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Name: H. W. McKinney Jr.

Date of Degree: May 29, 1960

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: A STUDY OF ENROLIMENT CHANGES WITHIN EIGHTEEN OKLAHOMA HIGH SCHOOLS WHICH HAD PARTICIPATED IN AN EXPERIMENTAL VISITING SCIENCE TEACHER PROGRAM

Pages in Study: 18 Candidate for Degree of Master of Science

Major Field: Natural Science

- Scope of Study: During the school year 1958-59, Oklahoma State University in cooperation with the Frontiers of Science Foundation of Oklahoma put a visiting science teacher on the road to travel to several schools carrying specialized equipment and lectures to schools that were willing to share in the cost of the program. This Program was expanded to twenty-five traveling teachers during 1959-60. This report is an attempt to evaluate the results of that program as it was carried out the first year. An attempt was made to measure the results in the increase or decrease in the enrollment in the elective high school science courses. Eighteen schools were visited and eighteen schools were selected at random to serve as a control group. The records in the State Department of Education, Capitol Building, Oklahoma City, were searched for the needed data.
- Findings and Conclusions: It was found that the schools visited had a high percentage of their students enrolled in science classes. It is assumed that the reason for this was that they were enough interested to help pay for the program. It was found that these schools had 28.6 per cent more of their student body enrolled in science classes than the control group. The small increase in enrollment in the participating schools was due to the near peak science class enrollment that they were already experiencing.

James H. Funt ADVISOR'S APPROVAL

A STUDY OF

ENROLLMENT CHANGES WITHIN EIGHTEEN OKLAHOMA HIGH SCHOOLS WHICH HAD PARTICIPATED IN AN EXPERIMENTAL VISITING SCIENCE TEACHER PROGRAM

By

H. W. McKinney Jr. Bachelor of Science Oklahoma State University Stillwater, Oklahoma 1950

Submitted to the Faculty of the Graduate School of the Oklahoma State University in partial fulfillment of the requirements for the degree of Master of Science June, 1960 A STUDY OF ENROLLMENT CHANGES WITHIN EIGHTEEN OKIAHOMA HIGH SCHOOLS WHICH HAD PARTICIPATED IN AN EXPERIMENTAL VISITING SCIENCE TEACHER PROGRAM

Report Approved:

Letter 25th

Dean of Graduate School

PREFACE

The Traveling Science Teacher Program is a new attempt at Science Education. Its merits and success is yet to be measured or discovered. The purpose of this report is to try to measure this success and merit. There are probably several criteria for measurement, but the increase or decrease in science class enrollment was the one chosen for this report. Follow-up research into the results of the program during the ensuing years will no doubt reveal much good has come from this effort. The second year of the program saw much improvement and expansion.

Indebtedness is acknowledged to Dr. James H. Zant, Claude Gatewood, and Dr. Carl Marshall for their invaluable guidance and assistance during the writing of this report.

Appreciation to the persons who proof read and typed this report for me is gratefully offered.

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CHAPTER I

INTRODUCTION

During the school year 1958-59 the Frontiers of Science Foundation of Oklahoma, Inc. and the Oklahoma State University sponsored a Traveling Science Teacher Program to visit a number of Oklahoma schools for a week each.

Lectures and demonstrations were given to the science classes within the schools, to school assemblies, to Parent-Teacher Associations, and also, to fraternal and business and professional organizations of the town or community being visited.

The purpose for the program was to stimulate the study of science by the students in each junior and senior high school. The contact with the adults of the community were to make them aware of their children's science education needs.

During the school year previous to 1958-59, increased interest had been manifested by the successful launching of Sputnik I. Another thing which caused increased interest were reports of our trailing Russia in science and mathematics education.

As stated before, the Traveling Science Teacher Program was an effort to stimulate interest in science and its study in our high schools. Some teaching value to the high school student was certainly evident.

Statement of Problem

This study is concerned with the problem of finding whether or not any measurable results were accomplished by the Traveling Science Teacher Program during 1958-59. The criteria selected for measuring its results is an increased or decreased interest in the elective science subjects offered by the visited schools. An increased interest must be measured in increased enrollment if the results are to be valid to any degree.

Need of Study

A need for a study such as the present one had been encouraged by the directors of the present Traveling Science Teacher Program to see if any measurable results could be obtained and may possibly be used by the Traveling Science Teacher Program to formulate the future policies of the program. An extended study of the results of the current Traveling Science Teacher Program is tentatively planned for next year using data that will then be available to anyone interested in continuing or extending this report. A much larger sample will be available, and possibly more measurable results may be obtained. The Traveling Science Teacher Program has been expanded to 25 teachers this year and the administrators of the program have indicated an interest in such a study.

Limitations

All subjects that were taken in science and mathematics by the tenth, eleventh and twelfth grades are included in this study; however, where the subject is a required course or where it is offered only during alternate

years the results will be inconclusive. Both science and mathematics courses were studied to see if the same trends would hold in each area.

The very small schools studied, offered physics and chemistry, as well as trigonometry and solid geometry in alternate years. In this case, the trend as a group will have to be taken rather than on the individual school or individual class. The very small sample was another limitation on the study.

Procedure

Before the study could proceed it was necessary to select criteria for measurement and a method of selecting a control group. To offset the increased interest in science due to the accelerated program of scientific achievement begun by the State and Federal Governments, the data for the year before are included in the study.

The method of choosing the control group was on a complete random selection after the categories of size had been determined. These categories or divisions of schools were made upon the basis of total enrollment according to the plan of the North Central Accrediting Association. Schools were separated into Group I (0-199), Group II (200-499), Group III (500-999), and, or Group IV (1,000-up). The enrollment figures for the schools, as well as for the classes, were taken from the files in the State Department of Education, State Capitol Building, Oklahoma City, Oklahoma.

The records of all the schools of the state were already on file in the State Department of Education according to the categories mentioned

above. After determining how many schools were in each category of the participating group, that same number of records were pulled from the files. First the file on each category was divided into as many divisions as there were schools in that particular category. At each division point a school record was pulled and used as one of the control group. This same procedure was used to select the control group in each category. After the control group was selected the records were inspected, and all needed data was recorded.

Many contributing factors for both increased and decreased enrollment in both participating and control schools have been offered by those who know the situation personally, these have purposely been avoided.

The trends or correlations will be computed for this study by groups, since it is felt that in many instances (and taking into consideration the small sample) the trends or correlation for the individual school would be meaningless because of the contributing factors other than the visit from the Traveling Science Teacher. If the reader is interested in the individual school trend, table II-C through II-F contains the data for them.

The formula for selecting, at random, the eighteen schools of the control group was suggested by Dr. Carl E. Marshall, Head of Statistics Department, Oklahoma State University.

Definition of Terms

The term, <u>class enrollment</u>, as used in this report includes every person who enrolled in the subject at any time during the year.

The term, total enrollment, as used in this report means the number of pupils enrolled in all classes offered by the high school.

The loss and gain column in the tables II-C, II-D, II-E and II-F is to show, at a glance, the total school enrollment status. The year 1958-59 was used as a basis or 100 per cent.

The year 1958-59 will be taken as the base year in correlating the class enrollments, since the data for the year before the program was carried out, was available. The year, before the program, for total enrollment was not available in the current files. The enrollment in 1958-59 will be taken as 100 per cent and the other years will be calculated percentagewise accordingly.

The group will be referred to as Group I participating (Group I-P) or as Group III control (Group III-C) and so on.

CHAPTER II

RESULTS

The results of all the research are included in tables II,A through II,G.

Tables II,C through II,F are included so that the reader may see what the individual class enrollments for a particular school were. Only tables II,A and II,B will be discussed in this chapter.

Group I

In tables II,A, group I-P had an increased total enrollment of 2 per cent and chemistry and physics showed an increase, but it will be noted that these are classes offered on alternate years and cannot be accepted as valid figures. The same group decreased in biology and general science. As for the group I-C there was a 10 per cent decrease in total enrollment with only an increase in chemistry which again cannot be a valid increase for the same reason as offered above.

Table II,B shows all decreases or very slight increases in group I-P, while in group I-C both Algebra I and Algebra II showed good increases and especially Algebra II with a 67 per cent increase.

Group II

Table II, A shows in science courses total enrollment for group II-P had a decrease of 4 per cent while group II-C had a 3 per cent increase.

In class enrollment, group II-P had a decrease in chemistry by 18 per cent and an increase in physics of 10 per cent was recorded. Biology remained near normal and showing a 7 per cent better enrollment the year before the program was offered.

In group II-C, chemistry came up 26 per cent in the year 1958 and climbed another 3 per cent the following year. Physics dropped back to its preprogram level. Biology gained 10 per cent from the preprogram year with another 5 per cent gain after the program year. No data were available in general science.

Table II, B recorded increases for both groups II-P and II-C in all mathematics classes except Algebra I and Algebra II for group II-P and one school in this group offered Algebra II on alternate years, therefore, O was the recorded enrollment for the year after the program.

Group III

Table II, A shows an increase for all science and mathematics classes except Biology in group III-C as against 18 per cent gain in III-P, even though both groups had registered a decrease in total enrollment. In mathematics, the Algebra I, Algebra II, and plane geometry showed no gains except a 2 per cent gain in group III-P plane geometry. Trigonometry and solid geometry for both groups had a very good gain. The control group had the highest gain, 20 per cent and 48 per cent as against 15 per cent in both classes for the participating group.

Group IV

Table II, A reveals that gains in enrollment in science and mathematics classes were made by both groups but the greatest gains were made by the

control group. Group IV-P records revealed a loss in chemistry of 23 per cent and only 2 per cent and 3 per cent gains in physics while group IV-C had a gain of 15 per cent in physics, 15 per cent in chemistry and a 7 per cent gain in biology. Data for general science were not available since most of these schools offered general science in junior high school. Approximately the same trend was found in the mathematics for group IV. TABLE II, A

\$

Total General General															
	1958-E.	142 <u>6</u> 2	Decker X	1957-50	1958-59	1959-60	1957-50	1958 - 50	1959-60	1957-50	1958 50	1959-60	1957-5A	1958-59	1959-60
Group I-P	705	720	. X.	47	_66	_41	32	19	_70	131	161	137	166	<u>194</u>	188
Percent	100	102	2	71	100	.62	168	100	368	81	100	85	86	100	97
Group I-C	732	649	-	83	23	_ 61	12	52	11	81	237	113	165	129	127
Percent	100	90	10	360	<u>100</u>	265	23	100	_21	. 34	100	48	128	100	99
)		5 5									
Group II-P	2311	2226	-	182	248	203	111	102	112	697	651	.646	No	Data	
Percent	100	.96	4	73	100	. 182	110	100	110	107	100	.99	Avai	<u>1ab</u>	Le
Group II-C	1918	1973	X	148	201	207	96	116	102	618	<u>687</u>	<u>725</u>	148	<u> 197</u>	122
Percent	100	103	_3	74	100	103	83	100	88	_ 90	100	105	75	100	62
Group III-P	322	5 3 194	+ ~	263	301	324	164	163	168	880	764	895	124	116	121
Percent	100	_99	_1	87	100	108	100	.100	103	115	100	118	107	100	104
Group ITT-C	355	321		274	264	281	104	134	141	803	1.088	938	_94	111	130
Percent	100	90	10	105	100	106	79	100	108	74	100	_86	85	100	117
<u>1</u>		ĸ													
Group IV-P	6356	638:	X	779	892	689	415	420	432	1732	1824	186	Dat	a No	t
Percent	100	104	4	87.	100	.77	99_	100	103	96	100	<u>102</u>	. Ava	ilal	le
Group IV-C	6556	704	x	373	459	528	291	325	373	1412	1825	194	349	362	384
Percent	100	108	8	81	100	115	90	100	115	77	100	107	96	100	106

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. TABLE II, B

	ohra		/ 	ebra	тт	Pla	ne	. /	-S Ceo	olic		/ 	a		
	1957-59	1958 Ed	1959-60	1957	1959-52 1959-52 1959-52	1959-14	1957 - 19	1950	1959-10	1957.50	1950.00	1959.	1957	0256/	1959-60
Group I-P	178	224	206	90	105	106	139	146	. 157				50	38	19
Percent	80	100	.92	86	-100	101	95	100	102	Q.	_1_	_0	132	100	50
Group I-C	216	139	154	.78	46	77	107.	<u>137</u>	79	27	33	0	27	37	_0
Percent	155	100	<u>,11</u> 1	167	100	<u> 167</u>	78	100	58	81	100	0	81	100	.0
													a galanta da Canada da Angela		
Group II-P	248	235	179	232	293	238	428	284	369	44	55	107	110	.111	140
Percent	L06	100	.76	80	100	81	<u>151</u>	100	130	80) 00	<u> 195</u>	100	100	.125
Group II-C	258	<u>225</u> .	204	142	210	.212	411	<u>394</u>	.390	60	.47	98	62	46	97
Percent	<u>115</u>	100	_91	\$ 8	100	101	104	100	.99	127	100	208	132	100	206
an a															
Group III-P	<u>114</u>	354	291	<u>339</u>	456	<u>393</u>	603	<u>543</u>	556	115	141	166	115	141	166
Percent	32	100	82	74.	100	86	111	100	102	82	100	115	82	100	115
Group III-C	710	625	459	<u>353</u> .	<u>403</u>	<u>399</u>	<u>589</u>	<u>707</u>	<u>631</u>	177	. 82	<u>99</u>	97	97 -	<u>144</u>
Percent	. 98	100	63	88	100	.99	83	100	<u>്</u> ষ9	94	<u>100</u>	120	<u>100</u>	100	<u>,148</u>
Group IV-P	331	579	510	840	.041	<u>954</u>	1282	<u>124</u> 9	<u>131</u>	204	84	_97	213	210	.237
Percent	. 57	100		81	100	.92	103	100	105	242	.100	<u>. 115</u>	101	100	.113
Group IV-C	736	1082	. 958	610	854	.524	1209	144 5	1492	161	<u>193</u>	_268	182	250	.308
Percent	68	100	89.	71	100	.96	81	100	103	83	100	139	73	100	123

SCHOOLS THAT PARTICIPATED

generalisen og som og som for att som		Tot	al S	ch.	Ch	emis	try	· Pł	nvsi	s	Biol	logy		Gen	era ena
NAME OF SCHOOL	1950	1959	Increase y	19.57	1950 58	65-0-	1957.59	1950	1959.	19.57	1957 - 198	19:0-59	19:1-60	85.10	0.00
MEDFORD	109	116	x	.0	0	14	7	0	6	11	18	14	24	34	5
ST. GREGORY	194	216	x	47	32	.27	13	19	_24	66	52	_33	27	322	54
MANGUM	148	164	X	0	13_	0		0	22	27	-54	_28	_30	47	5
WALTERS*	254	224	-	·· 0	21	0	12	<u>i</u>	18	_27_	37	62	85	81	£
TOTAL	705	720	x	47	66	.41	32	19	70	131	161	137	166	<u>194</u>	1
MADILL	266	248	-	0	45	0	28	<u> </u>	23	<u>.</u> 144		<u>1</u> 34			-
PAWHUSKA	328	322		30	22	_29	13	30		77	120	81			
ANADARKO	380	347		18	26	25	15	17	17	<u>. 99</u>	66	88			-
HUGO	414	404		31	35	32	.22	14	12	<u>117</u>	<u></u>	102		-	Ļ
PRYOR	460	478	X	54	54	65	22	18	32	172	169.	184			-
GUTHRIE	463	427		49	66	52	11	23		188	168	157			-
TOTAL	2311	2226		182	248	203	111	102	112	697	651	646		Cores (2011/1010, 200	
ARDMORE	599	581		77	91	73	31	41	-40	184	173	182			
CHICKASHA	629	656	X	52	76	. 98	21	17	30	175	184	217			
STILLWATER	943	927	<u>.</u>	97	89.	100	33	34	-32	255	248	264	124	116	
SHAWNEE*	1055	1030		37	45	53	79	71	66	266	159	232			-
TOTAL	3226	3194	-	263	301	324	_164	16:	168	880	764	895			ļ
COLLEGE HIGH	1212	<u>1319</u>	<u>x</u>	121	142	149	<u>101</u>	<u>131</u>	144	<u>310</u>	306	357		2,000,000000	-
PONCA CITY	1286	1261		135	131	113	49	70	50	<u>402</u>	411	406			
ENID	1333	<u>1363</u>	<u>x</u>	145	155	167	70	69	76	424	439	449	- Anna		
TULSA	2525	2440		378	464	260	<u>195</u>	150	162	<u>596</u>	668	649			
TOTAL	6356	6383	X	779	892	689	415	420	438	1732	1824	1861			

TABLE II, D

Υ.

SCHOOLS NOT PARTICIPATING

		Tota	al S	ch.	01-0				\$		/ 	1		Gene	eral
NAME OF SCHOOL	1958	95 (9)	(ncred 30	1959. E	60, 05, 6/	m1sc 6.5.0 .55/	1957	19.5°	1959 2959 1959	19.52	B10	50 05 00 00 00 00 00 00 00 00 00 00 00 0	257.60	<u>Scie</u> 80 2 80 2 80 2 80 2 80 2 80 2 80 2 80	1939-60
TONKAWA	190	175	-	34	-0	. 20	. 0	17	. 0	24	48	31	52	41	32
WILSON	188	157	-	21	0_	16	0	23	0	0	65	0	53	_46	40.
YUKON	170	159		0	23	0	12	0	11	27	63	_49			
VELMA ALMA	175	158		28		_25	0	<u>12</u>	<u> </u>	30	.61	<u>33</u>	60	_42	55
TOTAL	723	649	-	83	23,	61	12	52	. 11	81	237	113	165	129	127
CLAREMORE	373	383	X	38	0	.69	0	59	<u> </u>	142	141	135			
PAULS VALLEY	401	407	x	33	58	35	3 8	28	31	176	148	173			
SULPHUR	349	353	X	·0	33	0	33	0	_27_	68	87	88	77	, 78	64
BIXBY	220	230	X	19	18	19	0	0	13	46	62	64	71	119	<u>, </u> 58
WOODWARD	341	<u>365</u>	<u>x</u>	0	.60	44	_25_	17	13	86	141	180			
FREDERICK	234	235	<u>X</u>	58	32	40	.0	12	18	100	108	85		1. of 740 Autom	
TOTAL	<u>1918</u>	<u>1973</u>	X	148	201	207	. 96	116	102	618	687	725	148	197	122
NORMAN	1276	950	-	70	.68	89	35	38	47	173	<u>319</u>	307			
EL RENO	656	637	-	66	58	77	22	23	30	200	277_	<u>167</u>			
CLINTON	625	620	. 	51	56	26	20	30	_28	75	<u>120</u>	.74	94	111	130
DUNCAN	998	1004	X	87	82	89	27	43	36	<u>355</u>	<u>372</u>	390			
TOTAL	<u>3555</u>	3211		274	264	281	104	134	141	803	1088	938	94	111	130
N.W. CLASSEN	2071	2122	X	1.28	161	155	86	76	96	437	562	511			
MUSKOGEE	1528	1633	X	115	127	151	51	76	83	468	612	643			
LAWTON	1693	19 0 8	X	76	90	145	127	126	149	414	<u>482</u>	549		ļ	
PUTNAM CITY	1264	1383	x	54	81	77	27	47	45	93	16 9	245	349	362	384
TOTAL	6556	7046	x	373	459	528	291	325	373	1412	1825	1948	349	362	384

i T TABLE II, E

SCHOOLS NOT PARTICIPATING

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Algebra I Algebra II Pl. Geom. Sol. Geom. Trig.															
NAME OF SCHOOL	19.57	1955	19 19 19	19:2-60	85	1950	19.57	1950	1920.	1957	82.56	1955	19.5 - 2	1959	19560
TONKAWA	7.8	49	51	18	11	28	32	37	24					-	
WILSON	65	27	60	19	16	_20	13	22	. 8	9	15	0	9	19	
YUKON				24	0	29	30	31	18	0	18	0	0	18	0
VELMA ALMA	73	63	_43	17	_19	0	32	47	29	18	0	0	18	0	0
TOTAL	216	139	154	78	46	77	107	137	79	27	33	. 0	27	37	0
CLAREMORE	_30	36	_31	21	58	40	81	81	69	13	17	30	.12	16	29
PAULS VALLEY				38	42	.34	84	46	63	6	16	28	9	16	28
SULPHUR	90	84	85	26	24	19	46	.55	44	22	0	13	22	.0	13
BIXBY	71	63	53	0	_17	_26	57	39	37						
WOODWARD	67	42	35	21	37	61	6.8	110	99	0	0	<u>19</u>	0	0	19
FREDERICK	-			36	32	32	75	63	78	19	14	. 8	19	.14	8
TOTAL	258	225	204	142	210	212	411	394	390	60	47	98	62	46	97
NORMAN	337	372	128	121	158	<u>151</u>	221	256	252	48	50	69	50	_50	69
EL RENO	153	143	151	38	48	57	78	107	73	0	10	6	5	10	10
CLINTON	142	120	122	71	.69	58	69	86	. 51	14	22	24	16	2.4	.19
DUNCAN	78	90	58	123	128	133	221	2.58	255	15	0	0	26	13	46
TOTAL	710	725	459	353	403	399	589	707	631	77	82	99	97	97	<u>144</u>
N.W. CLASSEN	<u>504</u>	645	411	233	310	206	<u>395</u>	422	504	. 37	25	37	55	70	84
MUSKOGEE	69	96	95	112	217	230	356	415	407	48	56	.88	49	56	88
LAWTON	44	78	-98	190	234	273	302	402	404	59	80	92	50	78	85
PUTNAM CITY	<u>119</u>	263	35	75	93	115	156	206	177	17	32	51	28	46	51
TOTAL	736	108.2	958	610	854	824	1209	1445	1492	161	193	268	182	.2.50	308

TABLE II, F

SCHOOLS THAT PARTICIPATED

		Alge	ebra	I	Alge	bra	11	/ P1.	Geor	n . /	Sol.	Geo	m . /	Tri	g.
NAME OF SCHOOL	1957	1950	1950	1957.5	1950	1950	09-1-	12 de	1950	1957 100	1959-50	1959	1257	1820	1959.60
MEDFORD	28	29	36	<u> </u>	6	16	14	18	19						
ST. GREGORY	<u>6</u> 1	39	49	48	43	48	59	46	52	18			32		
MANGUM	18	74	64	24	36	23	31	36	44				0	18	
WALTERS	71	82	57	18	20	19	35	46	42				18	20	19
TOTAL	178	224	206	90	105	106	139	146	157	18			_50	38	19
MADILL				.90	46	46	25	24	25						15
PAWHUSKA				0	42	.0	60	53	56	20	.0	19	2.0	0	19
ANADARKO	31	21	16	41	58	67	92	47	63	14	18	23	14	18	23
HUGO	110	102	97	27	35	25	76	72	.61			.1,5	27	35	15
PRYOR	3 7	25		29	45	46	74	100	.70	.0	14	32	14	_14	32
GUTHRIE	-70	87	66	45	67	54	101	88	94	10	.23	18	35	_44	36
TOTAL	248	235	179	232	232	293	428	284	369	44	55	107	110	<u>111</u>	140
ARDMORE				81	94	83	173	140	156	30	40	35	30	_40	35
CHICKASHA				50	62	.59	151	140	147	21	18	25	21	18	25
STILLWATER		237	188	65	130	84	125.	1 <u>18</u>	139	33	.35	67	33	35	67
SHAWNEE	114	117	103	143	170	167	154	145	114	31	48	39	31	48	39
TOTAL	114	354	291	339	456	393	<u>603</u>	543	556	115	141	166	<u>115</u> .	<u>141</u>	166
COLLEGE HI BARTLESVILLE	35	157	137	168	240	250	272	272	327	.42	16	23	52	.23	40
PONCA CITY	192	109	115	202	249	247	226	245	229	102			35	56	50
ENID	04	123	108	183	186	177	336	308	302			;	59	. 57	50
WILL KUGERS TULSA		190	150	287	366	280	448	424	455	60	68	74	67	74	97
TOTAL	331	579	510	840	1041	954	1282	1249	1313	2.04	84	97	213	210	237

TABLE II,G

Participating Schools

Group Number	Total Enrollment	Science Class Enrollment	Percentage
I-P	705	210	30
II-P	2,311	990	43
III-P	3,226	1,307	4 1
IV-P	6,356	2,926	45
Total	12,598	5,433	43

Control Schools

I-C	732	176	ב) ו
II-C	1,918	862	45
III~C	3,555	1,181	33
IV-C	6,556	2,071	32
Total	12,761	4,290	33.6

43.1% is 28.3% greater than 33.6%

CHAPTER III

CONCLUSION

No conclusive evidence was found that the participating schools showed any decided increase in science class enrollments. Actually in the majority of the cases the control schools were found to have an insignificant increase.

The schools in group I were too small to offer every science course every year. The plan in these schools is to offer one course one year with ninth and tenth graders taking it and one course the same year with eleventh and twelfth graders enrolling in it. The alternate years the other two courses are offered under the same plan. This study was made on the basis of enrollments for just the three years and consequently data for only one year were available in some cases. This prohibited the use of the data for these schools.

In group II the control group showed more increase but the total enrollment had also increased. The participating group with a small total enrollment presented a much greater decrease in class enrollment.

Except in biology group III with its decrease total enrollment per school showed a greater gain in the control group. Both group IV increased in all classes except chemistry in the participating group, but greatest gains were in the control group.

The author is convinced that other criteria for measuring the success of the program should be explored. Possibly a study made by visiting the participating school counselors and principals would show that there had been a greater interest and desire on the part of the student after the program. It seems possible that producing a better science student is more important than merely increasing enrollment in science classes. It is possible that some students realized the need for more diligent study in the science fields and dropped out because they were unwilling to do the work required of them, while other students were interested in science for the first time and enrolled in elective science or mathematics.

Further study along these avenues of approach mentioned above plus enrollment increase or decrease is recommended.

After the comparison of class enrollments failed to produce any significant trends, questions were raised in the mind of the author. The schools that participated paid a fee of One Hundred and Fifty Dollars for a visit from the Traveling Science Teacher which was evidence that these schools were more interested in science education than those who would not pay for these services. If the interested school through counselors and teachers had already reached a peak or climax or a point of saturation in science class enrollments then there was not as great an opportunity for them to increase enrollments as the school who did not have the desire for better science education. Table II,G shows year 1958-59 enrollment in science classes as a per cent of total enrollment.

Group II-C was the only group of the control group which exceeded the participating group in the percentage of the total enrollment enrolled in

science classes. Further study revealed that this one group had included within it a school on the 8-4 plan and the ninth graders were included in the total enrollment count. Since ninth grade students do not enroll in chemistry, physics, or biology this percentage was invalid. When the ninth grade enrollment was excluded the percentage of the participating group equaled that of the control group. There is also the possibility that one or more schools in group II-C required students to take biology.

The information obtained by running these percentages shows that although the control group exhibited the greatest enrollment gains they actually had in some instances as much as 50 per cent gain to make before they were equal percentagewise with the participating group. With the exception of the very small schools group the science class enrollment was from 41 to 45 per cent of total enrollment, enrolled in chemistry, physics and biology, while the control group had with exception of group II from 24 to 32 per cent enrolled in these courses.

When the total enrollment and science class enrollments (table II,G) were totaled for all participating and all control schools the percentage told a different story. The participating schools had 43 per cent of all their students enrolled in science courses as against 33.6 per cent of the students in the control schools. This represents a very significant factor controlling low per cent of increased enrollment in the participating schools. Participating schools had 28.3 per cent greater proportion of their students enrolled in science courses.

VITA

H. W. McKinney Jr.

Candidate for the Degree of

Master of Science

Report: A STUDY OF ENROLIMENT CHANGES WITH EIGHTEEN OKLAHOMA HIGH SCHOOLS WHICH HAD PARTICIPATED IN AN EXPERIMENTAL VISITING SCIENCE TEACHER PROGRAM

Major Field: Natural Science

Biographical:

- Personal Data: Born at Wilson, Oklahoma, April 20, 1921, the son of H. W. Sr. and Cleta Marie McKinney.
- Education: Attended grade school in Plainview, Longrove, Brock, and Marietta, Oklahoma; graduated Marietta High School May, 1939. Received Bachelor of Science Degree from Oklahoma State University 1950 with a co-major in Industrial Arts and Biology and General Science Education; completed requirements for Master of Science Degree in May, 1960.
- Professional experience: Entered U. S. Army Air Fource 1941, returned after 4 years as a trouble shooter and airplane mechanic on B-17 airplanes to farm on a newly purchased quarter section in Love County, Oklahoma. Returned to college 1948 and after graduating 1950 taught 4 years Industrial Arts and Junior High School Science at Marietta Public School. One year was spent teaching Industrial Arts in Oakland Public School, Oakland, California. The next 4 years were spent teaching General Science, Biology, and Industrial Arts in Greenville High School, Love County, Oklahoma. In June, 1959 entered National Science Foundation Academic Year Institute at Oklahoma State University.