERS FOR 9.1 TO 13 TEACHER SCHOOLS

Periods per wk.	Math	Eng	Hist	Sci	Ind. Arts	Home Ec	Ath	Mus	Agri	Soc	Gov	Other	Total
1-5	3	1	1	9		1	5	3	2	2	1	12	45
6-10	2			12			1					3	18
11-15	6			13	2							3	24
16-20			1	18					1			1	21
21-25	1			16		2							19
26-30	1			5		1						1	8
31-over				2									2
Total	18	1	2	75	2	4	6	3	3	2	1	20	137

Median for those teaching science 16.11

Median for those teaching mathematics 7.50

Median for those teaching history 5.00

Table IX shows that in 9.1 to 13 teacher schools there are 75 science teachers. There are 11 separate subjects, of which science teachers may teach one or more other than science.

Mathematics is the subject most frequently combined with science. There were 10 cases where they also taught mathematics. One mathematics teacher teaches mathematics 26 to 30 periods per week, one teaches it 21 to 25 periods per week, 6 teach it 11 to 15 periods per week, 2 teach it 6 to 10 periods per week, and 8 teach it 1 to 5 periods per week.

English is taught by one science teacher. This teacher teaches it 1 to 5 periods per week.

History is taught by 2 teachers. One teaches it 16 to 20 periods per

periods per week, and one teaches it 1 to 5 periods per week.

Of all the 75 science teachers, 2 teach science over 30 periods per week, 5 teach it 26 to 30 periods, 16 teach it 21 to 25, 18 teach it 16 to 20 periods, 13 teach it 11 to 15, 12 teach it 6 to 10, and 9 teach it 1 to 5 periods per week.

Two teach industrial arts 11 to 15 periods per week.

Four teach home economics. One teaches it 26 to 30 hours per week, two teach it 21 to 25 periods, and one teaches it 1 to 5 periods per week.

Six direct athletics. One directs it 6 to 10 periods per week, and 5 direct it 1 to 5 periods per week.

Three teach agriculture. One teaches agriculture 16 to 20 periods per week, and 2 teach it 1 to 5 periods a week.

Two teach sociology 1 to 5 periods a week.

Twenty teach subjects which are not classified.

The median for science teachers teaching science, mathematics, and history, respectively, is 16.11, 7.50, and 5.00 periods per week.

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TABLE X

TEACHING LOAD OF SCIENCE TEACHERS FOR 13.1 TO 50 TEACHER SCHOOLS

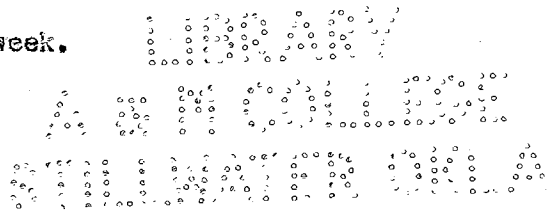
Periods:	Math	Eng	Hist	Sci	Arts	Ind. Home Ec	Comm	Ath	Mus	Agri	Soc	Gov	Other	Total
1-5	8	3	2	4	1	1	1	4	1			1	8	34
6-10	1	2	1	9			3			1			2	20
11-15	4			12						1			4	21
16-20	2	1	1	24	1			2		1			2	34
21-25				33		1	1						2	37
26-30	2			5										7
31-over				1										1
Total	17	6	4	88	2	2	5	6	1	3		1	18	154

Median for those teaching science 18.96
 Median for those teaching mathematics 10.00
 Median for those teaching history 5.00

Table X shows the teaching load for the teachers in schools of from 13.1 to 50 teachers. There are 12 different subjects which science teachers in this size school may teach.

Mathematics is again the most popular for science teachers, with 17 combining mathematics with their science. Of this number 2 teach 26 to 30 periods per week, 2 teach 16 to 20 periods per week, 4 teach it 11 to 15 periods per week. One teaches it 6 to 10 periods per week, and 8 teach it 1 to 5 periods per week.

There are 6 teachers combining English with their science. Of this number one teaches it 16 to 20 periods per week, 2 teach it 6 to 10 periods per week, and 3 teach it 1 to 5 periods per week.



There are 4 who teach history. One teaches it 16 to 20 periods per week, one teaches it 6 to 10 periods per week, and 2 teach it 1 to 5 periods per week.

Of the 88 teachers one teaches science over 30 periods per week, 5 teach it 26 to 30 periods, 33 teach it 21 to 25 periods, 24 teach it 16 to 20 periods, 12 teach it 11 to 15 periods, 9 teach it 6 to 10 periods, and 4 teach it 1 to 5 periods per week. The interval 21 to 25 has the most cases, with 33 teachers reporting this number of periods.

Two teach industrial arts. One teaches it 21 to 25 periods per week, and one teaches it 1 to 5 periods per week.

Two teach home economics. One teaches it 21 to 25 periods per week, and one teaches it 1 to 5 periods per week.

There are 5 who teach commerce. One teaches it 21 to 25 periods a week, 3 teach it 6 to 10 periods per week, and one teaches it 1 to 5 periods per week.

Six are directors of athletics. Two teach it 16 to 20 periods per week, and 4 teach it 1 to 5 periods per week.

One teaches music 0 to 5 periods per week.

There are three who teach agriculture. One teaches it 16 to 20 periods per week, one teaches it 11 to 15 periods per week, and one teaches it 6 to 10 periods per week.

One teaches government 1 to 5 periods per week.

There are 18 teachers of unclassified subjects which science teachers may teach along with their science.

The median for science teachers who teach science, mathematics, and history, respectively, is 13.96, 10.00, and 5.00 periods per week.

TABLE XI

TEACHING LOAD OF SCIENCE TEACHERS FOR SCHOOLS OF OVER 50 TEACHERS

Periods Per wk.	Math	Hist	Eng	Sci	Arts	Ind Ec	Home Ath	Mus	Agri	Soc	Gov	Other	Tot.
1-5	2	1		1									4
6-10				2								2	4
11-15				5					1				6
16-20				4									4
21-25				16									16
26-30				1									1
31-over				1									1
Total	2	1		30					1			2	36

Table XI shows the teaching load for science teachers in schools of over 50 teachers. There were 30 science teachers in these schools. Of these science teachers, one teaches science over 30 periods per week, one 26 to 30 periods per week, 16 teach it 21 to 25 periods per week, 4 teach it 16 to 20 periods per week, 5 teach it 11 to 15 periods per week, 2 teach it 6 to 10 periods per week, and one teaches it 1 to 5 periods per week.

There are 2 science teachers who teach mathematics. Both teach it 1 to 5 periods per week.

One teaches agriculture 11 to 15 periods per week.

Two teach unclassified subjects.

The median for those teaching science, mathematics and history, respectively, is 21.25, 2.00, and 5.00 periods per week.

As one examines the teaching loads of science teachers, one notes a steady increase in the median periods of science taught per week and a

decrease of other subjects taught as one goes from the smaller schools to the larger ones. This indicates that the teachers of the very large schools are not required to do so much other teaching, and are given a better chance to concentrate on science than the teachers in the smaller schools.

TABLE XII

TEACHING LOAD OF SCIENCE TEACHERS FOR ALL TEACHER SCHOOLS

Periods. Per wk.	Math	Eng	Hist	Sci	Ind Arts	Home Ec	Comm	Ath	Mus	Agri	Soc	Gov	Oth- ers	Total
1-5	62	13	18	74	6	5	3	21	7	12	4	7	53	284
6-10	38	11	6	108	3	4	4	4	1	2	1	1	24	208
11-15	28	2	4	94	5	2		1	1	3			10	150
16-20	6	2	3	83	2	3	2	2		2			10	116
21-25	1			80		4	3	1					5	94
26-30	3			13		2							1	19
31-over				5										5
Total	138	28	31	457	16	20	12	29	9	19	5	8	103	876

Median for science 17.39

Median for mathematics 5.92

Median for history 4.44

Median for those teaching science in small schools¹⁰ 9.14

Median for those teaching mathematics¹⁰ 9.12

Median for those teaching history¹⁰ 7.57

Table XII shows the teaching load of science teachers for all schools employing over 5 teachers. Complete information was obtained for 457 science teachers. Of this number 74 taught science 1 to 5 periods per week, 108

¹⁰Ibid., page 28

taught it 6 to 10 periods, 94 taught it 11 to 15 periods, 83 taught it 16 to 20 periods, 80 taught it 21 to 25 periods, 13 taught it 26 to 30 periods, and 5 taught it over 30 periods. The mode of the science teachers teaching science is at the interval 1 to 5.

One hundred and thirty-eight teach math. This is the greatest number of periods of any other subject taught by science teachers. Sixty-two teach it 1 to 5 periods per week, 38 teach it 6 to 10 periods, 28 teach it 11 to 15 periods, 6 teach it 16 to 20 periods, 1 teaches it 21 to 25 periods, and 3 teach it 26 to 30 periods per week. The greatest number of math teachers teach math from 1 to 5 periods per week.

Twenty-eight teach English. Of this number 13 teach it 1 to 5 periods per week, 11 teach it 6 to 10 periods, 2 teach it 11 to 15 periods, and 2 teach it 16 to 20 periods per week. The mode is at the interval 1 to 5, with 13 cases.

Thirty-one teach history. This is the subject which has the second largest number of periods per week taught by science teachers. Thirteen teach it 1 to 5 periods per week, 11 teach it 6 to 10 periods, 2 teach it 11 to 15 periods, and 2 teach 16 to 20 periods per week. The mode is at the interval 1 to 5.

Sixteen teach industrial arts. Six teach it 1 to 5 periods per week, 3 teach it 6 to 10 periods, 5 teach it 11 to 15 periods, and 2 teach it 16 to 20 periods per week.

Twenty teach home economics. Of this number 5 teach it 1 to 5 periods per week, 4 teach it 6 to 10 periods, 2 teach it 11 to 15 periods, 3 teach it 16 to 20 periods, 4 teach it 21 to 25 periods, and 2 teach it 26 to 30 periods per week.

Twelve teach commerce. Of this number 3 teach it 1 to 5 periods per

week, 4 teach it 6 to 10 periods, 2 teach it 16 to 20 periods, and 3 teach it 21 to 25 periods per week.

Twenty-nine are directors of athletics. Twenty-one direct it 1 to 5 periods per week, 4 direct it 6 to 10 periods, one directs it 11 to 15 periods, 2 direct it 16 to 20 periods, and one directs it 21 to 25 periods per week.

Nine teach music. Seven teach it 1 to 5 periods per week, 1 teaches it 6 to 10 periods, and 1 teaches it 11 to 15 periods per week.

Nineteen are agriculture teachers. Twelve teach it 1 to 5 periods per week, 2 teach it 6 to 10 periods, 3 teach it 11 to 15 periods, and 2 teach it 16 to 20 periods per week.

Only 5 teach sociology. Four teach it 1 to 5 periods, and one teaches it 6 to 10 periods.

Eight teach government. Seven teach it 1 to 5 periods per week, and one teaches it 6 to 10 periods per week.

There are 103 who teach subjects which are not classified.

The median for science teachers teaching science, mathematics, and history, respectively, is 17.39, 5.92, and 4.44 periods per week.

In the schools under 5 teachers the median for science teachers teaching science, mathematics, and history, respectively, is 9.14, 9.12, and 7.57 periods per week.¹¹ This shows a higher median for subjects other than science and a lower median for science than that found in schools of over 5 teachers. This would indicate then that the teachers in the larger schools spend more of their time teaching science and less of their time with other things than do the teachers of the smaller schools.

¹¹ Ibid., page 28

TABLE XIII

SCIENCE COMBINATIONS BY SUBJECTS

Science combined with:	Size of school									
	Men					Women				
	5.1- 9	9.1- 13	13.1- 50	Over 50	T	5.1- 9	9.1- 13	13.1- 50	Over 50	T
Just science	46	23	51	19	139	9	8	10	8	35
Supt. or Principal	37	8	3		48					
Supt. and math.	14				14					
Supt. and history	8				8					
Supt. and ind. arts	1				1					
Supt. and grades	3				3					
Supt. and agri.	3				3					
Supt. and commerce			1		1					
Supt. and English	1	1	1		3					
Supt., math., & comm.	2				2					
Supt., math., & Eng.	1				1					
Supt. and athletics	2	1			3					
Supt., ind. arts & ath.	1				1					
Supt., hist., & ath.	1				1					
Supt. and languages	1				1					
Mathematics	44	13	13		70	11	3	6		20
Math. and grades	4				4	1				1
Math. and history	1				1					
Math. and commerce	1				1					
Math. and English						1	1			2
Math. and ind. arts	2				2					
History or soc. stud.	11	2	3	1	17	2	1			3
History and English	1				1	1				1

Science combined with:	Size of school									
	Men					Women				
	5.1- 9	9.1- 13	13.1- 50	Over 50	T	5.1- 9	9.1- 13	13.1- 50	Over 50	T
English	2		1		3	7	2	3		12
English & home ec.						2		1		3
Commerce	3				3	1		2		3
Agriculture	12	3	2		17					
Industrial arts	3	2	2		7					
Industrial arts & grades	2	1	1		3					
Home economics						11	5			16
Home econ. & history						1				1
Grades or Jr. High	15	4	2		21	4	1	1		6
Art			1		1					
Athletics	6	3	7		16					
Music	5	3			8					
Religious science	1		1	1	3					
Hist., grades, ath.	1				1					
Speech	2		1		3					
Home ec. and grades						3				3
Math. and athletics	1	1	1	1	4					
Indust. and athletics	2		1		3					
History and athletics	1		1		2					
Library							1			1
Commerce & music			1		1					
Foreign language	3				3	1				1
Athletics & grades		1			1					
History & indust. arts	1				1					
Total	245	65	94	22	426	55	22	23	8	108

Total for both men and women 513

Table XIII shows the teaching combinations with science for the 534 teachers. Of this number 426 are men. One hundred thirty-nine teach only science. Ninety are superintendents or principals of schools, and are teaching 13 different subject combinations. Forty-eight of the superintendents teach only science. Mathematics and science is the most frequent subject combination for superintendents and principals, with 14 cases.

The greatest number of cases in any one combination is science, mathematics, and another combination, with 79 cases. Mathematics and science, with 70 cases, is the one of highest frequency. Grades and junior high, with 21 cases, is the second highest for men.

Of the 108 women science teachers there were 20 who combined mathematics with their science. There are 35, however, who teach nothing but science. Home economics is second highest, with 16 cases. English runs a close third with 12 cases.

There are in all 9 combinations of science and mathematics, with 122 cases, 99 for men and 23 for women.

There are 10 combinations of science and social studies, with 32 cases.

There are 6 combinations of science and English, with 23 cases.

There are 2 combinations of science and agriculture and 20 cases.

There are 3 combinations of industrial arts and science, and 18 cases.

With home economics there are 4 combinations and 23 cases.

With the grades there are 7 combinations and 37 cases.

Within the 5.1 to 9 teacher schools there are 43 combinations which the teacher may teach, and 300 cases.

Within the 9.1 to 13 teacher schools there are 17 subject combinations with 87 cases.

Within the 13.1 to 50 teacher schools there are 21 subject combinations with 117 cases.

Within the schools of over 50 teachers there are 3 combinations, with 30 cases.

Science Combinations
5.1 to 9 Teacher Schools

Of the 257 science teachers within the 5.1 to 9 teacher schools (Table XIV) 4 of them are teaching 6 classes of science. One of these teachers also teaches music part time. Fifty-six teach only one class in science. All of these teachers have some other class to teach. Sixteen are principals or superintendents. Six teach in the grades. Four teach one other

TABLE XIV
SCIENCE COMBINATIONS FOR 5.1 TO 9 TEACHER SCHOOLS BY NUMBER OF CLASSES

Number of science classes	NUMBER OTHER THAN SCIENCE																		
	High School Only					Superintendent					Grades								
	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	T
1		4	5	10	11	4	9	1	3	2	1		1	1	2			2	56
2		3	17	20	9	7	4	4	3	2	2	1	2	2	1			77	
3		9	15	13	4	1	6	3				3	2	1			1	58	
4		20	11	2		1	5	1			1	1	1					43	
5		15	2				1						1					19	
6		2	1				1											4	
Total	49	50	40	23	19	5	26	9	6	4	4	6	7	5	1	3		257	
Median number of science classes																			2.95
Median number of other high school classes																			1.88
Total median teaching load																			4.83

class; five teach 2 other classes, 10 teach 3 other classes, 11 teach 4

other classes, and 4 teach 5 other classes. Of the superintendents, 9 teach no other classes, one teaches one other class, 3 teach 2 other classes, 2 teach 3 other classes, and one teaches 4 other classes.

Seventy-seven teachers are teaching 2 science classes. Fifty-six teach other high school subjects. Fifteen are principals or superintendents, and 6 are grade school teachers. Of the 77, 3 teach no other high school subject, 17 teach one other, 20 teach 2 others, 9 teach 3 others, 7 teach 4 others. Of the superintendents or principals, 4 teach nothing but science, 4 teach one other subject, 3 teach 2 other, 2 teach 3 other, and 2 teach 4 other subjects.

Fifty-eight teach three classes of science. Of this number 42 teach other high school subjects. Nine are superintendents or principals, and 7 are grade school teachers. Nine teach no other subjects, 15 teach one other high school subject, 13 teach 2 other, 4 teach 3 other subjects, and one teaches 5 other subjects. In the case of superintendents and principals, 6 teach no other subjects, and 3 teach one other subject.

Forty-three teach science 4 periods per day. Twenty-four teach in high school only, 7 are principals or superintendents, and 2 are grade school teachers. Twenty teach one other high school subject, 11 teach one other subject, 2 teach 2 other subjects, and one teaches 4 other subjects. Five of the superintendents teach no other subject, one teaches one other subject, and one teaches 4 other subjects.

Nineteen teach science 5 periods per day. Seventeen teach in high school only, and one is a superintendent. Of the 19, 15 teach only science. Two teach one other subject. One is a superintendent who teaches nothing but science. The median number of science classes is 2.95. The median number of other high school classes is 1.88, while the total median teaching load is 4.83.

TABLE XV

SCIENCE COMBINATIONS FOR 9.1 TO 13 TEACHER SCHOOLS BY NUMBER OF CLASSES

Number of science classes	NUMBER OTHER THAN SCIENCE																		
	High School Only					Superintendent					Grades								
	0	1	2	3	4	5	0	1	2	3	4	0	1	2	3	4	5	T	
1	1			1	4	3						1						10	
2	2	2	2	2	1	1	3	2						1				16	
3		1	2	3			1											7	
4	7	7	2	1								2						19	
5	12	1										1						14	
6	5	2																7	
Total	27	13	6	7	5	4	4	2				4		1				73	

Median number of science classes 4.21
 Median number of other high school classes 1.54
 Total median teaching load 5.75

Table XV shows the teaching combinations of the 73 science teachers in 9.1 to 13 teacher schools. Of the 73 science teachers 10 are teaching only one class of science. Of these 10, one teaches no other classes, one teaches 3 other classes, 4 teach four other classes, and 3 teach 5 other classes. None of these 10 are superintendents or principals.

Sixteen are teaching 2 classes of science. Of this number 8 teach other high school classes. Two teach no other classes. Of the 8 teaching high school classes, 2 teach one other class, 2 teach 2 other classes, 2 teach 3 other classes, one teaches 4 other classes, and one teaches 5 other classes. Five are superintendents or principals. Three of this 5 teach no other classes, and 2 teach one class other than science.

TABLE XVI

SCIENCE COMBINATIONS FOR 13.1 TO 50 TEACHERS SCHOOLS BY NUMBER OF CLASSES

Number of: science classes	NUMBER OTHER THAN SCIENCE															T					
	High School Only					Superintendent					Grades										
	0	1	2	3	4	5	0	1	2	3	4	0	1	2	3		4	5			
1	1	1	1	1	4																8
2	1		1	6	2	1	1														12
3	3	3	3	1												1					11
4	10	11	2													1					24
5	30	1																			31
6	6																				6
Total	51	16	7	8	6	1	1				1	1									92

Median number of science classes 4.62

Median number of other high school classes88

Total median teaching load 5.50

Table XVI shows the science combinations for the 92 teachers in schools of 13.1 to 50 teachers. Of this number, 8 teach only one period of science per day. Seven of this eight teach other high school subjects. This leaves one, who teaches no other subject. One teacher teaches one other class, one teaches two other classes, one teaches 3 other classes, and 4 teach 4 other classes.

Twelve teach 2 classes of science each day. Nine teach other high school classes, and 2 are superintendents or principals. One teaches nothing but science, one teaches 2 other classes, 6 teach 3 other classes, and 2 teach 4 other classes. One of the superintendents teaches nothing but science, and one teaches one other subject.

Eleven teach three science classes per day. Of this number 7 teach other high school subjects, and one teaches in the grades. Three teach one other class, 3 teach 2 other classes, and one teaches 3 other classes. Three teach no other high school classes.

Twenty-four teach 4 classes of science per day. Thirteen of these teach other high school subjects. Of this 13, 11 teach one other class, and 2 teach 2 other classes. Ten teach no other high school classes.

Thirty-one teach 5 classes of science per day. One teaches one other high school class, and 30 teach no other classes.

Six teach 6 periods of science. These teachers teach nothing but science.

The median number of science classes is 4.62 classes per day. The median for other high school classes is 0.83 classes per day, which gives a total median teaching load of 5.50 classes per day.

TABLE XVII

SCIENCE COMBINATIONS FOR OVER FIFTY TEACHER SCHOOLS BY NUMBER OF CLASSES

Number of: science classes	NUMBER OTHER THAN SCIENCE																	
	High School Only					Superintendent				Grades								
	0	1	2	3	4	5	0	1	2	3	4	0	1	2	3	4	5	T
1	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2	:	2	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	2
3	:	2	2	:	:	:	:	:	:	:	:	:	:	:	:	:	:	4
4	:	3	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	3
5	:	17	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	17
6	:	4	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	4
Total	:	23	2	:	:	:	:	:	:	:	:	:	:	:	:	:	:	30

Median number of science classes 5.70

Median number of other high school classes 0

Total median teaching load 5.70

Table XVII shows the science combinations for the 30 teachers in schools of over 50. No teacher teaches less than 2 subjects in science. Two teach 2 classes of science each day. Four teach 3 classes in science. Two teach nothing but science, and 2 have other high school combinations, in which they teach one class. Three teach 4 periods of science, 17 teach 5 periods, and 4 teach 6 periods.

The median number of science classes taught per day is 5.70. The median of the other high school classes is 0.01. This gives a total of 5.71 as the total median teaching load.

TABLE XVIII

SCIENCE COMBINATIONS FOR ALL TEACHER SCHOOLS BY NUMBER OF CLASSES

Number of: science classes	NUMBER OTHER THAN SCIENCE											
	High School Only						Superintendent					
	0	1	2	3	4	5	0	1	2	3	4	
1	2	5	6	12	19	7	9	1	3	2	1	
2	8	19	23	17	10	1	8	7	3	2	2	
3	14	21	18	8		1	7	3				
4	40	29	6	1	1		5	1			1	
5	74	4					1					
6	17	3					1					
Total	155	81	53	38	30	9	31	12	6	4	4	
Per cent	34.29	17.92	11.73	8.41	6.64	1.99	6.86	2.65	1.33	.88	.88	

Number of: science classes	NUMBER OTHER THAN SCIENCE									
	Grades									
	0	1	2	3	4	5	Total	Per cent		
1	1	1	1	2		2	74	16.37		
2		1	3	2	1		107	23.67		
3		4	2	1		1	80	17.66		
4	3	1	1				89	19.47		
5	1		1				81	17.92		
6							21	4.65		
Total	5	7	8	5	1	3	452			
Per cent	1.11	1.55	1.77	1.11	.22	.66				

TABLE XVIII Continued

Median number of science classes	2.35
Median number of other high school school classes	3.56
Total median teaching load	5.91
Median number of science classes in small schools ¹²	2.62
Median number of other high school classes	3.07
Total median teaching load	5.69
Total per cent for high school only	80.98
Total per cent for superintendents	12.60
Total per cent for grades	6.40
Total per cent for small high school only ¹²	60.85
Total per cent for superintendents ¹²	16.98
Total per cent for grades ¹²	22.17
Median number of science classes ¹²	2.62
Median number of other high school classes ¹²	3.07
Total median teaching load ¹²	5.69

Table XVIII shows the science combinations for all schools of over 5 teachers in the state of Oklahoma. Complete information was obtained for 452 teachers. Of this number 74 or 16.37% teach only one class of science per day. Fifty-one or 80.98% teach in high school only, 16 or 12.60% are principals or superintendents, and 7 or 6.40% teach in the grades. Two of the 51 who teach in high school only teach no other subjects, 5 teach one other class, 6 teach 2 other classes, 12 teach 3 other classes, 19 teach 4 other classes, and 5 teach 7 other classes. Of the 16 superintendents and principals, 9 teach nothing but science, one teaches one other class, 3

¹²Ibid., page 43

teach 2 other classes, 2 teach 3 other classes, and one teaches 4 other classes.

One hundred and seven or 23.67% teach 2 science classes. Of this number 78 teach in high school only, 22 are superintendents and principals, and 7 teach in the grades. Of the high school group 8 teach no other classes, 19 teach one other class, 23 teach 2 other classes, 17 teach 3 other classes, 10 teach 4 other classes, and one teaches 5 other classes. Eight of the superintendents teach no other classes, 7 teach one other class, 3 teach 2 other classes, 2 teach 3 other classes, and 2 teach 4 other classes.

Eighty or 17.66% teach 3 classes of science each day. Sixty-one teach in high school only, 10 are superintendents and principals, and 8 are grade school teachers. Of the 61 high school teachers, 11 teach no other subjects, 21 teach one other class, 18 teach 2 other classes, 8 teach 3 other classes, and one teaches 5 other classes. Of the superintendents and principals, 7 teach nothing but science, and 3 teach one other subject.

Eighty-nine or 19.47% teach science 4 periods per day. Seventy-seven teach only in high school, 7 are principals or superintendents, and 5 are grade school teachers. Of the 77 high school teachers, 40 teach only science, 29 teach one other class, 6 teach 2 other classes, one teaches 3 other classes, and one teaches 4 other classes. Five of the superintendents teach nothing but the science, one teaches one other class, and one teaches 4 other classes.

Eighty-one or 17.92% teach 5 periods of science per day. Seventy-eight teach in high school only, one is a superintendent, and 2 teach in the grades. Seventy-four of the high school teachers teach nothing but science. Four teach one other high school subject. The superintendent teaches nothing but science.

Twenty-one or 4.65% teach 6 periods of science per day. Seventeen

teach nothing but science. Three teach one other high school subject. One is a superintendent.

The median number of science classes per day is 2.35. The median number of other high school classes is 3.56. The total median teaching load is 5.91 classes per day.

The median number of science classes for the small high schools is 2.62¹³. For the other high school classes it is 3.07 classes, which makes a total of 5.69 classes per day. The total median load varies only .22 class between the large and small high schools. Eighty per cent of the teachers in large high schools teach high school only, while it is only 60.85 per cent for the small schools.

¹³Ibid., page 43

CHAPTER III

SUMMARY OF THE FINDINGS OF THE STUDY. IMPLICATIONS AND RECOMMENDATIONS.

About 79% of the science teachers in schools of over 5 teachers in Oklahoma for 1939-40 were men. One hundred eight or 21% were women. Thirty-three or 6.62% are teaching their first year, 24 or 6.07% for men and 8.73% for women. The median experience for men is 7.05 years, and 5.49 years experience for women teachers. One hundred six or 21.07% of the science teachers are teaching their first year in the present district.

Eighty-three or 20.69% of the men and 22.54% of the women are teaching their first year in the present district. The median experience for men in the present district is 1.81 years, for women, 1.46 years. The median experience for both men and women is 1.74 years.

The median number of semester hours for college biology is 16 hours. The median for physiology is 4.25 hours, the median for physical science is 18.11 hours, and the median for geography is 5.50 hours. The median for psychology is low because in many cases the abbreviations used in designating psysiology and physics were the same. For this reason some of the physiology is probably included in physical science.

In the break down of the teaching fields, the median for biology is 15.67 hours, zoology 6.11 hours, botany 5.43 hours, physiology 4.25 hours, chemistry 9.45 hours, physics 7.68 hours, geology 5.84 hours, and geography 5.05 hours. Biology has the largest median number of hours.

The median number of semester hours of college science for men science teachers in the large secondary schools of Oklahoma is 36.44 semester hours of various sciences. The women had a median of 34.00 semester hours. The median for both men and women was 36.10 semester hours. Only 2 reported less than 5 hours of college work in science. Twenty-three reported over

95 hours in science.

There is a direct relationship between college training and salary. The median salary for 123 hours or under is \$85, for 124 to 153 hours it is \$125.57, for 154 hours and over it is \$148.46. This would indicate that the more college training the greater the salary for science teachers.

The more years experience a teacher has, the greater his salary. The median for teachers having no experience is \$88.13, for 1 to 3 years experience it is \$93.12, for 13 to 15 years it is \$155.67, for 16 to 18 years it is \$174.00, and for over 19 years it is \$187.00.

There is no direct relationship as to the size of school and teaching experience. The median years experience for these teachers is 6.56. The median for the most part was close to this for each of the sizes studied.

Mathematics, history, and superintendent, in the order given, are the most frequent combinations for men. Mathematics, home economics, and English are the most frequent combinations for women.

The median science teacher in large high schools of Oklahoma during 1939-40 taught 11.85 classes of science per week. He had a median of 2.38 science classes and 3.56 other classes each day, with a total teaching load of 5.91 classes per day.

TABLE XIX
COMPARISON BETWEEN SECONDARY SCHOOLS EMPLOYING MORE THAN 5 TEACHERS
AND THOSE EMPLOYING LESS THAN 5 TEACHERS

Teachers Employed	: Median : Exp. in : Years	: Median : Years in: : Present : Dist.	: Median : Hrs. for: : Biology	: Median : Hrs. for: : Physiol.	: Median : Hrs. for: : Physical : Science	: Median for : Total number : Sem. hrs. of : Science
Under 5	: 6.53	: 1.68	: 15.83	: 6.22	: 8.46	: 32.72
Over 5	: 6.73	: 1.74	: 16.00	: 4.25	: 18.11	: 36.10

Teachers Employed	: Median : Hrs. for: : Geog.	: Median : Science : Periods : Per wk.	: Median : Salary	: Median : Math. : Periods : Per wk.	: Median : History : Periods : Per wk.	: Total : Median : Teaching : Load
Under 5	: 5.50	: 9.19	: \$107.05	: 9.12	: 7.57	: 5.69
Over 5	: 5.40	: 17.39	: \$122.61	: 5.92	: 5.92	: 5.91

Table XIX shows that teachers in schools employing over 5 teachers have a little more experience, only a slightly better tenure in their present district; more hours of biology, physical science, and general science; a higher median salary; teach more science and fewer other subjects; and have about the same teaching load when compared with schools of under 5 teachers.

The writer feels that this thesis includes only a few of the significant facts which could be gathered about science teachers and science teaching.

It would be interesting to note the relative size of classes in the different size schools, the amount spent for laboratory and instructional apparatus, and the number of periods of laboratory instruction offered by each teacher. It would be interesting to repeat this study to see what effect national defense is having on science teaching.

County _____ Dist. No. _____ School _____ Post Office _____

APPLICATION FOR HIGH SCHOOL ACCREDITING, 1940-1941

This Copy for County
Superintendent's Files

STATE OF OKLAHOMA
DEPARTMENT OF EDUCATION
PART I. GENERAL INFORMATION
DIVISION OF HIGH SCHOOL INSPECTION

White _____
Colored _____

This application is to be filed with the State High School Inspectors, State Capitol, Oklahoma City, Oklahoma, prior to November 1. A copy is to be kept on file in the office of the local superintendent. Please Use Typewriter.

CERTIFICATE OF ACCURACY

I hereby certify that the information contained in the following report is complete and correct.

P. O. _____
R. F. D. or St. _____ Date _____ (Please sign here) Superintendent-Principal _____

Superintendent _____ Principal _____

Clerk of Board _____ Scholastic Enumeration, 1940 _____ Date regular term of school opened _____

No. Students received by transfer: Grades _____ H. S. _____ Are pupils transported to your school? _____

1. Do all teachers, principals, and superintendent now hold proper Okla. State certificates valid during school year _____
2. Are official transcripts showing H. S. and College work of all teachers on file in office of Prin. or Supt. _____
3. No. Librarians: Full-time _____ Part-time _____ Pupil _____ Teacher _____ Other adults _____
4. Is library catalogued according to Dewey Decimal System _____ Are library books recorded in accession book _____
5. Does library have regular charging system showing by whom and when books are withdrawn _____ returned _____
6. Do your records show by years, all units of pupils with teachers' marks _____
7. Are official transcripts of advanced standing credit allowed pupils from other H. S. on file in Prin's. office _____
8. Are credits transferred from other schools properly entered on pupils' permanent records _____
9. Are permanent H. S. records kept in fire-proof safe _____ Where are duplicate records kept? _____
10. Was a "High School Summer Term" (Not a split term) held during June or July _____
11. Was it authorized by the local superintendent and board of education _____
12. Was an application for accrediting the Summer High School made to this Department _____
13. Did you have a split term this summer _____ Number of weeks between split term and fall term _____
14. North Central schools give actual number of days taught for school year 1939-1940 _____
15. Give type of organization: (8-4), _____ (6-2-4), _____ (6-3-3), _____
16. Do you have an approved Junior High School? _____ Class A _____ Class B _____

17. PUPIL ENROLLMENT										Average daily attendance last year (Not %)	
Grade	At close of 1st 6 weeks this year		Total last year		Number promoted last year		Number retained last year		Average daily attendance last year (Not %)		
	1	2	3	4	5						
	B	G	B	G	B	G	B	G	B	G	
1											
2											
3											
4											
5											
6											
7											
8											
Total Gds.											
9											
10											
11											
12											
Total H. S.											

20. HIGH SCHOOL PUPIL-TEACHER RATIO
- a. Total number of teachers in the school system _____
(Account for all high school and elementary teachers, including superintendent and principal)
 - b. Number of full-time high school teachers _____
(Give all teachers, including superintendent and principal, who teach only in high school)
 - c. Number of part-time high school teachers _____
(Account here for each member not included in "b" above who teaches one high school class or more)
 - d. Full-time equivalency of part-time high school teachers _____
(Divide total number of periods taught daily by all part-time teachers by the average number of periods taught by all full-time teachers. Calculate to the first decimal place.)
 - e. Sum of "b" and "d" (above) _____
 - f. What is your pupil-teacher ratio? _____
(Divide pupil enrollment, table 17, Col. 1 by 20 "e". In computing Item 20 "f" be sure that your teaching staff and pupil enrollments are computed for the same grade; e.g., 9-10-11-12 or 10-11-12)
 - g. State which grades are used in 20 "f" above _____

18. Graduates (last year) High School: Boys _____ Girls _____ Total _____

19. Post Graduates (last year): Boys _____ Girls _____ Total _____ Eighth Grade Graduates (last year) _____

- No. High School pupils carrying for graduation credit
- a. Fewer than four units.....
 - b. Four units
 - c. More than 4 but less than 5 units.....
 - d. Five units
 - e. More than five units
 - f. Total High School enrollment.....
- No. Units required for graduation
- a. By local school
 - b. In college entrance units only.....
 - c. In English
 - d. In Mathematics
 - e. In American history
 - f. In laboratory science
 - g. in
 - h. In
 - i. In
- No. High School teachers teaching daily
- a. Fewer than four classes.....
 - b. Four classes
 - c. Five classes
 - d. Six classes
 - e. More than six classes.....
 - f. Total No. High School teachers.....

- 25. No. High School teachers teaching daily
 - a. Fewer than 141 pupils.....
 - b. 141-150 pupils
 - c. 151-160 pupils
 - d. More than 160 pupils
 - e. Total No. High School teachers.....
- 26. No. Elementary teachers having an Average Daily Attendance of
 - a. Fewer than 30 pupils
 - b. 30-39 pupils
 - c. More than 39 pupils
 - d. Total No. Elementary teachers.....
- 27. Check activities sponsored by school.....
 - a. homeroom
 - b. Assembly
 - c. Clubs
 - d. Newspaper
 - e. Annual
 - f. Handbook
 - g. Magazine
 - h. Student participation in Government.....
- 28. Does school provide for
 - a. Guidance
 - b. Library instruction
 - c. Physical and Health Education.....

24. LIBRARY (Use invoices and inventories)				29. LABORATORIES (Use invoices)			30. Readers for elementary grades	
Department	No. volumes added since last report	Cost of volumes added	Tot. number usable volumes	Subject and department	Cost of Equip. added since last report	Cost of equipment now available	Grade	No. sets
English fiction				General Agriculture			One	
English non-fiction				Biology			Two	
European History				Botany			Three	
American History				Zoology			Four	
Other social studies				Chemistry			Five	
Science				General Science			Six	
Occupational Agriculture				Physics			Grade	No. copies
Home Economics				Physiology			One	
Dictionaries				Geography			Two	
Cyclopedias				Voc. Agri.			Three	
Other general books				Home Econ.			Four	
Text books in high school				Ind. Arts			Five	
Library books for grades				Drawing			Six	
				Commerce			Total Grades 1-6	
				Music				

Name and Present Address	Name of Certificate Now in Force	HIGH SCHOOL FIELDS TAUGHT THIS YEAR					
		First Field		Second Field		Third Field	
		Name of Teaching Field	Semester Hours in Field	Name of Teaching Field	Semester Hours in Field	Name of Teaching Field	Semester Hours in Field
a	b	c	d	e	f	g	h
Example: Susie Mae Smith 100 East 20th St. Oklahoma City, Okla.	Soc. Sci. Gen. Sci.	Gen. Sci.	Chem. 8 Phys. 4 Biol. 4	Soc. Sci.	Eco. 4 Soc. 4 Gov. 4	Math.	
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

(Sign here) Superintendent-Principal.

33. PROGRAM OF STUDIES

Subject	No. units of credit	No. enrolled		Grades in which subject is offered	Number finishing course last yr.	Number retained in course last yr.	Subject	No. units of credit	No. enrolled		Grades in which subject is offered	Number finishing course last yr.	Number retained in course last yr.
		This yr.	Last yr.						This yr.	Last yr.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
English							Science						
English I							Physics						
English II							Chemistry						
English III							Phy. Geog.						
English IV							Com. Geog.						
Public Spkg.							Biology						
							Gen. Science						
							Gen. Agri.						
Mathematics							Applied Science						
Algebra I							Voc. Agri. I						
Algebra II							Voc. Agri. II						
Geometry							Voc. Agri. III						
Geometry							Voc. Agri. IV						
S. Arith.							Home Ec. I						
							Home Ec. II						
Social Studies							Home Ec. III						
U.S. & Civics							Home Ec. IV						
Modern Hist.							Mech. Draw.						
General Hist.							F. H. Drawing						
World Hist.							Shop						
U.S. & M. Hist.													
English Hist.													
U.S. Civics													
Economics													
Biology							Commerce						
Gov. in Dem.							Com. Law						
							Business Eng.						
Foreign Lang.							Bookkeeping						
Latin I							Shorthand						
Latin II							Typewriting						
French I													
French II													
Spanish I							Miscellaneous						
Spanish II							Psychology						
							Music (Th'y.)						
							Music (Ap'd.)						

Comment: Do not write in this space

School accredited for.....units last year.
 School applying for.....units this year.

Do not write in following spaces

Length of term in days.....
 School inspected by.....
 Date of inspection....., 19.....
 Action taken by Board of High School Inspection
 Date of approval....., 19.....
 Approved forUnits

Typist -- Lucille Philips