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Institution: Oklahoma State University

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Title of Study: A SURVEY OF SCIENCE PROGRAMS AND RELATED
SUBJECTS IN OKLAHOMA COLLEGES

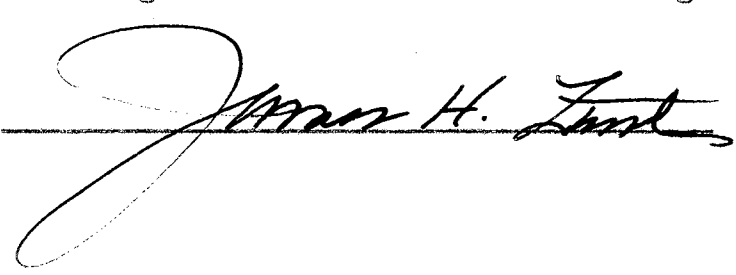
Candidate For: Degree of Masters of Science

Major Field: Natural Science Pages in Study: 38

Scope of Study: A survey was conducted of the many factors involved in a decision to attend one of the thirty-three institutions of higher learning in the State of Oklahoma. The survey was limited to those items that would be of special interest to a student or teacher of the natural sciences and mathematics. The study takes into account such things as cost, high school requirements, degree offerings, professional training, and other items that would be of some assistance to a person interested in careers in science or a related area of study using science and mathematics. The survey was taken from the various bulletins or catalogues of the institutions involved. The material is tabulated and grouped into charts of related items which make up the appendices of the study.

Findings and Conclusions: The results of the survey were very informative in certain areas. The cost of attendance is affected by several factors. State owned schools are less expensive to attend compared to private owned schools of the same type. The university type of school is the most expensive followed by the four-year college and then the junior college. Offerings are somewhat restricted in the smaller college with the universities having a more complete selection. Professional and pre-professional training programs are very good, with lots of variety to choose from when all schools are considered. The study did indicate some deficiencies in both quality and quantity of the physics offerings in many of the schools. The suggested high school preparation was adequate for the senior college group but could be improved in the junior college group. In general the conclusion would be that Oklahoma institutions of higher learning have a lot to offer the high school student.

ADVISER'S APPROVAL



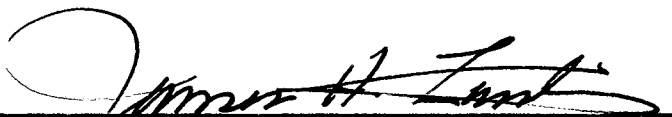
A SURVEY OF SCIENCE PROGRAMS
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1957-1958

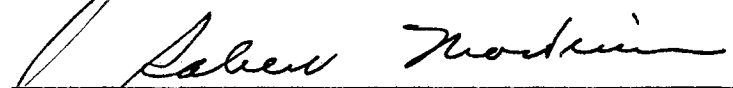
By
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Bachelor of Science
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Submitted to the faculty of the Graduate School
of Oklahoma State University in partial
fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
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A SURVEY OF SCIENCE PROGRAMS
AND RELATED SUBJECTS IN
OKLAHOMA COLLEGES
1957-1958

Report Approved:


Report Adviser


Dean of the Graduate School

ACKNOWLEDGEMENT

The writer wishes to extend his sincere thanks to Dr. James H. Zant, Report Adviser, for his supervision and guidance during the writing of this report. The writer wishes to express his gratitude to the many colleges and universities for their bulletins and other materials that were used in the report. The writer is grateful and appreciative of the suggestions contributed by the members of the National Science Foundation Program, and the writer's wife, Mrs. Cora Knox, who did the proofreading of the original manuscript, and made suggestions that only a wife would feel free to make.

C. E. K.

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CHAPTER I

INTRODUCTION

In view of the present shortage of specialized science and engineering personnel in the nation, much attention has been focused on their potential supply and the effectiveness of the secondary school to act as a spawning area. When considering the problem in its entirety, the final focus comes on the science teacher. Among the many duties that are placed on the high school teacher of today, are those of counseling and guidance. Many of the laymen and those of the teaching profession alike have been led to believe that these areas of student needs can be cared for only by a specialist. The specialist would be fine; but too often the school cannot afford this luxury. Even if it could, many counselors agree that the classroom teacher is in a much better position to give certain types of guidance than they would be as professional guidance-counselors.

Statement of the Study: Realizing that proper information about planning for the future can be a great incentive to effective learning, this study about the colleges and universities of the State of Oklahoma was initiated. Involved in the study are such important factors as, cost of attendance, suggested high school background, types of

programs available, requirements necessary for completion of degrees, and highest degree available. Also the study helps point out the colleges where special courses of study can be taken and where a student can get certain professional training. Special items of interest to those in the teaching profession were also included.

The need for a better understanding of such things was first experienced by the author a few years ago when a senior student asked the simple question: "Where is a good school to attend for training in geology?" To some, this question may seem trivial, but to the student involved it was to assist him in making one of the most important decisions of his life. At the time he was married and would soon be assuming the responsibilities of becoming a father. Since graduation from high school was only a few weeks away, this was a golden opportunity for the guidance conscious educator.

Scope of the Study: The scope of the study thus resolves itself into a survey of the many facets involved in a decision to attend one of the thirty-three institutions of higher learning in the State of Oklahoma. The survey was limited somewhat to those items that would be of special interest to a teacher of natural science. Some items were included that could be considered the responsibility of areas of study other than the natural sciences, but were placed in the survey since they require a definite concentration of science. Items that affect all students were also included.

Purpose of the Study: The primary purpose of the study

is to broaden the author's personal knowledge concerning certain aspects of the offerings, costs, requirements and other facts about the thirty-three junior colleges, colleges, and universities of the State of Oklahoma. The purpose of the study is not to compare just for the sake of comparing one school with another school, but to get an overall perspective of the items involved. The secondary purpose of the study is to furnish a source of information for others who are particularly interested in this phase of secondary education.

A richer background of knowledge in these items, will better enable the teacher to properly discuss related problems with the parent, the student, the administrator and other teachers.

CHAPTER II

EXPLANATION OF SURVEY

The schools involved in the survey were placed in two groups. The selection was rather fortunate due to the fact that the groups were almost equal in size. The one group which will be referred to as the senior college group,¹ is comprised of universities and colleges, (some with graduate programs) and contains seventeen institutions. The other group, which will be referred to as the junior college group,² is made up of sixteen such institutions that offer some type of two year program beyond the high school course of study.

A postal card with a typed request for their arts and science bulletin,³ was sent to each institution as listed in the Oklahoma Educational Directory.⁴ A response was gained from all but two senior colleges, and four junior colleges. A second request gained a reply from the remaining junior colleges, but it was necessary to get the information for

¹See Appendix B, p. 19.

²See Appendix C, p. 20.

³See Appendix A, p. 18.

⁴Oliver Hodge, Oklahoma Educational Directory, State Department of Public Instruction, Bulletin No. 109-G (Oklahoma City, 1957), pp. 15-16.

the two senior colleges from bulletins on file in the Oklahoma State University Library.

Most of the information used in the report could have been secured from the bulletins on file in the library, except in a few cases where the bulletins were not of the latest printing. Additional information was gained tho by the use of the postal card request, since the author suspects this to be about the average type of correspondance these institutions would receive from high school students. Eleven of the institutions sent additional information that would be of considerable value to the prospective student.

Since special questionnaires were not used, the validity of the survey is somewhat dependent upon the author's interpretation of the material in the bulletins. In some cases where the interpretation was questionable, the assistance of Dr. James H. Zant, Director of the National Science Foundation Institute at Oklahoma State University, and the opinions of various teachers in the institute were used. This approach seems to be logical, since the teacher and the administrator will be making the interpretation for the high school student in many cases. In most cases he will not be able, or will not care to refer to the colleges for their interpretation of certain factors involved.

In making up the various charts of data, chronological numbering was used which corresponds to the alphabetical listings of the two groups. The decision to use this type of reference was made because the lengths of the titles of

some of the colleges prohibit their use in such charts, and the use of first letter abbreviations results in duplications in the cases of four of the junior colleges. This type of references also reduces the tendency for a reader to use the report for comparison purposes only. The author does not intend to infer that comparisons should not be made, but feels that reading the report for the purpose of making comparison only, would cause the reader to lose much of the value of the report.

In developing the various data charts, an attempt was made to place items together that were in some way related. In some cases the items could not be compared on an equal basis because of the conditions existing at the various schools. In these same cases a note of explanation has been added to the chart. The dashed line is used in the charts where the information concerned was not available, or where the item was not applicable to the school involved. The use of the zero or the word none was used where it best fit the information pattern of the chart, or item of the chart.

Since the value of a minor or a Bachelor degree has more meaning and prestige to most people, these terms were used instead of the total number of hours offered in a certain area in many places on the charts. A few items of the survey lend themselves to a simple yes or no answer, since amount and quality would depend on the individual student, while other items of information would be of little value, unless the total number of courses or credit hours are known.

Two examples of such items would be the ROTC program and physical chemistry. The ROTC program of any school must meet certain standards and would have similar value regardless of the school size. In contrast a school offering only one physical chemistry course would present a problem for the student who may desire to go on to a graduate program in chemistry, where more than one undergraduate course in physical chemistry is required.

Because most professions set up certain minimum requirements for the college background necessary in the profession, no attempt was made to analyze these offerings in the different schools. The charts show only the number of years attendance suggested by the college. Where a degree or degrees are offered in a profession, the highest degree is shown. This is also the pattern followed in the various science subject matter fields.

Many times the author suspected that a school could make a desirable contribution to certain areas of training, but since no mention was made in regards to the area in question, the assumption was made that for some reason which was beyond the scope of this report, the school did not consider this area of study an important part of its offering.

The information in regards to the junior college group is somewhat limited, due to the fact that they do not offer a complete program for those interested in science. The material surveyed for this group is somewhat different, but in most cases the notations on the charts and a discussion

in the analysis chapter, chapter IV, will clarify these differences.

Those items of cost of attendance at the various schools include only those things that would be required of all students, as of 1957-58. Personal spending was not included in the estimate but a twenty-five dollar book allowance was included.

The writer believes that to make a proper analysis of the survey, the analysis should be divided into two parts, since the purpose, goal, and results of the junior college curriculum and program is somewhat different from that of the senior college and university. The items will be taken up in the analysis in about the same order that they appear in the appendices.

CHAPTER III

ANALYSIS OF SENIOR COLLEGE SURVEY

Of great concern to most students today will be the cost of attending college.¹ The cost of attending a college in Oklahoma seems to fall into three groupings; the small state operated schools, the state operated universities, and the privately operated colleges. The cost increasing in the same order as just grouped. The main cost item that contributes to this difference is the maximum titution fee. This difference is less than one-hundred dollars per semester for the first two groups, but would contribute to a considerable savings over a four year period. The decision for the student to make here would be to decide if a university education instead of a small college education would merit the extra cost. In some cases two years of attendance in the less expensive school before university attendance may be the solution. No set of rules have been found by the writer that would make this decision easy.

An item that most high school students are concerned about early in high school is the entrance requirments for college. All the colleges of Oklahoma recognize the state accredited high school as being adequate, but do make

¹See Appendix D, p. 22.

additional suggestions about science and mathematics and other subjects.² English proficiency tests are required by thirteen of the colleges, and about the same number require or make available some type of counseling tests.

Some interesting facts were revealed in making a survey of the conventional science and mathematics areas of study.³ Chemistry, biology and mathematics have good offerings in Oklahoma colleges, with only one college unable to offer a degree in chemistry. Physics as a field of training does not do so well in Oklahoma colleges, since five can offer it only as a minor, and one school does not offer enough to qualify for that. Several of the colleges require science courses beyond general education requirements with their mathematics degrees. Nine of the colleges offer the natural science degree, with only one offering the general science degree. The two state universities offer the natural science program at the Master degree level as well.

A few of the more specialized areas of study in science were surveyed,⁴ and the highest degree offered was listed. If only a minor was available it was noted as such.

At the beginning of the survey the author became interested in certain special courses being offered in the colleges of Oklahoma.⁵ The courses are rather new to the college

²See Appendix D, p. 23.

³See Appendix D, p. 24.

⁴See Appendix D, p. 25.

⁵See Appendix D, p. 26.

curriculum, so the information gained should be of some interest to the teacher of science. The general biology course and general physical science course are rather unique in that they attempt to take the place of special courses in beginning botany, zoology, physics, chemistry, and other science subjects, in the general education requirements for the non-science student. The general biology course seems to be more widely used, and in some schools is offered as two, four hour courses, for a total of eight hours. Only one school fails to offer at least four hours. Four of the colleges do not offer the physical science course, but the others seem to give it about the same position in their curriculum as the general biology.

Three other courses were surveyed with this group, because of their importance to the future studies of physics, chemistry, and biology. Again physics suffers with its modern physics courses. Seven of the colleges do not offer a course in atomic or nuclear physics. Only four offer more than one course. Biochemistry and physical chemistry do much better, but many schools offer only one course in physical chemistry.

The professional and pre-professional offerings were checked and the highest degree offered was listed.⁶ In cases where training, leading to the securing of the degree or certificate at another institution, was available, the

⁶See Appendix D, pp. 27-28.

total number of years was listed. Most of the colleges of Oklahoma are able to offer a reasonable number of these programs.

Since the primary purpose of the study was to gain more knowledge about the colleges and universities of Oklahoma, the writer believes that some of the survey should be devoted to items that are of interest to those in the teaching profession.⁷ These same items of the survey can be used to assist those students who may wish to choose a career as a professional educator. The items chosen are of such nature that they are either a part of the science program or will directly affect it.

This section of the survey shows five schools offering a certificate for school counselor, and four offering a teacher-counselor certificate. Seven of the colleges offer a certificate in special education, and eight are able to offer a provisional certificate for administrators. Three of the universities offer Doctor of Education degrees in the area of administration and higher education.

The offerings of the various schools in the areas of agricultural education and home economics education was studied in the survey since both require a good background in chemistry and biology. Only four colleges offer degrees in agricultural, while all but one offer degrees in home economics.

⁷See Appendix D, p. 29.

Another chart somewhat related to this group,⁸ shows the highest degree offered in the three main areas of science and in mathematics. Also listed is the highest degree offered in elementary and secondary education. Seven of the colleges offer a Masters degree in these two areas of education. Three of the universities offer the Doctor of Education degree.

The last chart of the senior college group is made up of miscellaneous items that add considerable value to the study,⁹ but did not fit into the other charts. The information is of such nature that it seems to explain itself without added comment.

⁸See Appendix D, p. 30.

⁹See Appendix D, p. 31.

CHAPTER IV

ANALYSIS OF JUNIOR COLLEGE SURVEY

In making an analysis of the junior college survey, the writer will not use as much detail, since such things as degrees and completed programs are not involved.

Generally speaking the junior college is less expensive to attend because entrance and tuition fees are less.¹ It was not possible to get an estimated cost for all of these schools, since several do not have dormitories and cafeterias. More of the schools of this group charge special laboratory fees than was true with the senior college group.

Entrance requirements are about the same for the junior college group.² The English proficiency test is required by less than half of the group, and counseling test are required by about the same number. All of the junior colleges recognize the state accredited high school as being adequate, but few make any suggestions as to desirable high school subjects. The Oklahoma Military Academy does have a relatively high academic program set up for its high school.

In the survey of the conventional science subjects,³

¹See Appendix E, p. 33.

²See Appendix E, p. 34.

³See Appendix E, p. 35.

the study shows physics coming out on the short end again, with only one junior college able to offer more than the equivalent of the first two general courses. Only two schools were unable to offer courses beyond the general courses in chemistry, three in mathematics, and six in biology. All but six, offer the general biology course, but only six offer the physical science course.

A check of six random science areas shows two schools not offering courses in physics,⁴ and only three of the junior colleges offering some type of course in geology. One of the group does not offer a class of any type in zoology or botany. All members of the group are able to offer one year or more of work in chemistry.

Since several of the junior college group are agricultural type schools, the good offerings in agriculture and home economics would be expected.⁵ Only four of the schools do not offer some type of program in elementary and secondary education.

The offerings of pre-professional training programs in the junior college group is good, with only two schools that do not have a pre-engineering program. In most cases, programs of pre-professional training are set up on a one or two year option plan.

⁴See Appendix E, p. 36.

⁵See Appendix E, pp. 37-38.

CHAPTER V

CONCLUSION

Regardless of a few adverse comments and the shortages indicated in the analysis of this report, the science training potential of the colleges and universities of the State of Oklahoma is good. Most of the schools that have shortages in their science program, have excellent programs in other areas.

The value of the information gained by the writer cannot be measured in number of words, pages, or time. Regardless of the area of future teaching, this understanding of the college program of the thirty-three institutions of higher learning in the State of Oklahoma, will be of great value.

One conclusion can be made in regard to the report for the high school graduate of Oklahoma. He need not look beyond the borders of the state for training in almost any endeavor related to science he may choose. Some college in the state will probably have a program that will fulfill his needs.

APPENDIXES

APPENDIX A

POSTAL CARD REQUEST

Dear Sir:

Please send your Arts and Science bulletin and all other information you may have available that would be of interest to a high school student planning future work at the college level.

Yours truly,

Conrad Knox
313-B N. Duncan
Stillwater, Oklahoma

APPENDIX B

THE SENIOR COLLEGE GROUP

<u>Group No.</u>	<u>Name of College</u>	<u>City</u>
1	Benedictine Heights College	Tulsa
2	Bethany Nazarine College	Bethany
3	Central State College	Edmond
4	East Central State College	Ada
5	Langston University	Langston
6	Northeastern State College	Tahlequah
7	Northwestern State College	Alva
8	Oklahoma State University	Stillwater
9	Oklahoma Baptist University	Shawnee
10	Oklahoma City University	Oklahoma City
11	Oklahoma College for Women	Chickasha
12	Panhandle A. & M. College	Goodwell
13	Phillips University	Enid
14	Southeastern State College	Durant
15	Southwestern State College	Weatherford
16	University of Oklahoma	Norman
17	University of Tulsa	Tulsa

APPENDIX C

THE JUNIOR COLLEGE GROUP

<u>Group No.</u>	<u>Name of College</u>	<u>City</u>
1	Altus Junior College	Altus
2	Bacone College	Bacone
3	Cameron State Agricultural College	Lawton
4	Central Christian College*	Bartlesville
5	Conners State Agricultural College	Warner
6	Eastern State Agricultural College	Wilburton
7	El Reno Junior College	El Reno
8	Murray State Agricultural College	Tishomingo
9	Muskogee Junior College	Muskogee
10	Northeastern Okla. A. & M. College	Miami
11	Northern Oklahoma Junior College	Tonkawa
12	Oklahoma Military Academy	Claremore
13	Poteau Junior College	Poteau
14	Sayre Junior College	Sayre
15	Seminole Junior College	Seminole
16	St. Gregory's College	Shawnee

*, To be moved to Oklahoma City in 1958.

APPENDIX D

CHARTS OF THE SENIOR COLLEGE GROUP SURVEY

Cost Items					
Group Number	Fee per Semester Hour	Maximum Fee	Board and Room	Estimated Cost per Semester	Laboratory Fee
1	\$12.50	\$225.00	\$100.00**	\$575.00	yes
2	12.00	165.00	199.00	389.00	none
3	4.50	54.00	212.00	291.00	breakage
4	4.50	54.00	211.00	290.00	none
5	4.50	54.00	164.00	243.00	none
6	4.50	54.00	212.00	291.00	none
7	4.50	54.00	219.00	298.00	none
8	7.00	84.00	270.00	379.00	breakage
9	14.25	200.00	233.00	458.00	none
10	15.00	200.00	60.00**	425.00	none
11	-----	-----	-----	300.00	none
12	5.00	60.00*	180.00	240.00	none
13	17.50	210.00	222.00	457.00	breakage
14	4.50	54.00	200.00	279.00	none
15	4.50	54.00	205.00	284.00	none
16	7.00	84.00	270.00	379.00	breakage
17	-----	225.00	77.00**	582.00	breakage

*, Includes book rent.

** , Room only.

Guidance Items						
Group Number	English Proficiency Test Required	H. S. English Units Suggested	H. S. Math. Units Suggested	H. S. Science Units Suggested	Admission by Special Testing	
1	yes	3	2	1	*	
2	yes	3-4	1-4	1-4	*	
3	yes	3-4	1	1	*	
4	yes	3-4	2	1	*	
5	yes	3-4	1-2	1	*	
6	yes	4	1	1	*	
7	yes	3-4	1	1	**	
8	yes	---	---	---	*	
9	yes	4	2	1	*	
10	---	---	---	---	*	
11	---	---	---	---	*	
12	yes	---	---	---	*	
13	---	---	---	---	---	
14	---	---	---	---	*	
15	yes	3-4	1	1	**	
16	yes	---	---	---	***	
17	yes	3	2	---	*	

*, Veterans and students over 21 years of age.

**, Special students, 18 years and over.

***, 14 H. S. units and recommendation of principal.

Minimum Hours Required for Degree

Group Number	Biology	Chem.	Physics	Natural Science	Math.	Science* with Math.
1	**	minor	minor	46	24*	0
2	30	32	minor	--	34	0
3	34	35	34	42	33	0
4	28	28	28	41	31	16
5	30	35	--	--	30	0
6	28	28	24	42	30	5
7	28	28	minor	42	32	10
8	**	38	24*	62*****	40	0
9	25	25	24	--	24*	0
10	24	24	26	--	24	0
11	20*	20*	minor	--	20*	0
12	30	38	minor	53***	28	0
13	27	24	24	--	24*	10
14	30	28	28	42	35	0
15	30	28	28	42	30	8
16	**	34	31	62*****	40	minor
17	**	42	31	--	30	16

*, Courses beyond general education requirement.

**, BS degrees offered in Botany and Zoology.

***, BS in general science.

****, MS degree offered.

Additional Science Degrees Offered

Group Number	Botany	Zoology	Bacteri- ology	Geology	Geo- physics	Geog- raphy
1	BA	BA	--	--	--	--
2	--	--	--	--	--	--
3	--	--	--	--	--	BS
4	--	--	--	--	--	minor
5	--	--	--	--	--	--
6	--	--	--	--	--	BA
7	--	--	--	minor	--	BS
8	Ph.D	Ph.D	MS	BS	--	BS
9	--	--	--	--	--	--
10	--	--	--	BA	--	--
11	--	--	--	--	--	--
12	--	--	--	--	--	--
13	minor	BS	--	BA	--	--
14	--	--	--	minor	--	BA
15	--	--	--	--	--	--
16	Ph.D	Ph.D	BS	Ph.D	--	BA
17	MA	MA	--	MA	BS	BA

Special Science Courses

Group Number	Hours General Biology	Hours General Physical Science	Hours Physical Chemistry	Modern Physics Courses	Hours Bio-Chemistry
1	4	8	0	0	0
2	5	5	5	0	0
3	4	4	8	1	3
4	4	4	6	1	3
5	8	--	8	0	8
6	4	4	5	0	3
7	4	4	6	0	3
8	8	--	**	**	**
9	4	5	10	1	0
10	4	--	6	4	3
11	--	--	6	0	3
12	4	4	3	0	3
13	5	10*	8	2	4
14	4	4	6	1	3
15	4	4	4	1	4
16	5	5	**	**	**
17	4	8	8	**	0

*, An integrated course in physics and chemistry.

**, More than 15 hours offered.

Years Pre-professional Study

Group Number	Pre-Medical	Medical Technology	Nursing	Pharmacy	Denistry
1	4	3	2	2	3
2	4	3	2	--	3
3	4	3	2	--	3
4	--	3	--	--	--
5	4	3	2	--	--
6	4	--	--	--	3
7	4	3	1	1	3
8	4	3	1	1	3
9	4	3	BS	1	3
10	4	3	2	3	2
11	--	3	2	--	--
12	4	--	--	--	3
13	4	3	2	--	--
14	4	2	2	2	3
15	4	3	2	BS	3
16	MD	3	BS	BS	3
17	4	3	2	--	3

Years Pre-professional Study

Group Number	Engineering	Veterinary Medicine	Physical Therapy	Optometry
1	2	2	2	2
2	2	--	--	--
3	2	--	--	--
4	--	--	--	--
5	--	--	--	--
6	--	--	--	--
7	2	2	--	--
8	Ph.D	VMD	--	--
9	3	--	BS	--
10	3	--	2	2
11	--	--	--	--
12	2	2	--	--
13	2	--	--	--
14	2	--	--	--
15	2	--	--	2
16	Ph.D	--	BS	--
17	MS	2	3	2

Professional Education Programs

Group Number	School Counselor Certificate	Teacher Counselor Certificate	Special Education Certificate	Administrators Certificate	Elementary Education	Secondary Education
1	---	---	---	---	BS	--
2	---	---	---	---	BS	--
3	yes	yes	yes	*	MT	MT
4	---	---	---	*	MT	MT
5	---	---	yes	---	BS	BS
6	---	---	---	*	MT	MT
7	---	---	---	*	MT	MT
8	yes	yes	yes	Ed.D	Ed.D	Ed.D
9	---	---	---	---	BS	BS
10	---	---	---	*	BA	BA
11	---	---	yes	---	BS	--
12	---	---	---	---	BS	--
13	yes	yes	yes	*	MA	MA
14	---	---	---	*	MT	MT
15	---	---	---	*	MT	MT
16	yes	---	yes	Ed.D	Ed.D	Ed.D
17	yes	yes	yes	Ed.D	Ed.D	Ed.D

*, Provisional, requires Masters degree plus two years experience.

Highest Degree Offered

Group Number	Biology	Chem.	Math.	Physics	Agricul- tural	Home Economics
1	*	minor	BA	minor	--	BS
2	BS	BS	BA	minor	--	BS
3	BS	BS	BS	BS	--	BS
4	BS	BS	BS	BS	--	BS
5	BA	BS	BS	--	BS	BS
6	BS	BS	BS	BS	--	BS
7	BS	BS	BS	minor	minor	BS
8	*	Ph.D	Ph.D	Ph.D	MS	Ed.D
9	BA	BA	BA	BA	--	BS
10	BA	BA	BA	BA	--	--
11	BA	BA	BA	--	--	BS
12	BS	BS	BS	minor	BS**	BS
13	BA	BA	BA	BA	--	BS
14	BS	BS	BS	BS	BS	BS
15	BS	BS	BS	BS	--	BS
16	*	Ph.D	Ph.D	Ph.D	--	MS
17	*	MA	MA	BS	--	BA

*, Degree offered in botany and/or zoology.

**, Plus 16 hours graduate work.

Miscellaneous

Group Number	Photography Offered	Science Awards	Correspondance Courses Available	ROTC Program
1	---	---	---	---
2	---	1	---	---
3	yes	2	yes	---
4	---	---	yes	---
5	---	---	---	yes
6	yes	---	yes	---
7	yes	---	yes	---
8	BS	*	yes	yes
9	BS	3	---	---
10	---	---	---	---
11	---	1	---	---
12	---	---	---	yes
13	yes	1	---	---
14	yes	---	yes	---
15	---	4	yes	---
16	BS	*	yes	yes
17	---	*	---	yes

*, Award many graduate scholarships and assistantships.

APPENDIX E

CHARTS OF THE JUNIOR COLLEGE GROUP SURVEY

Cost Items

Group Number	Fee per Semester Hour	Maximum Fee	Board and Room	Estimated Cost per Semester	Laboratory Fee
1	\$ 6.00	\$ 67.50	-----	-----	yes
2	5.00	75.00	\$270.00	\$370.00	yes
3	3.25	39.00	152.00	191.00	no
4	15.00	150.00	237.00	412.00	yes
5	3.25	39.00	189.00	253.00	no
6	3.25	39.00	189.00	253.00	no
7	7.50	85.00	-----	-----	yes
8	3.25	39.00	176.00	240.00	no
9	8.80	66.00	-----	-----	yes
10	3.25	39.00	200.00	269.00	no
11	3.25	39.00	189.00	253.00	no
12	-----	-----	-----	*	---
13	6.00	85.00	-----	-----	yes
14	7.50	77.50	-----	-----	yes
15	5.50	60.00	-----	-----	no
16	10.00	-----	-----	442.00	yes

*, \$1,031.25 per year, which includes uniforms, room, board, and all other items that the student will need while in school. Second year is reduced to \$551.25.

Guidance Items					
Group Number	English Proficiency Test Required	H. S. English Units Suggested	H. S. Math. Units Suggested	H. S. Science Units Suggested	Admission by Special Testing
1	---	---	---	---	---
2	---	---	---	---	---
3	yes	---	---	---	**
4	yes	4	1	1	**
5	---	---	---	---	**
6	---	---	---	---	**
7	yes	---	---	---	---
8	---	---	---	---	**
9	---	---	---	---	**
10	yes	---	---	---	**
11	yes	---	---	---	**
12	---	3-4*	2*	2*	***
13	---	---	---	---	**
14	---	---	---	---	***
15	---	---	---	---	**
16	---	3	2	1	***

*, Required for graduation from Oklahoma Military Academy High School.

**, 21 years of age and over.

***, Make up any high school deficiencies.

Hours of Special Science Courses

Group Number	General					
	General Biology	Physical Science	Advanced Biology*	Advanced Chem.*	Advanced Physics*	Advanced Math.**
1	---	---	---	---	---	---
2	---	---	14	8	---	14
3	4	---	11	17	---	12
4	5	---	---	5	---	8
5	4	4	11	8	---	13
6	4	4	17	18	---	12
7	---	---	---	---	---	---
8	6	3	10	13	---	11
9	---	---	5	9	---	9
10	8	---	7	13	---	12
11	4	---	15	18	---	13
12	5	---	---	5	---	12
13	---	4	---	5	---	---
14	5	4	5	12	3	11
15	4	4	---	---	---	12
16	---	---	12	12	---	12

*, Courses not listed as "general", or courses above those that satisfy general education requirements.

**, Mathematics above trigonometry.

Science Courses Offered

<u>Group Number</u>	<u>Botany</u>	<u>Chem.</u>	<u>Math.</u>	<u>Physics</u>	<u>Geology</u>	<u>Zoology</u>
1	---	yes	yes	---	---	---
2	yes	yes	yes	yes	---	yes
3	yes	yes	yes	yes	---	yes
4	yes	yes	yes	yes	---	yes
5	yes	yes	yes	yes	---	yes
6	yes	yes	yes	yes	yes	yes
7	yes	yes	yes	yes	---	yes
8	yes	yes	yes	yes	---	yes
9	yes	yes	yes	yes	---	yes
10	yes	yes	yes	yes	yes	yes
11	yes	yes	yes	yes	---	yes
12	yes	yes	yes	yes	yes	yes
13	yes	yes	yes	yes	---	yes
14	yes	yes	yes	yes	---	yes
15	yes	yes	yes	yes	---	yes
16	yes	yes	yes	yes	---	yes

Pre-professional Study

<u>Group Number</u>	<u>Engineering</u>	<u>Agriculture</u>	<u>Home Economics</u>	<u>Education</u>	<u>ROTC</u>
1	---	---	---	---	---
2	---	yes	yes	---	---
3	yes	yes	yes	yes	yes
4	yes	---	yes	yes	---
5	yes	yes	yes	yes	yes
6	yes	yes	yes	yes	yes
7	yes	---	yes	yes	---
8	yes	yes	yes	yes	yes
9	yes	---	yes	yes	---
10	yes	yes	yes	yes	yes
11	yes	yes	yes	yes	---
12	yes	---	---	---	yes
13	yes	yes	yes	---	---
14	yes	---	yes	yes	---
15	yes	---	---	---	---
16	yes	---	---	yes	---

Pre-professional Study

Group Number	Pharmacy	Nursing	Veterinary Medicine	Medicine	Denistry
1	---	---	---	---	---
2	---	---	---	---	---
3	yes	yes	yes	---	---
4	---	yes	yes	yes	yes
5	---	---	yes	yes	yes
6	yes	yes	yes	yes	yes
7	---	---	---	yes	yes
8	yes	yes	yes	yes	yes
9	---	yes	---	yes	---
10	---	yes	yes	yes	yes
11	---	yes	---	yes	---
12	---	---	yes	yes	yes
13	yes	yes	---	yes	yes
14	yes	---	---	yes	yes
15	---	---	---	---	---
16	yes	---	---	yes	yes

VITA

Conrad Eden Knox

Candidate for the Degree of

Master of Science

Report: A SURVEY OF SCIENCE PROGRAMS AND RELATED SUBJECTS
IN OKLAHOMA COLLEGES, 1957-1958.

Major Field: Natural Science

Biographical:

Personal data: Born at Fairvalley, Oklahoma, November
23, 1921, the son of Charles C. and Clara C. Knox.

Education: Attended grade school in Fairvalley and
Bluemound, Oklahoma; graduated from Northwestern
High School in 1940; received the Bachelor of
Science degree from Northwestern State College,
Alva, Oklahoma, with a major in Chemistry in May,
1950; completed professional training for teaching
certificates in May, 1951; completed requirements
for the Master of Science degree in May, 1958.

Professional experience: Five years as a science teacher
in Alva High School, Alva, Oklahoma.

Member of: National Science Teachers Association,
Oklahoma Academy of Science, National Education
Association (life), and Phi Delta Kappa.