THE STATUS OF SCIENCE TEACHERS IN THE LARGE SECONDARY SCHOOLS OF ARKANSAS AND A COMPARISON WITH SECONDARY SCHOOLS OF OKLAHOMA 1942-43

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1924

Submitted to the Department of Secondary Education

Oklahoma Agricultural and Mechanical College

In Partial Fulfillment of the Requirements

for the Degree of

MASTER OF SCIENCE

1945

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PREFACE

The writer wishes to express his appreciation for the help and time given him by Dr. Clarence M. Pruitt, and Dr. M. R. Chauncey of the advisory committee. He also wishes to acknowledge the help rendered by the State Department of Education of the State of Arkansas, and personally to Ralph B. Jones, Commissioner of Education; Dr. M. R. Owens, head of Secondary Education; Crawford Greene, director of the division of administration and Mrs. Hazel Benton, for their cooperation in providing the opportunity to gather this information.

Everett C. Barnes

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CHAPTER I

INTRODUCTION

The purpose of this study is to obtain information concerning the status of science teachers in the large secondary schools in the State of Arkansas. The term large school means High Schools with five or more teachers. The term small school that is referred to is the High School of less than five teachers. Their status as to, college training, salary, size of school, years experience, combinations required and teaching load. Other aspects have been considered.

This study should prove interesting to school men and to any individual thinking of entering the science teacher field. One will see how much is expected of a science teacher as well as handling science. It is true that more is required of a science teacher today than ever before and you will note that many a science teacher left the field for better science jobs during these years of war. The comparisons made as to training, salary, experience and position will show you why so many teachers of science left the field at a time when experienced science teachers were needed. These records are worth while information for the State Department of Education to know about to aid in answering administrators and supervisors so as to better education.

The writer is interested in this problem because, for many years have strived to get the load lifted on science teachers so they can present their material which is very

essential to the well fare of the student, home, community and world as a whole. The supperting fields should be closely considered.

It was not possible to get all tables exactly right but a close enough value is obtained. There are always some teachers that do not supply the State Department with all information as requested, others are careless in the way their reports are turned in. When the teacher's load is too great efficiency in all departments will decrease.

Mr. Argus F. Smith, in 1941, completed a thesis on The Status of Science Teachers in the Large Secondary Schools of Oklahoma. He included schools of five teachers or more. His analysis considered college training, salary, years of experience, combinations required and teacher load. Since this thesis makes an analysis of the large schools in Arkansas, it should be interesting to compare the information found in the two studies. Thus Mr. Smith's very well organized data has been included.

Mr. John Payne's thesis completed in 1940 but unpublished problem was to analyze the status of the teachers in the small secondary schools of Oklahoma. The small secondary schools include High Schools of five teachers or less. In his analysis he considered salaries, years of experience, professional training, qualifications, years in present position and other requirements for teaching. As a comparison on relative standings of large and small schools may be of interest. To do this some

of Mr. Payne's data is included.

Sister Mary Lawrence Franz completed a thesis in 1942 on The Status Of Science In Catholic High Schools Of Oklahoma. The analysis of the findings is used in the comparisons table so that one may see how experience and training, and load is in Catholic Schools. Sister Mary Lawrence Franz's analysis is for all Catholic High Schools in the State of Oklahoma.

SOURCE OF DATA AND METHOD OF HANDLING

These data were obtained from files at the State Department of Education in Little Rock, Arkansas. The material is assembled by the State through the requirement of each principal or superintendent to file reports with the State Department. The information on the blanks is given at will by the teacher so many vary in hours and subjects. But their major work was listed. Many cases were found where the principal or superintendent had failed to give all information and blanks had to be returned to school for completion.

The term "large high school" used in this problem includes any school with more than five full time teachers. Three hundred and forty nine (349) schools were used ten (10) others were found unsatisfactory, in which a total of three hundred and eighty one (381) science teachers were employed.

The statistical method of study was used in this thesis. Data were transferred from the blanks to a large tabulation sheet which are equipped with places for records of experience, salaries and the other information needed in this investigation. All was tabulated and then placed in tables so as to obtain the median and mode.

The median was obtained by dividing the total by two, and counting to the interval having this number. If the median was found to be some where within an interval without taking all of it, the median was found by taking the number of cases remaining after those needed to complete the number 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 large end of the interval just above the interval with the number in it.

The mode was the interval having the most cases.

CHAPTER II

GENERAL AND PROFESSIONAL FACTORS

Men and Women Science Teachers

Complete information for three hundred and eighty one (381) secondary high school teachers in the field of science was available, from which number one hundred and seventy five (175) or 45.67 per cent were men, and two hundred and six (206) or 54.33 per cent were women.

Table I shows that the median for men science teachers is 9.21 years compared to 2.85 years experience for the women making a difference of 6.36. There were 18 men without teaching experience and 44 women or 16.27 per cent of the teachers in their first year of teaching. There were 23 men with one to three years experience compared to 62 women. The largest percentage of women teaching have only from one to three years experience, in fact 51.44 per cent of them have very little experience. In the group having seven to nine years of experience, there were 26 men, or 14.85 per cent compared to 18 women or 8.73 per cent. There were 20 men with ten to twelve years experience compared to 10 women. Also in the group having thirteen to fifteen years of experience there were 21 men compared to 14 women. There were 15 men compared to 6 women with sixteen to eighteen years of experience. There is a larger percentage of men than women found to continue in the science teaching field with twenty or more years of experience. There were 3 men with over thirty

TABLE I

TEACHING EXPERIENCE OF SECONDARY SCHOOL TEACHERS
OF SCIENCE BY SEX - 1942-43

Years of Experience	Men	Per cent	Women	Per cent	Total	Per cent
0	18	10.28	44	21.35	62	16.27
1-3	23	13.14	62	30.09	85	22.30
4-6	19	10.85	38	18.44	57	14.96
7-9	26	14.85	18	8.73	44	11.54
10-12	20	11.42	10	4.85	30	7.87
13-15	21	12.00	14	7.06	35	9.20
16-18	15	8.75	6	2.91	21	5.51
19-21	14	7.88	5	2.42	19	5.01
22-24	4	2.28	5	2.42	9	2.36
25-27	8	4.56	1	.48	9	2.36
28-30	4	2.28	1	.48	5	1.31
31-On	3	1.71	2	.77	5	1.31
Total	175	100	206	100	381	100

Median experience men . . . . . 9.21 years

Median experience women . . . . . 2.85 years

Median experience both . . . . . 5.28 years

Median experience large Okla. high schools[1] . 6.73 years

Median experience small Okla. high schools[2] . 6.53 years

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[1] Argus F. Smith, The Status Of Science Teachers In The Large Secondary Schools Of Oklahoma, thesis 1939-40 p. 6.

[2] James Payne, The Status Of Science Teachers In The Small Secondary Schools Of Oklahoma, thesis unpublished 1939-40 p. 5.

years of experience and 2 women. This is exceptional, no doubt the long tenure is due to establishment of the individuals in the district and to their not wishing to better their condition. All were found to be receiving small pay.

The trend as far as years of experience in Arkansas and Oklahoma is about the same. Findings show that the majority of science teachers now employed are lacking experience.

Mr. Smith found that the median experience for men and women in the large high schools was 6.73 years[3]. This shows an advantage in Oklahoma over Arkansas of .55 years.

Findings by Mr. Payne in the small high schools of Oklahoma was 6.53 years[4]. This gives an advantage of .20 to the large schools in Oklahoma. This shows very little difference in the experience of science teachers for the whole State of Oklahoma. But it does point out that about half of the teachers have six or less years of experience. It is interesting to note that the greatest number of teachers in small schools fall in the interval between one and three years, while in the larger schools it is four to six years.

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[3] Argus F. Smith, Op. cit. p. 6.

[4] James Payne, Op. cit. p. 5.

YEARS OF EXPERIENCE WITHIN PRESENT SCHOOL DISTRICT

Information was found for three hundred eighty one (381) science teachers, of which one hundred seventy (170) or 44.61 per cent were men, and two hundred eleven (211) or 55.39 per cent women.

Table II shows that the median experience in the districts was 1.42 years for the men and women. The men have an advantage in this case of .59 years, women were .91 years men 1.50 years. There were 71 or 41.76 per cent of men and 117 or 55.45 per cent of the women teaching in the district for the first time. There were 13 men or 7.64 per cent who had been in district over fourteen years and only 9 or 4.26 per cent women. You will note that the median years of experience for all teachers is 5.28 years while the tenure in the district is only 1.42 years. The teacher having the greatest experience in the district is a man with thirty five years.

In Mr. Smith's study of large high schools in Oklahoma he found median to be for both 1.74 years[5]. In Arkansas it is found to be 1.42 years this shows teachers of science in years experience higher in Oklahoma than Arkansas.

Mr. Payne found in the small school it was 1.68 years[6]. Compared to large schools in Oklahoma the large schools have a slight advantage of experience of .06 years[7].

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[5] Argus F. Smith, Op. cit. p. 8.

[6] James Payne, Op. cit. p. 7

[7] Argus F. Smith, Op. cit. p. 7.

TABLE II

YEARS EXPERIENCE WITHIN PRESENT SCHOOL DISTRICT

Years in District	Men	Per cent	Women	Per cent	Total	Per cent
0	71	41.76	117	55.45	188	49.34
1	28	16.46	31	14.69	59	15.48
2	13	7.64	16	7.65	29	7.61
3	8	4.64	9	4.26	17	4.46
4	9	5.50	8	3.78	17	4.46
5	13	7.64	7	3.31	20	5.24
6	2	1.17	2	.94	4	1.05
7	7	4.06	3	1.42	10	2.67
8			4	1.89	4	1.05
9	3	1.74	1	.47	4	1.05
10	1	.58			1	.26
11			1	.47	1	.26
12			2	.94	2	.52
13	2	1.17	1	.47	3	.78
14-on	13	7.64	9	4.26	22	5.77
Total	170	100	211	100	381	100

Median experience men . . . . . 1.50 years

Median experience women . . . . . .91 years

Median experience both . . . . . 1.42 years

Median experience large Okla. high schools[8] . 1.74 years

Median experience small Okla. high schools[9] . 1.68 years

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[8] Ibid., p. 8.

[9] James Payne, Loc. cit.

This median as compared in Arkansas is .32 years. There does not seem to be much difference in Oklahoma and Arkansas schools.

SEMESTER HOURS OF COLLEGE TRAINING OF SCIENCE TEACHERS

This is the training hours for three hundred ninty one (391) science teachers.

Table III-A shows thirty two (32) of the three hundred ninty one (391) were not classified; thus, only three hundred fifty nine (359) could be considered in the table. The median for biology is 13.64 hours and for physical science, 18.92 hours. The reports from the districts did not require the teacher to list all their training but only the hours they had in the specified field. Many classified as science teachers listed other training in preference to science. This table is not a good representation of the science teachers because the reports did not list their complete hours of training.

Mr. Smith found in large Oklahoma schools that the median for biology was 16.00 hours, and for physical science 18.11 semester hours[10]. Compared with Arkansas biology 13.64 hours physical science 18.92 semester hours. The science teacher of the two states, as far as training, compare on the same par. Science teachers are required to have the necessary hours before they enter the teaching field.

Mr. Payne finds in the small schools[11] median biology 15.83

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[10] Argus F. Smith, Loc. cit. p. 10.

[11] James Payne, Loc. cit. p. 9.

TABLE III-A

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE TEACHING FIELDS

Semester Hours	Biology	Physiology	Physical Science	Geog.	Unclassified
1-4	7	7	14	6	
5-8	28	11	29	10	4
9-12	30	6	43	3	5
13-16	17	2	30	2	5
17-20	24	2	42	2	3
21-24	17		30	1	4
25-28	5	1	29		2
29-32	6		23		3
33-36	4		10		2
37-40	2		15		1
41-44			10		1
45-48	1		7		
49-52	1		3		
53-56			2		2
57-60			2		
61-on	2		5		
Total	144	29	294	24	32
Median	13.64	6.72	18.92	2.40	
L. Okla.[12]	16.00	4.25	18.11	5.50	
S. Okla.[13]	15.83	6.22	8.46	5.40	

[12] Argus F. Smith, Loc. cit.

[13] James Payne, Loc. cit.

hours and 8.46 hours for physical science.

The comparison made between the small and large schools favor large schools. A better opportunity to specialize in a few subjects.

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE BY SUBJECTS

Table III-B shows the semester hours of college training in science by subjects. The median for biology is 10.68 semester hours, chemistry 9.20 hours, physics 7.92 hours, while for zoology, botany, physiology and geography there are comparatively few hours listed. An explanation for the few hours in varied subjects is that the majority of teachers list their hours as biology or science and do not break it down into individual units. It is easy to see from the table that the science teachers have distributed their work over all science subjects. This gives a better knowledge of science in general and naturally tends to make a better teacher.

Two women were found to have over ninty five (95) hours of biology and one man had eighty one (81) hours of physics.

TABLE III-B

SEMESTER HOURS OF COLLEGE TRAINING IN SCIENCE BY SUBJECTS

Sem Hours	Biol	Zool	Bot	Phy	Chem	Phys	Geol	Geog
1-4	31	13	15	21	32	22	11	20
5-8	77	25	23	37	68	44	3	44
9-12	71	12	13	19	69	24		12
13-16	44	7	9	6	13	15		8
17-20	37	1	5	4	24	15		
21-24	21		1	1	10	6		1
25-28	7	1			7			
29-32	8			1	4	3		1
33-36	7				1			
37-40	3				1	2		
41-44					2	1		
45-48	1				1			
49-52	1							
53-56								
57-60								
61-on	2					1		
Total	310	59	66	89	242	133	14	84
Median	10.68	6.64	7.12	6.52	9.20	7.92	2.52	4.40
L. Okla.[14]	15.67	6.11	5.43	4.25	9.45	7.67	5.84	4.05

[14] Argus F. Smith, Op. cit. pp. 12-13.

TOTAL NUMBER OF SEMESTER HOURS OF SCIENCE

In table IV is information for three hundred and eighty one (381) teachers. One hundred and seventy one (171) men and two hundred and ten (210) women. The median for the men was 29.30 semester hours compared to the women of 20.20 semester hours. There is a difference of 9.10 hours.

The peak of semester hours of science is sixteen to twenty hours with 46 women or 21 per cent and 20 men or 14 per cent. From twenty to fifty hours the men have the greatest per cent of science hours, but there is a larger per cent of science for women with from five to two hours training. There was one women with one hundred and fifteen hours of science, another with ninty five hours and one man listed ninty one (91) hours.

The comparison between large schools in Oklahoma and Arkansas shows Oklahoma a little better qualified. The comparison between the small and large school as expressed by Mr. Smith[15] where he uses Mr. Payne's[16] figures indicates science teachers better qualified in the large schools.

Oklahoma schools are 11.9 per cent better qualified than Arkansas.

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[15] Ibid., p. 15.

[16] James Payne, Loc. cit. p. 11.

TABLE IV

TOTAL NUMBER OF SEMESTER HOURS OF SCIENCE

Hours	Men	Per cent	Women	Per cent	Total	Per cent
0-5	4	2.34	7	3.33	11	2.88
6-10	12	7.01	22	10.47	34	8.92
11-15	19	11.11	29	13.80	48	12.33
16-20	20	14.61	46	21.90	66	18.01
21-25	15	8.18	22	10.47	37	9.68
26-30	18	8.89	16	7.61	34	8.92
31-35	11	6.41	12	5.64	23	5.98
36-40	19	11.11	13	6.49	32	8.32
41-45	15	8.18	11	5.17	26	6.76
46-50	13	7.60	10	4.70	23	5.98
51-55	7	4.08	7	3.33	14	3.64
56-60	7	4.08	5	2.35	12	3.12
61-65	4	2.34	3	1.42	7	1.82
66-70	2	1.16	2	.95	4	1.04
71-75	2	1.16	2	.95	4	1.04
76-80	1	.58	1	.47	2	.52
81-85	1	.58			1	.26
86-90						
91-on	1	.58	2	.95	3	.78
Total	171	100	210	100	381	100

TABLE IV (continued)

COMPARISON BY SEMESTER HOURS

Median men	29.30 semester hours
Median women	20.20 semester hours
Median both	24.20 semester hours
Median both large high schools Okla.[17]	36.10 semester hours
Median both small high schools Okla.[18]	32.72 semester hours

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RELATION OF COLLEGE TRAINING TO MONTHLY SALARY

Table V shows the relation of college training to monthly salary for three hundred and eighty (380) science teachers. Findings show 107 have less than 123 hours of college training 229 have between 124 and 153 hours of training and 44 have over 154 hours. I find 61 or 57.22 per cent of the teachers with less than 123 hours of training do not draw over eighty five (85) dollars a month and 22 or 20.46 per cent are paid up to one hundred dollars. Of those with over 124 hours and up to 153 hours 65 or 29.48 per cent only get up to eighty five dollars a month and 42 or 18.06 per cent draw up to one hundred dollars, 27 or 11.61 per cent get up to one hundred and fifteen dollars. Findings show 40 of the teachers who have between 124 and 153 hours of training get better than two hundred (200) dollars per month of that group 8 or 3.44 per cent get over

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[17] Argus F. Smith., Loc. cit. p. 15.

[18] James Payne., Loc. cit. p. 11.

two hundred and fifty one (251) dollars per month.

For those with 154 hours or over of college training 5 or 11.35 per cent get only eighty five dollars per month, 6 or 13.62 per cent get up to one hundred dollars. Then a decided jump up to one hundred and forty six (146) dollars a month there are 7 or 16.11 per cent followed by 5 or 11.35 per cent get up to one hundred and seventy five (175) dollars, 5 or 11.35 per cent get up to two hundred and five (205) dollars per month. Also 5 or 11.35 per cent get up to two hundred and thirty five (235) dollars a month and 6 or 13.62 per cent get over two hundred fifty one (251) dollars a month.

For the entire table 131 or 35.26 per cent of the science teachers only get up to eighty five (85) dollars per month, 70 or 18.20 per cent only get one hundred (100) dollars and 33 or 8.58 per cent get one hundred and fifteen (115) dollars. As a whole science teachers draw very small pay for the services rendered.

One teacher had two hundred and thirty five hours of college training but received a very low salary. Another had one hundred and ninty eight (198) hours of training and ten (10) years of experience and was only getting eighty five (85) dollars per month. There are 8 teachers that received less than sixty (60) dollars per month. In another case 4 teachers were working for nineteen (19) dollars per month.

The median salary for groups with 123 hours training and under is eighty two and five one hundredths (82.05) dollars

per month. For 124 to 153 hours it was one hundred and four and five one hundredths (104.05) dollars per month. Those over 154 hours, the median is one hundred and fifty seven and seventy five one hundredths (157.75) dollars. You will note the relation between salary and college training. Science teachers without college training and experience do not get a living wage.

From Mr. Smith's findings in Oklahoma large schools the median is $122.61[19]. For the large schools in Arkansas it is $97.60. Between Mr. Payne's [20] findings for small schools in Oklahoma are $107.05. The pay goes in favor of the larger amount of college training. Also the larger schools pay higher salaries. There is no doubt that the salaries are much higher in the larger high schools in Arkansas than in the smaller ones. The smaller schools do not have sufficient funds to support them.

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[19] Argus F. Smith., Op. cit. p. 17.

[20] James Payne., Op. cit. p. 13.

TABLE V

RELATION OF COLLEGE TRAINING TO MONTHLY SALARY

Salary Per mo.	Semester Hours: up to 123	Per cent	124 to 153	Per cent	154 on	Per cent	Total	Per cent
$70-85	61	57.22	65	29.48	5	11.35	131	35.26
86-100	22	20.46	42	18.06	6	13.62	70	18.20
101-115	5	4.65	27	11.61	1	2.27	33	8.58
116-130	3	2.79	16	6.88	4	9.08	23	5.98
131-145	4	3.72	14	6.02			18	4.68
146-160	4	3.72	11	4.73	7	16.11	22	5.72
161-175	1	.93	10	4.30	5	11.35	16	4.16
176-190	3	2.79	10	4.30			13	3.38
191-205	2	1.86	13	5.59	5	11.35	20	5.20
206-220	1	.93	2	.86			3	.78
221-235			8	3.44	5	11.35	13	3.38
236-250	1	.93	3	1.29			4	1.04
251-up			8	3.44	6	13.62	14	3.64
Total	107	100	229	100	44	100	380	100

Median salary 123 and under . . . . . $ 82.05

Median salary 124 to 153 hours 104.05

Median salary 154 and over 157.75

Median salary total 97.60

Median salary large high schools Okla.[21] 122.61

Median salary small high schools Okla.[22] 107.05

[21] Argus F. Smith., Loc. cit. p. 17

[22] James Payne, Loc. cit. p. 13.

RELATION OF EXPERIENCE TO MONTHLY SALARY

There were three hundred and seventy eight (378) science teachers considered in table VI. The salary range is from seventy to two hundred and forty dollars per month. The tables show that as the experience increases the salary increases. The median of teachers without experience is 90.62 dollars, while teachers with one to three years experience receive 92.69 dollars. The greater increases are found higher up the scale.

The mode lies in the interval of eighty to ninty which is 22.78 per cent of the teachers.

From the three hundred and seventy eight (378) teachers two hundred and twenty five (225) of them are getting less than 120 dollars a month, making the mode from zero to three years teaching experience. Sixty are teaching their first year and the findings show them receiving very low pay because of their experience.

The median years experience for 495 teachers in Oklahoma for the large high schools is 6.61[23] and median salary for same is $128.11.

Mr. Payne found in the small high schools the salary was $111.47 and the years of experience 6.61[24].

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[23] Argus F. Smith., Op. cit. p. 20.

[24] James Payne., Op. cit. p. 15.

TABLE VI

RELATION OF EXPERIENCE TO MONTHLY SALARY

Salary Per mo.	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	13	21.58	18	21.06	10	17.50	5	9.80	2	8.00
80-89	15	25.30	22	26.29	14	24.75	7	13.72	7	28.00
90-99	7	11.62	6	7.02	4	7.00	8	19.64	2	8.00
100-109	10	16.60	11	12.87	5	8.75	3	5.88	2	8.00
110-119	8	13.28	8	9.36	3	5.25	1	1.96	1	4.00
120-129	1	1.66	4	4.68	5	8.75	3	5.88	1	4.00
130-139	1	1.66	4	4.68			3	5.88		
140-149	1	1.66	3	3.51	3	5.25	2	3.92	2	8.00
150-159			4	4.68	3	5.25	3	5.88	1	4.00
160-169	2	3.32			5	8.75	3	5.88		
170-179			1	1.17			1	1.96		
180-189					1	1.75	2	3.92	1	4.00
190-199			1	1.75	1	1.75	1	1.96		
200-209			2	2.34	2	3.50	4	7.84	2	8.00
210-219										
220-229	2	3.32	1	1.17	1	1.75	2	3.92	1	4.00
230-239										
240-up							1	1.96	3	12.00
Total	60	100	85	100	57	100	51	100	25	100
Median Salary	$ 90.62		92.69		99.80		111.75		105.75	

TABLE VI (continued)

RELATION OF EXPERIENCE TO MONTHLY SALARY

Salary Per mo.	Total years of teaching experience							
	13-15	Per cent	16-18	Per cent	19-up	Per cent	Total	Per cent
$70-79	1	2.77	1	5.00	5	11.35	55	14.30
80-89	4	11.08	5	25.00	5	11.35	79	22.78
90-99	4	11.08			1	2.27	32	8.32
100-109	4	11.08	1	5.00	4	9.08	40	10.40
110-119	1	2.77	1	5.00	1	2.27	24	6.24
120-129	4	11.08	2	10.00	1	2.27	21	5.46
130-139							8	2.08
140-149	2	5.54	1	5.00			14	3.64
150-159	3	8.31	1	5.00	4	9.08	19	4.94
160-169	2	5.54	1	5.00	3	6.81	16	4.16
170-179	1	2.77			1	2.27	4	1.04
180-189	1	2.77	1	5.00	3	6.81	9	2.34
190-199	1	2.77	1	5.00	1	2.27	6	1.56
200-209					7	15.89	17	4.42
210-219								
220-229	3	8.31	2	10.00	2	4.50	14	3.64
230-239								
240-up	5	13.85	3	15.00	6	13.62	18	4.68
Total	36	100	20	100	44	100	378	100
Median Salary	$139.00		139.00		159.97		103.77	

TABLE VI (continued)

SALARIES IN LARGE AND SMALL SCHOOLS

Years of Experience	Median salaries: Large Ark. Schools	Large Okla. Schools[25]	Small Okla. Schools[26]
0	$ 90.62	$ 88.13	$ 82.12
1-3	92.69	93.12	92.60
4-6	99.90	130.82	110.06
7-9	111.75	134.55	122.50
10-12	105.75	139.00	121.50
13-15	139.00	155.67	120.00
16-18	139.00	174.00	150.00
19-up	15997	187.00	140.75
Median	103.77	128.11	111.47

Median years experience Ark. large schools . . . 5.21

Median years experience Okla. large schools. . . 6.61

Median years experience Okla. small schools. . . 6.53

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[25] Argus F. Smith,. Op. cit. p. 23.

[26] James Payne,. Op. cit. p. 15.

RELATION OF TEACHING EXPERIENCE AND SIZE OF SCHOOL

This information for table VII is compiled from three hundred and seventy nine (379) teachers. Of this number 122 or 32 per cent taught in schools having from 5.1 to 6 teachers with a median experience of 4.32 years. The mode is the interval between one and three years of experience.

There were thirty seven (37) or 9 per cent teaching in schools from 6.1 to 7 teachers. Median experience here is 5.49 years. The mode is for this group the interval between four and six years of experience.

In the schools of 7.1 to 8 teachers there were thirty two (32) or 8 per cent employed. The median is 5.25 years. The mode is at interval between one and three years.

In schools of 8.1 to 9 teachers there were thirty two (32) or 8 per cent employed. The median is 7.50 years. The mode is at interval between seven and nine years.

In schools of 9.1 to 10 teachers there were twenty seven (27) or 7 per cent employed. The median of this group is 5.73 years. The mode for these teachers is interval between one and three years of experience.

In schools of 10.1 to 11 teachers there were twenty (20) or 5 per cent employed. The median years of teaching experience for this group is 2.40. The mode is between one and three years of experience.

In the schools of 11.1 to 12 teachers there are twenty three (23) or 6 per cent employed. The median of this group

TABLE VII

RELATION OF TEACHING EXPERIENCE AND SIZE OF THE SCHOOL

No. of Years	Number of teachers in school: 5.1-6	Per cent	6.1-7	Per cent	7.1-8	Per cent	8.1-9	Per cent
0	21	17.61	5	13.20	5	15.60	5	15.76
1-3	32	27.20	6	15.84	8	25.12	2	6.24
4-6	18	14.58	9	26.08	4	12.48	6	18.72
7-9	12	9.72	5	13.20	3	9.36	6	18.72
10-12	9	7.29	2	5.28	5	15.60	2	6.24
13-15	7	5.67	3	7.92	3	9.36	3	9.36
16-18	7	5.67	4	10.56	1	3.12	3	9.36
19-21	7	5.67	1	2.64	1	3.12	1	3.12
22-up	9	7.29	2	5.28	2	6.24	4	12.48
Total	122	100	37	100	32	100	32	100
Median	4.32		5.49		5.25		7.50	
Okla.[27]	6.86		6.00		3.64		5.00	

is 2.85 years of experience. The mode is between one and three yeers of experience.

In the schools with 12 or more teachers there were eighty six (86) or 22 per cent employed. The median for this group was 6.27 years of experience. The mode falls between four and six years of experience.

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27 Argus F. Smith., Loc. cit. p. 24.

TABLE VII (continued)

RELATION OF TEACHING EXPERIENCE AND SIZE OF THE SCHOOL

No. of Years	Number of teachers in school: 9.1-10	Per cent	10.1-11	Per cent	11.1-12	Per cent	12.1-up	Per cent
0	8	29.60	6	30.00	2	8.68	14	16.24
1-3	6	22.20	5	25.00	10	43.34	11	12.76
4-6	2	7.40	1	5.00	2	8.68	17	19.72
7-9	3	11.10	4	20.00			11	12.76
10-12			1	5.00	5	21.70	3	3.48
13-15	3	11.10	1	5.00	2	8.68	12	13.92
16-18	3	11.10					5	5.80
19-21	1	3.70					5	5.80
22-up	1	3.70	2	10.00	2	8.68	8	9.28
Total	27	100	20	100	23	100	86	100
Median	5.73		2.40		2.85		6.27	
Okla.[28]	5.70		6.33		7.00		7.50	

The findings here do not indicate that there is very much relationship between the years of experience and the size of the school.

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[28] Ibid., p. 25.

TABLE VII (continued)

RELATION OF TEACHING EXPERIENCE AND SIZE OF THE SCHOOL

Years of Experience	Number of teachers in school	
	Total	Per cent
0	66	19.40
1-3	80	20.80
4-6	59	15.34
7-9	44	11.44
10-12	27	7.02
13-15	34	8.84
16-18	23	5.98
19-21	16	3.38
22-up	30	7.80
Total	379	100.00

Median 5.22

Median of total in Oklahoma schools[29] 6.56

TEACHING LOAD OF SCIENCE TEACHERS FOR 5.1 TO 9 TEACHER SCHOOLS

Table VIII shows the teaching load for two hundred and eleven (211) science teachers within the 5.1 to 9 teacher school. Note there were 18 subjects which science teachers

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[29] Ibid., p. 26

TABLE VIII

TEACHING LOAD OF SCIENCE TEACHERS FOR 5.1 TO 9 TEACHER SCHOOLS

Periods per wk.	Subjects they teach: math	Eng	hist	sci	Ind art	H. Ec	cml	ath	agr	gov	other	Total
1-5	26	12	24	59	1	4	1	2	1	6	18	158
6-10	27	13	21	73	1	10	4	3		2	2	156
11-15	14	5	10	46		7				2	2	87
16-20	10	6		18		4	1	1	1	1	1	42
21-25	2	4		7								13
26-30				7								7
31-up				1								1
Total	79	40	55	211	2	25	6	6	2	10	23	464

	Ark.	Okla.[30]
Median teaching science	8.15	9.23
Median teaching mathematics . . .	7.50	6.00
Median teaching history	5.80	4.28

were called upon to teach along with their science classes. Seventy nine (79) science teachers also teach additional classes in mathematics. Twenty six (26) teach five periods a week, twenty seven (27) teach ten periods per week, fourteen (14) have fifteen periods per week and two (2) teach five

[30] Ibid., p. 29.

periods per day of mathematics and one period of science. In English twenty five (25) teach two to three periods a day and the rest science; also history is taught by many science teachers two to three periods per day.

In the 5.1 to 9 teacher schools a science teacher is expected to teach science one to three periods a day and then allied subjects the rest of the day. Thus science in this size school must suffer for the lack of time and preparation.

The median for science in the 5.1 to 9 teacher school is 8.15 for science, 7.50 for mathematics, and 5.80 for history.

TEACHING LOAD OF SCIENCE TEACHERS FOR 9.1 TO 13 TEACHER SCHOOLS

Table IX shows that in 9.1 to 13 teacher schools there were eighty nine (89) science teachers. There are sixteen (16) other subjects which a science teacher may be called upon to teach. Findings show thirty one (31) teaching mathematics, six (6) teaching English, and ten (10) teaching history. The median for science is 10.95, mathematics 7.65 periods per week and history 6.65 periods per week. This group 9.1 to 13 teacher school spend about half of their time teaching science and the rest for allied subjects. The mode in mathematics is two periods per day so their time is divided between science and mathematics. This is better as the two subjects go along well in the teaching field. Science needs mathematics and mathematics creates greater scientists.

TABLE IX

TEACHING LOAD OF SCIENCE TEACHERS FOR 9.1 TO 13 TEACHER SCHOOLS

Periods per wk.	Subjects they teach: math	Eng	hist	sci	Ind art	H. Ec	cml	ath	agr	gov	other	Total
1-5	8	2	4	24				1	6	2	6	47
6-10	14	2	3	18			1	1		1	2	42
11-15	4		2	13				1	1		1	22
16-20	3	1	1	13		3						21
21-25	2	1		10			1					14
26-30				10			1					11
31-up				1								1
Total	31	6	10	89		3	3	3	7	3	9	158

	Ark.	Okla.[31]
Median teaching science	10.95	16.11
Median teaching mathematics	7.65	7.50
Median teaching history	6.65	5.00

[31] Ibid., p. 31

TEACHING LOAD OF SCIENCE TEACHERS FOR 13.1 TO 50 TEACHER SCHOOLS

The teaching load for science teachers shown in table X for teachers in 13.1 to 50 teacher schools is for sixty five (65) schools. The variation of subjects besides science taught is not great compared to in the smaller schools. The science teacher still is required to teach mathematics, English, and history. There are seventeen (17) teaching mathematics and science, four (4) teaching English, and seven (7) teaching history. There are five (5) that teach science and coach athletics. The median for those teaching science is 19.00. The mode for science is in the interval 26 to 30 or 5 periods per day. Many in this group do not teach as many periods per day as is required in the 5.1 to 9 teacher school. There are eighteen (18) or 27 per cent of the science teachers in the 13.1 to 50 teacher school that teach 6 periods of science per day. Also, we find twelve (12) or 19 per cent that have 5 periods of science per day, one teacher has English as the extra period. The others have the period free to give them time to make preparation for laboratory work and demonstration of subject matter. There are thirteen (13) or 20 per cent that teach four (4) periods per day of science and two (2) of this group teach two (2) periods per day of mathematics, and two (2) teach two (2)

TABLE X

TEACHING LOAD OF SCIENCE TEACHERS FOR 13.1 TO 50 TEACHER SCHOOLS

Periods per wk.	math	Eng	hist	sci	Ind art	H. Ec	cml	ath	gov	agr	other	Total
1-5	6	2		8				3	1	1	3	24
6-10	5	1	3	7				2			1	19
11-15	4		2	7								13
16-20	2		2	13								17
21-25				12								12
26-30		1		18								19
31-up												
Total	17	4	7	65				5	1	1	4	104

	Ark.	Okla.[32]
Median teaching science	19.00	18.96
Median teaching mathematics	7.50	10.00
Median teaching history	11.25	5.00

periods per day of history.

The findings of table X show the main supporting subjects are mathematics, history, athletics and English as well as administrative work.

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32 Ibid,. p. 33

TEACHING LOAD OF SCIENCE TEACHERS FOR SCHOOLS OF OVER 50 TEACHERS

Table XI gives information about science teachers for schools of over 50 teachers of which there are only two (2) schools and twelve (12) science teachers.

It was found that five (5) of this group are required to teach six (6) periods of science per day having no time for preparation of laboratory or demonstration work. Most of these teachers carrying six (6) periods per day were in one school. There were two (2) biology teachers that had two (2) periods of science, one of mathematics and one of English per day. One taught three (3) periods per day of science and athletics the remainder of the day. The four (4) that had three (3) periods of science had one additional subject to teach. Only one (1) taught science four (4) periods per day with no additional work.

The trend in the large 50 teacher school is not to require the science teacher to handle any other subjects except their own. This enables them to specialize more and to do a better job.

The mode is the interval of 11 to 15 periods per week which is 3 periods per day. The median is 15 periods per week.

TABLE XI

TEACHING LOAD OF SCIENCE TEACHERS FOR SCHOOLS OF OVER 50 TEACHERS

Periods per wk.	Subjects they teach												
	math	Eng	hist	sci	Ind art	H. Ec	cml	ath	agr	gov	other	Total
1-5	1	1						1				3
6-10	1			2						1		4
11-15				4								4
16-20				1								1
21-25												
26-30												
31-up				5								5
Total	2	1		12				1		1		17

TEACHING LOAD OF SCIENCE TEACHERS FOR ALL TEACHER SCHOOLS

Table XII showing the load for all schools of five (5) teachers and up contains the information of three hundred and seventy (370) science teachers.

Here you find ninty one (91) teach science 1 to 5 periods per week, ninty three (93) teach it 6 to 10 periods, seventy (70) teach 11 to 15 periods, forty five (45) teach 16 to 20 periods, twenty nine (29) have 21 to 25 weekly periods, thirty five (35) have science 26 to 30 periods per week or 5 periods per day. There are seven (7) teach over 30 periods per week,

which means 6 periods per day. The mode for science is 6 to 10 periods per week.

Also the table shows one hundred and twenty nine (129) or 34 per cent teach mathematics and science, fifty one (51) or 13 per cent have English and science, while seventy two (72) or 19 per cent combine history with science. Then there are twenty eight (28) or 7 per cent that combine science and home economics. The findings show that fifteen (15) of the group handle athletics with science and eighteen (18) teach civics or some form of government and science. There are thirty six (36) that had other varied subjects included with their science.

The majority of wide combinations are in the 5.1 to 9 teacher school.

The median for the science teacher in all schools is 10.05 periods per week for mathemathics, 6.45 for history 6.45.

The median for the same subjects in large schools in Oklahoma is science 17.39, mathematics 5.92, and history 4.44 periods per week[33].

The median for small schools in Oklahoma is science 9.14, mathematics 9.12, and history 7.52 periods per week[34].

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[33] Ibid., p. 36.

[34] James Payne., Op. cit. p. 28.

TABLE XII

TEACHING LOAD OF SCIENCE TEACHERS FOR ALL TEACHER SCHOOLS

Periods per wk.	Subjects they teach: math	Eng	hist	sci	Ind art	H. ec	cml	ath	agr	gov	other	Total
1-5	41	17	28	91	1	4	1	7	2	12	27	231
6-10	47	16	27	93	1	10	5	6		4	5	214
11-15	22	5	14	70		7		1	1	2	3	125
16-20	15	7	3	45		7	1	1	1		1	81
21-25	4	5		29			1					39
26-30		1		35			1					37
31-on				7								7
Total	129	51	72	370	2	28	9	15	4	18	36	734

	Ark schools	L.Okla.[35] schools	S.Okla.[36] schools
Median science . . .	10.05	17.39	9.14
Median mathematics .	6.45	5.92	9.12
Median history . . .	6.45	4.44	7.57

35 Argus F. Smith., Loc. cit. p. 36

36 James Payne., Loc. cit. p. 28.

SCIENCE COMBINATIONS BY SUBJECTS

Table XIII shows the teaching combinations with science for three hundred and eighty two (382) teachers. This is a good representation of the science teachers of the State. From this number two hundred and three (203) are men and one hundred and seventy nine (179) are women.

The findings show that ninty two (92) or 24 per cent teach only science, and that seventy four (74) or 19 per cent combine science and mathematics. History has twenty five (25) or 6 per cent.

Interesting to note is that the fields chosen by the men are subjects that follow close to science, which are science and superintendent or principal chosen by twenty (20), superintendent and mathematics there are thirteen (13), mathematics and history eight (8), athletics seven (7) while for the women their greater combinations are science and English twenty (20) or 10 per cent, home economics twenty five (25) or 12 per cent, followed with science and history eleven (11) or 6 per cent. Also history and English has eleven (11), history and sociology eleven (11). There was only one women principal that was teaching science.

As one can see from table XIII there is a wide variation of subjects and combinations which a science teacher is called upon to supply in the roll of a high school science teacher.

TABLE XIII

SCIENCE COMBINATIONS BY SUBJECTS

Science and	Size of school: Men: 5.1-9	9.1-13	13.1-50	over 50	Total	Women: 5.1-9	9.1-13	13.1-50	over 50	Total
Science	13	12	15	3	43	12	10	23	4	49
Supt.Prin	12	4	4		20		1			1
Supt.math	10	3			13					
Supt.hist	6	2			8					
Supt.agri										
Supt.Eng										
Supt.ath	1				1					
Supt.cml	2				2					
Supt.lang	1				1					
Math.	25	14	9		48	16	6	3	1	26
Math.hist	6	2			8	2			1	3
Math.cml			1		1	2	1			3
Math.Eng	1		1		2	5		1		6
Hist.soc	5	1			6	8	1	2		11
Hist.Eng	3	1			4	9	2			11
English	1	1			2	17	2	1		20
Eng.H.Ec						2				2
Commerce	1	1			2		1			1
Agri	2	1			3					
Arts							1			1
Art.grade						1				1
Home Ec.						23	2			25
H.Ec.hist	1				1	2				2
Ath.	1	3	2	1	7			1		1
Reli.sci	1		1		2					
Hist.ath	1				1	1	1			2
Speech										
F.lang	1	1	1		3					
Ath.grade	3	2	1		6			1		1
History	7	5	1	1	14	9	1	1		11
Soc.Study	3		2		5			1	1	2
Total	107	53	38	5	203	109	29	34	7	179

Total for both men and women 382

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

You will find in table XIV the findings of two hundred and twenty five (225) science teachers who fall within the 5.1 to 9 teacher school.

From this group there are only twenty five (25) that teach science, only nine (9) of which teach six classes a day, six (6) teach five classes, three (3) teach four classes and four (4) that teach two classes a day; the remainder of their time is spent in keeping study halls. Also note that eleven (11) teach science and are superintendents, and six (6) have two classes a day as well as administrative duties. There are forty four (44) that teach four classes per day other than science, forty three (43) teach three classes per day besides science and thirteen (13) teach five classes per day allied subjects and one science class.

The mode for science and other subjects in high school only is two (2ϕ classes science and four (4) classes other subjects.

Findings show that eighty (80) or 34 per cent teach two classes in science per day, and that sixty three (63) or 26 per cent teach one class of science per day. The mode for the number of science classes taught per day is two (2).

The median of science classes is 4.57 per day for other high school classes 1.84 per day. But the teaching load is

TABLE XIV

SCIENCE COMBINATIONS FOR 5.1 TO 9 TEACHER SCHOOLS

BY NUMBER OF CLASSES

Number science classes	Number other than science																
	High school						Supt.					Grades					
	0	1	2	3	4	5	0	1	2	3	4	1	2	3	4	5	Total
1	3		4	8	20	13	1	3	5	2	2			2			63
2	4	1	13	20	21		6	2	3	2	1	1	1		4	1	80
3		3	18	14	2		3	1					1	1	1		44
4	3	7	6	1	1		1					1					20
5	6	3															9
6	9																9
Total	25	14	41	43	44	13	11	6	8	4	3	2	2	3	5	1	225

Median number of science classes	4.57
Median number other high school classes	1.84
Total median teaching load	6.41
Median number science classes Okla.[37]	2.95
Median number other classes Okla.[37]	1.88
Median total load Okla.[37]	4.83

6.41 classes per day. This figure is due no doubt to the fact that in smaller schools 5.1 to 9 teachers have 8 shorter periods while in the large school the periods are longer and there are fewer of them.

[37] Argus F. Smith, Op. cit. p. 42.

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

Table XV has the teaching combinations of seventy eight (78) science teachers in the 9.1 to 13 teacher bracket.

From this number eighteen (18) are teaching only one class of science, twenty are teaching only two classes, eleven (11) are teaching three (3) classes per day of science twelve (12) teach four (4) classes per day, eleven (11) teach five periods per day, and six (6) teach six full classes of science per day.

Findings show 23 of the 78 teachers teach nothing but science while 12 teach science and 2 other classes per day. There are 9 teachers that handle 5 other classes per day with science, of the group of 9 six teach only one science class.

The median for science classes in the 9.1 to 13 teacher school is 4.31 classes per day. The median for other classes is 1.46 classes per day. The median total load is 5.77 classes per day.

The mode in high school only is between the interval of zero and one class. The mode for the total number of classes is the interval two (2).

TABLE XV

SCIENCE COMBINATIONS FOR 9.1 TO 13 TEACHER SCHOOLS

BY NUMBER OF CLASSES

Number science classes	Number other than science: High school 0	1	2	3	4	5	Supt. 0	1	2	3	Grades 4	1	2	3	4	5	Total
1			2	1	5	6	1	1	1			1					18
2		3	2	3	4	2	1	4				1					20
3	2		5	2			1						1				11
4	7	1	5														12
5	8	2				1											11
6	6																6
Total	23	6	12	6	9	9	3	5	1			2	1				78

	Ark.	Okla.[38]
Median science classes . . .	4.31	4.21
Median other classes	1.46	1.54
Median total teaching load .	5.77	5.75

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

Science combinations for 13.1 to 50 teacher schools as shown it table XVI are for sixty four (64) teachers of science. Out of this group 36 or 56 per cent teach only science.

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38 Ibid,. p. 44.

TABLE XVI

SCIENCE COMBINATIONS FOR 13.1 TO 50 TEACHER SCHOOLS

BY NUMBER OF CLASSES

Number science classes	Number other than science: High school 0	1	2	3	4	5	Supt. 1	2	3	4	Grades 0	1	2	3	4	5	Total
1	1	1	1		2										1		6
2			1	2	1	1								2			7
3	2		2	3	1												8
4	6	2	3								1						12
5	13	3									1						17
6	14																14
Total	36	6	7	5	4	1					2			2	1		64

	Ark.	Okla.[39]
Median science classes . . .	4.69	4.62
Median other classes	2.16	.88
Median total teaching load .	6.85	5.50

From the 36 fourteen (14) teach 6 classes per day, 13 teach 5 classes per day, 6 teach 4 classes per day, 2 teach 3 classes per day, and one has only one science class per day. There are no superintendents that teach science in this group.

The findings show that only a small number of science

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[39] Ibid,. p. 45

teachers in the 13.1 to 50 teacher school are required to teach other subjects. Seven (7) are found that teach two (2) other classes per day and six (6) have one other class.

The median for science classes is 4.69 per day. Median for other classes 2.16 per day, and the total teaching load is 6.85 classes per day.

The tendency seems to be that all science teachers are required to carry a full load, thus they must neglect their additional preparations that are very essential for a good science teacher.

SCIENCE COMBINATIONS FOR OVER FIFTY TEACHER SCHOOLS BY NUMBER OF CLASSES

The findings as shown in table XVII are combinations for twelve (12) teachers in the schools of over 50 teachers.

There are seven (7) that teach science only, three (3) teach one other subject and two (2) teach two other subjects.

The distribution here is two (2) teachers teach six classes per day, two (2) teach five classes of science per day and one teacher one other class. One teacher has four (4) science classes and one other subject. One has only three classes of science, one has three classes of science and one other subject. One has three (3) science classes and two other subjects, and two (2) teach only two classes

TABLE XVII

SCIENCE COMBINATIONS FOR OVER FIFTY TEACHER SCHOOLS

BY NUMBER OF CLASSES

Number science classes	Number other than science: High school 0	1	2	3	4	5	Supt. 0	1	2	3	4	Grades 1	2	3	4	5	Total
1																	
2	2																2
3	1	1	2														4
4		1															1
5	2	1															3
6	2																2
Total	7	3	2														12

	Ark.	Okla.[40]
Median science classes . . .	4.25	5.70
Median other classes	2.70	.01
Median total teaching load .	6.95	5.71

per day. In this group the teachers of science are confined to science which should be an ideal set up if they do not have too many classes per day. How ever many times these teachers have other extra curricular activities to handle.

The median science classes in over fifty (50) teacher

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[40] Ibid,. p. 47.

school is 4.25 classes per day. Other classes are 2.70 per day. Still their total load is 6.95 classes per day. Science needs time.

There is still too little time for the necessary laboratory preparation to be made in teaching science properly.

SCIENCE COMBINATIONS FOR ALL TEACHER SCHOOLS BY NUMBER OF CLASSES

Table XVIII shows the combinations of science teachers for all schools above five (5) teachers in the State of Arkansas. This information is for three hundred and seventy nine (379) teachers of science.

From the 379 science teachers findings show 105 or 27 per cent teaching science only, 14 of this group are superintendents and they have administrative duties. There are 29 or 7.54 per cent teaching one other subject and science. There is an increase as we get into the number of classes of other subjects. We find sixty four (64) teach science and two other classes, fifty four (54) or 14 per cent three other classes and fifty six (56) or 15 per cent teach four other classes and science. There are twenty three (23) or 6 per cent that have five other subjects to teach and science.

There are fourteen (14) superintendents that teach science. Most of them have one to two other classes and science only. One has to teach as many as four classes in a day.

The mode for superintendents is two (2) classes per day.

TABLE XVIII

SCIENCE COMBINATIONS FOR ALL TEACHER SCHOOLS

BY NUMBER OF CLASSES

Number science classes	Number other than science: High school only: 0	1	2	3	4	5	Superintendent: 0	1	2	3	4
1	4	1	7	9	27	19	2	4	6	2	2
2	6	4	16	25	26	3	7	6	3	2	1
3	5	4	27	19	2		4	1			
4	16	11	14	1	1		1				
5	29	9				1					
6	31										
Total	91	29	64	54	56	23	14	11	9	4	3
Per cent	23.66	7.54	16.6	14.1	14.5	5.9	3.6	2.8	2.34	1.04	.78

Number science classes	Number other than science: Grades: 0	1	2	3	4	5	Total	Per cent
1		1		2	1		87	22.95
2		2	1	2	4	1	109	28.34
3			2	1	1		66	17.16
4	1	1					46	11.96
5	1						40	10.40
6							31	8.06
Total	2	4	3	5	6	1	379	100
Per cent	.52	1.04	.78	1.30	1.56	.26		100

TABLE XVIII (continued)

MEDIAN AND PER CENT FOR ALL TEACHER SCHOOLS

BY COMPARISON

	Ark.	Okla.[41] Large	Okla.[42] Small
Median total science classes . . .	4.50	2.35	2.62
Median total other classes	2.71	3.56	3.07
Median teaching total load . . .	7.21	5.91	5.69
Per cent total high schools . .	82.42	80.98	60.85
Per cent total superintendents .	10.86	12.60	16.98
Per cent total grades	5.46	6.40	22.17

The grades find very few science teachers dividing their work with other classes, there are twenty one (21) teachers that teach science and teach in the grades. This is no doubt due to the demand for science teachers and the shortage there are in the field.

The median for science classes of all schools is 4.50 per day. The total teaching load is 7.21 classes per day. This is to much of a load for a good science teacher to do efficient work.

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41 Ibid., p. 49.

42 James Payne., Op. cit. p. 43.

COMPARISON OF SECONDARY SCHOOLS EMPLOYING MORE THAN 5 TEACHERS AND THOSE EMPLOYING LESS THAN 5 TEACHERS

Table XIX shows the comparison between large schools in Arkansas with small schools in Oklahoma and the comparison between large schools in Oklahoma and Arkansas.

The trend is toward the large school as to years spent in the same district. But otherwise there is very little difference. The science teacher's load is too heavy. Thus the alert teacher is more apt to apply for the school with the best enviromental conditions and the highest salary.

I feel that this thesis material has value for the attempt of Education to standardize science teachers. This needs to be done to settle the science teacher down and thus obtain more efficient results.

Science is not an easy subject and only one year is required for graduation. This shows that the large number of students taking science subjects do so voluntarily either because of the interest it offers, or it is an essential foundation for many jobs in life.

One question usually asked in normal times of a boy seeking employment was whether or not they had taken chemistry or physics. No doubt the unsettled conditions of the world to-day caused the status of science teachers in our schools to be below par.

TABLE XIX

COMPARISON OF SECONDARY SCHOOLS

EMPLOYING MORE THAN 5 TEACHERS AND THOSE EMPLOYING

LESS THAN 5 TEACHERS

Median	Teachers employed			
	Ark. over 5	Okla.[43] over 5	Okla.[44] under 5	Okla.[45] Catholic
Years experience	5.28	6.73	6.53	----
Years in present district	.05	1.74	1.68	----
Hours for biology	13.64	16.00	15.83	13.62
Hours for geography	2.40	5.40	5.50	13.00
Hours for physiology	6.72	4.25	6.22	----
Hours for physical science	18.92	18.11	8.46	24.00
Total semester hours sci.	24.20	36.10	32.72	33.16
Periods science per week	10.05	17.39	9.19	12.00
Periods math. per week	6.45	5.92	9.12	13.33
Periods history per week	6.45	5.92	7.57	5.00
Total teaching load	7.21	5.91	5.69	----
Salary	$97.60	122.61	107.05	----

43 Argus F. Smith., Op. cit. p. 54.

44 James Payne., Op. cit. p. 54.

45 Sister Mary Lawrence Franz, The Status Of Science In Catholic High Schools Of Oklahoma. thesis 1939 - 1940. p. 24.

CHAPTER III

SUMMARY OF THE FINDINGS OF THE STUDY IMPLICATIONS AND RECOMMENDATIONS

There were 349 schools tabulated which had a teaching force in science of 382. From this number 203 or 53 per cent are men and 179 or 44 per cent are women.

There are 71 or 42 per cent of the men that are teaching their first year and 117 or 55 per cent of the women without any experience, altogether 188 or 49 per cent of the science teachers do not have any experience in teaching.

The median experience for men in present district is 1.50 years and for women it is .91 years. But the median experience of the science teacher is men 9.21 years women 2.85 years.

The number of men and women that are teaching with one years experience is 28 or 16 per cent men 31 or 15 per cent women, all together 59 or 16 per cent. Thus we find 247 or 64 per cent of the teachers of science without teaching experience.

College hours listed in various subjects found 294 hours of physical science or a median of 18.92 semester hours, for biology 144 or a median of 13.64 semester hours, physiology 29 or 6.72 semester hours and geography 24 or a median of 2.40 semester hours.

In the teaching fields median semester hours are biology 10.68, zoology 6.64, botany 7.12, physiology 6.52, chemistry

9.20, physics 7.92, geology 2.52, and geography 4.40 semester hours. The divisions here were divided between biology, a total of 310 semester hours, chemistry 242 hours, and physics 133 semester hours.

The median number of semester hours of college science for men teachers in the 349 large schools in Arkansas is 29.30 semester hours. For the women of Arkansas it is 20.20 semester hours. The median for both men and women in Arkansas is 24.20. The majority of the women teachers had between 16 and 20 semester hours of science. The men had a more evenly destributed distribution of college hours of training.

There were several cases of interest, one women listed 115 hours of college science. Another listed 95 hours and one man listed 91 hours of science and all in the field of physics. The women had taken all they could in the biological sciences. Also there were two women listed that did not have any hours of college science, four men with only four hours college science and 7 women with only 4 hours of college science. One other group listed only 8 hours of college training, of this number 12 were men and 22 were women. This is a very poor background for teaching science.

There is a direct relationship between college training and salary. The salary for teachers with 123 hours or less of college work is 82.05 dollars per month, for 124 to 153 college hours is 104.05 dollars per month and for 154 and better hours of college work 157.75 dollars per month.

While the average salary for all teachers regardless of college training is 97.60 dollars per month. In most cases the more college training the teacher has the better the salary. However in one case a women had a Ph. D. degree with college hours of 198 and ten years experience and was only getting 85 dollars a month.

Also the findings show that the more years of experience a teacher has the higher the salary. The median salary for a teacher with one to five years experience is 92.69 dollars per month. This is not very good when a teacher without any experience has a median salary of 90.62 dollars per month. The median for a teacher with four to six years experience is 99.90 dollars, for seven to nine years experience 111.75 dollars, for ten to twelve a drop to 105.75 dollars. Then for thirteen to fifteen and sixteen to eighteen 138.00 dollars and for those above ninteen 159.97 dollars per month. There were in each bracket from 10 to 19 years experience four to five teachers that received better than 240 dollars per month. One man was being paid 302 dollars per month for ten months.

The size of school does not seem to make a very great difference. The medians are too near alike, compared with Oklahoma schools. A better standard needs to be set up for science teachers or the incentive is going to be to neglect the subject and strive to obtain a better means of livelihood.

Mathematics, history, superintendents, athletics, and

government are the outstanding combinations for the men. Mathematics, home economics and English are the combinations for the women.

The science teaching field is in need of recognition for service rendered and if it is not sdjusted soon the public will find a deplorable situation to face. Men science teachers cannot be expected to remain in the field when much more attractive opportunities are offered to them.

The world needs science instruction.

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