THE EFFECT OF THE NATIONAL DEFENSE EDUCATION ACT OF 1958 TITLE III ON THE ENROLLMENTS IN THE SUBJECTS OF MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES TAUGHT IN THE HIGH SCHOOLS OF THE STATE OF KANSAS

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INTRODUCTION

With the enactment into law of the National Defense Education Act of 1958 Title III, hereafter referred to as NDEA, there has been increased emphasis on the areas of education covered by this act. Some of these areas are mathematics, science, and foreign language. They have aroused great interest among educators and the general public. Information was gathered on the enrollments in these areas and studied to determine if any trends could be detected. It was felt that such information could be useful in the future development of the program.

Our way of life has changed because engineers have applied the many discoveries of the ages to practical uses. We find ourselves living in an era in which it takes many more educated people to maintain our standard of living. The attention in the United States had been focused more and more upon the school as the source of training for the labor force, whose purpose was to maintain the many devices that have contributed to our elevated standard of living. Even this attention was brought more sharply into focus with the launching of the first artificial satelite. There was a sudden questioning concerning the subjects being taught in the schools and their possible value as a part of our future. The subjects of mathematics and science, since they were direct contributors to our sources of engineers and scientists, were critically examined as a possible cause of this shortage of technical personnel. As our competition for world favor increased, a need for more foreign language to be taught was noted. The teaching of foreign languages was strongly

recommended both for cultural purposes and for a means to make our schools more effective.

Our own government recognized the problem and began a number of projects designed to improve the situation. The National Science Foundation conducted a number of institutes to improve the teaching of these subjects in the spotlight. To make the teaching more attractive in the schools themselves, NDEA spent considerable money in equipping and refurnishing laboratories and classrooms used for instruction of these emphasized subjects. Industry banded itself together with a number of foundations designed to further the cause and increase our science potential.

Many questions were asked concerning the cause of this seeming decrease of available scientific personnel. Had schools failed to train students in these fields? Many believed that schools had turned away from the good old days when mathematics, science, and foreign languages were required of all students. Many figures submitted of recent years showed decreases in the number and percentages of students in these spotlighted subjects.

It was also a possibility that the excellence of industry had complicated the problem by creating so many products, which required a trained technician to maintain and to operate, that it took many more people with scientific backgrounds than schools were in the habit of producing. If this was the case, perhaps more stimulation in these subjects would produce the desired results. All fields of endeavor had certainly increased their demands for trained personnel in these subjects.

Many realized that our struggle for our way of life would be aided to a great extent by the work done in the laboratories and classrooms of mathematics, science, and foreign language.

With this as a background a study was made of the schools in the state of Kansas to find out how some of these problems were being treated in our schools. An effort was made (1) to find out how many and what size schools were offering mathematics, science, and foreign languages; (2) to find out how many and where the students studied these subjects; and (3) to make some comparisons with the results for the school years of 1957-1958, 1959-1960, and 1960-1961. These were all parts of this study. If the NDEA had any effect, it might be detected by a notable change in the enrollment of the students of Kansas during the school years 1959-1960 and 1960-1961 when compared to the school year 1957-1958, as reported by the State Department of Public Instruction.[1]

THE PROBLEM

The problem to be considered is the effect of the NDEA on enrollments in the subjects of mathematics, science, and foreign languages taught in the high schools of the state of Kansas. The effects studied in this report were (1) the expenditures of NDEA funds in the state of Kansas in the early phases of operation and (2) the enrollment changes that occurred.

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[1]Adel F. Throckmorton, Kansas Biennial Report. Topeka: Kansas State Department of Instruction, 1958. p. 14.

DEFINITIONS

In this report a school year is the year in which school began. For example, 1957 refers to the school year which normally begins in September and continues through to May or June of 1958. Thus the commonly expressed school year 1958-1959 is known as 1958.

The schools considered in this report are all the schools, both public and non-public, enrolling any students in grades nine through twelve. Only the population of that school lying within these grades was used to determine the school's classification into the groups used. This report of the number of schools included about 70 junior high schools and 45 private schools since these schools enrolled students in the range of the ninth to twelfth grade.

METHODS

During the first visit made by the writer to the State Department of Public Instruction Mr. George Cleland suggested that a continuation of a study he had prepared in 1957 be done. This report presented data showing the number of schools and their enrollment for that year in the subject areas of mathematics, science, and foreign languages. It was Cleland's report which served as the foundation of the present report which has been expanded from Cleland's original notes, and included as the data for 1957 found in this report. The 1957 report was the last one made before NDEA was introduced to the schools of Kansas.

In making this report the data from nearly 1,600 High School Principal's Organization Reports for the years 1959 and 1960 were examined

and the data tabulated.[1] The same grouping of Kansas schools used in the previous report of 1957, was used in this report. There were five classifications of schools used: Group A for schools with a total enrollment of 0 to 50, group B for schools enrolling 51 to 100, group C for schools enrolling 101 to 300, group D for schools enrolling over 300, and group E for the totals of all schools enrolling students. Hereafter in this report these groups will be referred to as groups A, B, C, D, or E.

The number of schools teaching each subject and the number of students enrolled were tabulated and displayed in the several tables of this report. The tables are arranged to provide information by enrollment groups of A, B, C, D, and E for each grade or subject. Each grade or subject has two subheadings which are named schools and students. Each subheading has two classifications of the data, (1) the number of the units represented which are presented in odd numbered columns and (2) the per cent of that number which follows in the next even numbered column. The per cent is based upon the possible number which could be involved in this classification. That is, the percentages in the grade column are compared to the total numbers given in row E, columns one and three. The percentages in the subject columns are compared to the totals in the grade column as shown in rows A, B, C, and D, columns one and three.

It should be noted that since the records used for the report were being used by the State Department of Public Instruction it was often found

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[1]Appendix A. High School Principal's Organization Report.

that some of the necessary records were not available at the time the study was made, but an attempt was made to include as many as possible of the reports by making a later follow-up of the study. It was felt that those records used were representative of the state and any conclusions reached on the basis of the study would be valid. The difference between the numbers included in this report and numbers included in the Educational Directory made by the State Department of Public Instruction was small.

In making the comparison studies it was assumed that the subjects of algebra I, general mathematics, general science, and first year courses of foreign languages were taught to the students of the ninth grade. No provisions for other grades being enrolled in these courses were allowed in the analysis. Plane geometry, designated geometry, biology, and all second year foreign languages were considered as belonging to the tenth grade. Algebra II and chemistry were assigned to the eleventh grade. Trigonometry and solid geometry, physics, and those courses marked "others" were assigned as twelfth grade subjects. In the grouping of "others" were put those experimental and unusual courses not easy to classify and not standard to many schools. "Others" in mathematics included such course titles as senior mathematics, college algebra, algebra III, analytic geometry, calculus, statistics and probability, and solid geometry. Under science "others" included such course titles as geology, earth science, physical science, biology above the first year and botany. There were courses of physiology and psychology listed in the Principal's Organization Reports, but were not included. Considerable judgment had to be used to classify a few of the course titles offered.

Any course, which might be offered for a short period, was considered as supplying at least one-half unit and was counted as a full course. Many schools offered trigonometry as part of a unit and some as full units, but it was always counted as a full unit. This made some of the enrollment figures higher than they actually should have been, but there was no way of making an accurate count at some of these points. Also there was the possibility that the count was higher for some of the lower units as it was usually possible for an upper classman to enroll in one of the lower subjects. This accounted for some confusion in the count made as it was used in this study. There was also a number of schools in the state which offered the subjects on a rotation plan in which the course was not offered every year. This required the student to take the course out of regular sequence. These are errors that were inherent in this study and it was impossible to eliminate them. It was felt that they were small enough to be usually neglected.

REVIEW OF LITERATURE

With the development of the Kansas Educational Survey there was increased interest in the education of Kansas children. It was this interest, along with the general interest in schools, which had much to do with the development of this report. Some of the report was designed to confirm some contentions about the Kansas schools and some of the report was planned to discover any relationship toward NDEA. This two-fold purpose was kept in mind while reporting on the findings of others in this area.

To begin with there had been a clamor for increased attention to various subjects as to the way they were treated in our Kansas schools. In many cases it was urged that certain courses of mathematics be dropped from the curriculum and that others be added.[1] These changes were advocated to update the teaching of mathematics which would cause the teaching of more modern mathematics courses and would raise the level so as to include four units of mathematics or more in the schools. Also it would be necessary to alter the curriculum in many cases to meet entrance requirements in some of the schools of higher learning.

It was also noted that much had been written upon the educational opportunities being a function of the size of the school.[2] John M. Burger[3] felt that some of the inequality was due to teacher training variations, and that not all mathematics teachers were full time mathematics teachers.

Many writers were noting an increased enrollment in mathematics, science, and foreign languages. In fact, it was this change which prompted the present study. In Adel F. Throckmorton's biennial report a series of data was presented which was expanded and included in this report for comparison purposes.[4] The data reproduced here was from the original data and was included for only the subjects of mathematics, science, and foreign

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[1]"Secondary School Math Needs Updating". Kansas Schools, 16:5 October 1959.

[2]Ibid.

[3]John M. Burger, Background and Academic Preparation of the Mathematics Teachers in the Public High Schools of Kansas 1957-1958. Emporia Research Studies, Vol. 7, No. 3, March 1959.

[4]Throckmorton, loc. cit.

Language. This data was actually secured under the direction of George Cleland of the State Department of Public Instruction and was the basis for the selection of the grouping and classifications as they were used in this report.

From the many sources of data supplied by the United States Department of Health and Education, it was stated that 69.5 per cent of all the eligible ninth grade students in 1956 were enrolled in algebra I.[1] It was also stated that at the same time 44.6 per cent of the students were taking general mathematics and the combined percentage of ninth grade students taking algebra I or general mathematics was 92.8 per cent.

Peddicord surveyed 498 Kansas high schools in 1957 and reported the enrollments in mathematics and science as follows:[2]

	ENROLLMENT	PER CENT		ENROLLMENT
Algebra I	13,613	43.7	General Science	9,279
Algebra II	2,992	9.6	Biology	12,556
Geometry	7,526	24.2	Physics	2,612
Solid Geometry	342	1.1	Chemistry	3,865
Trigonometry	538	1.9	Physiology	295
General Math	5,280	17.0	Botany	79
Business Math	853	2.7		
Total	31,144	100.0		28,626

[1]Kenneth E. Brown and Ellsworth S. Obourn. Offerings and Enrollments in Science and Mathematics in Public High Schools. No. 120. Washington: Government Printing Office, 1954.

[2]Rita Rae Peddicord. "Enrollment in High School Mathematics and Science in Kansas," Master's Report, (Manhattan, Kansas: Kansas State University, 1959).

In commenting "On Hoodwinking the Public", Mr. Hand found that many people misquote statistics to prove a point in their favor.[1] This was done he stated in making false comparisons against groups which were not representative of the situation. Often the number of students in a certain class was compared with the total number of students enrolled in schools, rather than with the number of students who could possibly enroll in this class. Such comparisons resulted in percentages which were lower than true values by being approximately one fourth of the true value.

In an unpublished report of the Kansas State Department of Public Instruction the following information was found concerning enrollments in foreign languages in Kansas public schools: Here it was stated that in 1958 there were 9.8 per cent of all high school students enrolled in a foreign language course, while by 1959 this figure had increased to 12.3 per cent. These enrollments were in 23.64 per cent of the 664 Kansas schools in 1958 and 38.33 per cent of the 660 Kansas schools in 1959.[2]

Other reports which have been published could be used for some comparisons, but have very limited applications since the units are difficult to translate to a common unit. One of these reports which might be

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[1]Harold C. Hand. "On Hoodwinking the Public". Illinois Education, March,1957.

[2]"Foreign Language Offerings and Enrollments in Public Junior and Senior High Schools, Fall 1958 and Fall 1959." Topeka: Kansas State Department of Public Instruction, 1960.

mentioned was Brenkelman and Andrews of Emporia.[1] Another was Finkel who wrote about choices made by students.[2]

Different aspects of the NDEA have caused much controversy about how the program will affect education. In reports to the National Association of Secondary Schools George L. Cleland and others discussed the amount of help schools can derive from the act. From Cleland's point of view there was much to be gained.[3] Writing in a later issue Barrows discussed NDEA from the standpoint of what might be expected and what were the limiting factors.[4] As to how the picture looked in the state of Kansas there are the reports of the state department made to NDEA authorities which list the amount requested and spent in the various years.[5] Here various breakdowns were given of these funds among which a total for secondary schools in 1959 was as follows: 322 projects requesting $557,427.20 for science projects with 37 remodeling projects requested

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[1]John Brenkelman and Ted F. Andrews. Offering and Enrollments in the Secondary School Sciences. Emporia State Research Studies, Emporia, Graduate Division of K. S. T. C., March, 1956, 4(3).

[2]Maurice Finkel. "Factors Affecting the High School Students Choice Regarding a Science Career". Science Education, 45(2): 153-157. March, 1961.

[3]George L. Cleland, J. G. Sullivan and R. R. Vance. "What and How Much Help Can Schools Derive from Provisions of the NDEA". National Association Secondary School Principal's Bulletin, April, 1960 44:20-23.

[4]M. W. Barrows. "What Is the Score on Provisions of the NDEA." National Association Secondary School Principal's Bulletin, April, 1961 45:136-141.

[5]George Cleland. National Defense Education Act Report. Topeka: Kansas State Department of Public Instruction, 1959.

for $54,665.15 cost.[1] Approved projects amounted to 311 projects costing $486,613.82 with 34 remodeling projects costing $42,131.80 and involving 34 class rooms. In mathematics requests for 51 projects were received for funds amounting to $12,296.19 and 1 remodeling project costing #250. During this year 47 projects were approved for mathematics for a value of $10,117.30. Likewise for foreign languages there were 79 projects requested for funds totaling $276,229.59, and remodeling of 7 projects costing $7,701.17. Foreign languages completed 77 projects which were approved fo a cost of $274,524.50, with 7 remodeling projects on which $7,677.16 was spent. These amounts began with the amount of $11,677.02 spent in 1958 at the start of the program and expanded to an amount of $562,148.83, the total amount expended in 1959 and further expanded to $610,525.43, the total amount for 1961. These figures showed a substantial increase as the work of the NDEA grew. Additional data on the disbursment of NDEA funds was published in the Kansas Schools, a bulletin from the State Department of Public Instruction.[2]

Smith has provided a percentage distribution of the funds through the fiscal year 1959 as follows:[3]

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[1]George Cleland, National Defense Education Act Report, Topeka: Kansas State Department of Public Instruction, 1961.

[2]Additional Applications Accepted under National Defense Act," Kansas Schools, 16:1, November, 1959.

[3]Herbert A. Smith, "Purchases under Title III of the National Defense Education Act." University of Kansas Bulletin of Education, 16:128, May, 1962.

	PER CENT		PER CENT
Printed matter	11.2	Mathematics	1.1
Furniture	15.3	Light and wave motion	12.3
Minor remodeling	13.7	Microscopes	10.1
Measuring and indicators	5.7	Electricity and magnetism	3.5
Kits	3.2	Atomic and nuclear	1.0
Biology	3.1	Language and audio-visual equipment and materials	23.9

Total Amount $ 598,065

FINDINGS

The findings of this report are best displayed with the aid of tables and graphs. Four tables were prepared in which the enrollment and school information for each of the grades nine through twelve was presented in a separate table. Each table has the total enrollment for that grade and the enrollment in the studied subjects usually taught in that grade. Similarly there is a bar graph which presents this information in more pictorial form. By the use of contrasting sections of lines on a bar graph it is possible to show comparative enrollments for the schools for the different enrollment groups as well as the changes that occured in the enrollments studied.

Table I displays the information that the total number of schools for the state of Kansas was reduced from 705 in 1957, to 656 in 1959, and to 645 in 1960. This represented a decrease in the number of schools

of about 9 per cent most of which occured in the small schools of groups A and B. The total enrollment on the other hand increased from 113,044 in 1957, to 119,519 in 1959, and to 122,448 in 1960. This represented an increase of about 8 per cent in grades nine through twelve. Thus it was noted that factors were at work reducing the total number of schools. At the same time the total school population increased in Kansas. The decrease in number of schools during this period was accomplished through consolidation and was caused largely by the shift of the population to the larger centers. Also the decrease was probably influenced by recommendations of the state department.

The students of algebra I increased from 21,549 in 1957, to 24,578 in 1959, and to 28,617 in 1960. The students enrolled in algebra represented 64 per cent of the ninth grade students in 1957, 78 per cent in 1959, and 79 per cent in 1960. This was an increase of 15 per cent of the ninth grade students who did take algebra I. It was also an interesting fact that the higher per cent of the ninth grade students taking algebra I was found in groups A and B with group D being smaller. This was in contrast to the idea that the smaller schools were not equipped to provide the opportunity for study in algebra I. School size was not the only factor in the subjects offered. Algebra was taught to a larger percentage of ninth grade students in the small school of group A and B, however some of these schools only offered algebra I on alternate years.

Since mathematics is a required subject in the curriculum of the state of Kansas and all students do not take algebra I, a provision is made for others to take general mathematics. In 1957 there were 14,438

TABLE I (A)

NUMBER AND PER CENT OF KANSAS SCHOOLS AND OF NINTH GRADE STUDENTS ENROLLED IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES DURING THE YEARS 1957, 1959, AND 1960

ENROLLMENT GROUP	YEAR	NINTH GRADE SCHOOLS		NINTH GRADE STUDENTS		ALGEBRA I SCHOOLS		ALGEBRA I STUDENTS		GENERAL MATH SCHOOLS		GENERAL MATH STUDENTS		TOTAL MATH SCHOOLS		TOTAL MATH STUDENTS		GENERAL SCIENCE SCHOOLS		GENERAL SCIENCE STUDENTS	
		1[a]	2[b]	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A 0-50	1957	196	28	2,330[c]	7	149	75	1,730	75	51	27	574	25	-	-	2,304	99	139	72	1,568	67
	1959	181	27	1,719	5	149	82	1,599	92	43	24	375	22	-	-	3,693	12	125	69	1,390	81
	1960	169	26	1,808	5	152	90	1,528	84	44	26	324	18	-	-	3,660	12	120	71	1,367	75
B 51-100	1957	197	28	4,690[c]	14	191	92	3,515	75	73	25	1,189	25	-	-	4,704	100	156	80	2,769	59
	1959	188	29	3,688	12	167	89	3,010	82	56	30	907	25	-	-	7,606	24	140	74	2.623	71
	1960	186	29	4,084	11	156	84	3,090	75	52	28	724	18	-	-	7,898	25	133	71	2.510	61
C 101-300	1957	168	24	9,200[c]	28	164	27	6,314	69	110	38	2,216	25	-	-	8,530	94	138	19	3,793	42
	1959	210	32	12,489	39	203	96	9,400	76	129	62	3,622	29	-	-	25,511	80	174	83	6,989	56
	1960	212	33	14,771	41	203	95	10,487	71	138	65	4,158	28	-	-	29,416	93	165	78	6.299	43
D OVER 300	1957	84	12	17,600[c]	52	84	14	9,900	57	58	20	10,459	60	-	-	20,449	118[d]	58	8	3,660	21
	1959	77	11	13,897	44	99	100	10,568	74	73	95	6,515	47	-	-	30,980	97	67	87	6.048	44
	1960	78	12	15,146	42	95	100	13,062	86	65	84	5,141	34	-	-	33.349	75	59	76	5,191	34
TOTALS	1957	705	100	33,913	100	602	86	21,549	64	292	41	14,438	43	-	-	35.987	106[d]	491	70	13.459	40
	1959	656	100	31,793	100	618	94	24,578	78	301	46	11,419	36	-	-	35,997	112[d]	506	77	17.050	54
	1960	645	100	35,809	100	606	94	28,617	79	299	43	10,347	28	-	-	38,514	108[d]	477	73	15.367	43

TABLE I (B)

ENROLLMENT GROUP	YEAR	LATIN I STUDENTS		LATIN I SCHOOLS		FRENCH I STUDENTS		FRENCH I SCHOOLS		SPANISH I STUDENTS		SPANISH I SCHOOLS		GERMAN I STUDENTS		GERMAN I SCHOOLS		TOTAL LANGUAGES STUDENTS		TOTAL LANGUAGES SCHOOLS	
		21[a]	22[b]	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A 0-50	1957	19	3	179	8	1	0	5	0	6	9	45	2	1	0	4	0	27	14	232	9
	1959	23	13	217	13	3	2	28	2	11	6	80	5	4	2	27	2	-	-	352	20
	1960	19	11	174	10	2	1	22	1	16	9	120	7	3	2	23	1	-	-	339	19
B 51-100	1957	25	13	342	7	-	-	-	-	13	72	116	2	4	1	76	2	42	22	544	1
	1959	24	13	313	9	10	5	102	3	18	10	215	6	7	4	71	2	-	-	701	18
	1960	19	10	284	7	19	10	174	4	26	14	318	8	7	4	114	3	-	-	890	23
C 101-300	1957	54	8	1,264	14	12	2	103	11	47	7	705	8	2	0	12	0	115	60	2.024	22
	1959	71	34	2,235	18	22	10	522	4	63	30	1,317	11	13	6	250	2	-	-	4.324	34
	1960	71	34	2,115	15	25	12	525	4	90	43	2,066	14	19	9	391	3	-	-	5.097	41
D OVER 300	1957	56	8	2,708	16	22	-	626	4	56	8	2,780	16	6	1	151	1	150	21	6.265	36
	1959	65	85	3,524	26	36	47	1,773	13	75	97	4,482	32	10	13	375	3	-	-	10,184	72
	1960	58	74	3,418	23	42	54	2,043	14	71	91	5,127	34	16	21	684	5	-	-	11,272	80
TOTALS	1957	154	22	4,493	13	35	5	734	2	122	17	3,646	11	13	2	243	0	324	46	9,116	27
	1959	183	28	6,289	20	71	10	2,425	8	167	23	6,094	19	34	5	723	2	-	-	15,531	47
	1960	169	27	5,998	17	90	13	2,764	8	203	31	7,631	21	45	7	1,212	4	-	-	17.598	51

[a]All odd numbered columns represent the number of units specified above them.

[b]All even numbered columns represent the per cent of the number of schools or of students presented in the preceeding column.

[c]Enrollment numbers for students of the ninth grade were not supplied in original data for 1957.

[d]Exceeds 100 per cent because there are upper classmen also enrolled in these courses.

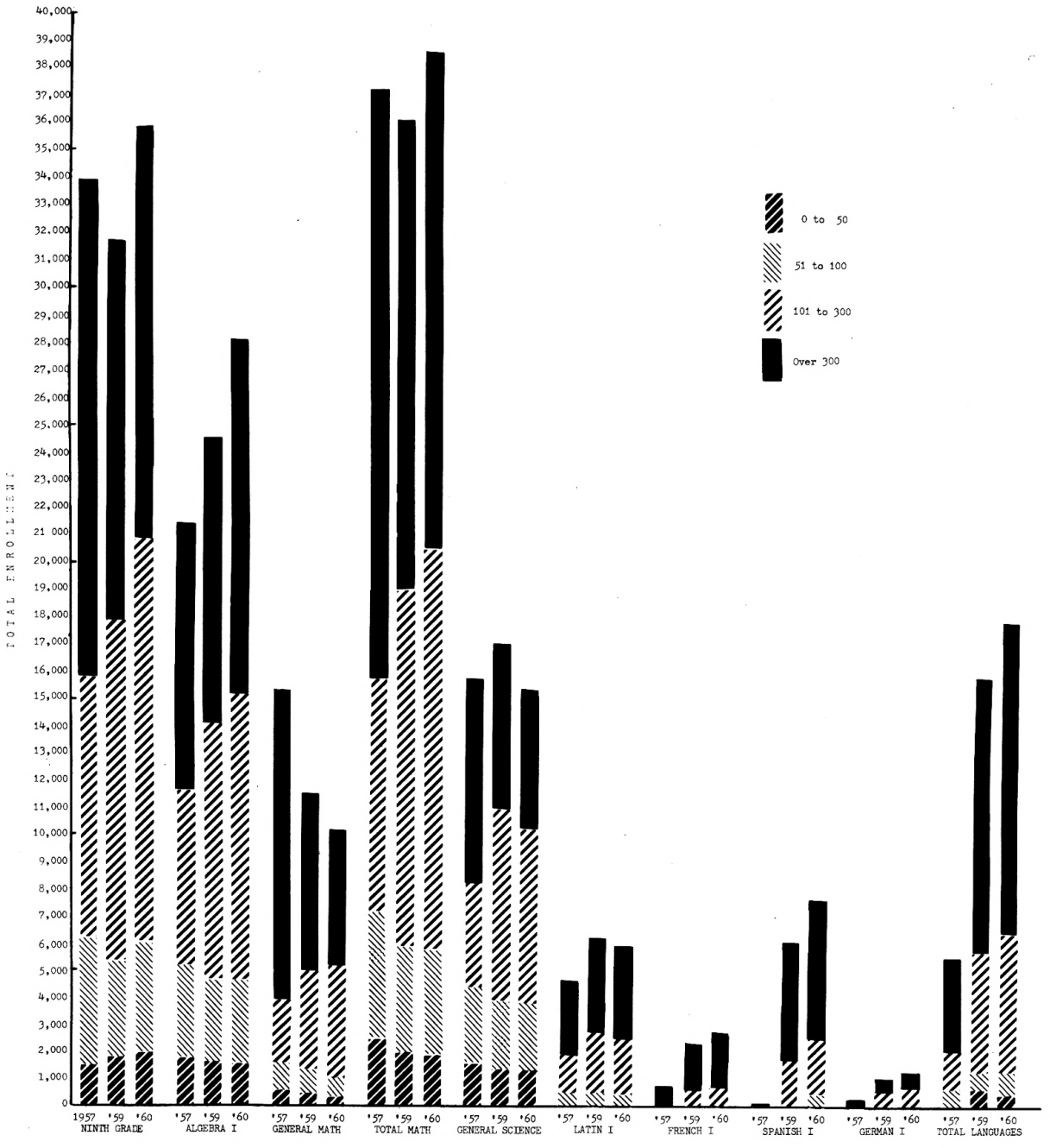

FIGURE 1

ENROLLMENTS IN THE NINTH GRADE OF KANSAS IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES
1957, 1959, AND 1960

students representing 43 per cent of the ninth grade students, 11,419 representing 36 per cent in 1959, and 10,347 representing 28 per cent in 1960 enrolled in general mathematics. This showed a decrease in the number enrolled compared to the possible number enrolled by 15 per cent. This change may well be explained by the increased effort to get students to take more advanced mathematics. This has been one of the aims of the NDEA. Also, the total mathematics students among the ninth grade had risen from 106 per cent in 1957 to as high as 112 per cent in 1959, and then dropped to 108 per cent in 1960. Since the total mathematics enrollment was compared to the ninth grade population of the year it exceeded 100 per cent because some of the students enrolled were not ninth grade students. Many upper classmen took one of these particular courses to meet their requirement for mathematics. Some students probably took both subjects during their stay in high school. Again it should be pointed out that the largest number taking general mathematics came from the D group, as might be easily observed from Figure 1. The schools of group D probably offer more general mathematics due to their multi-track programs.

The enrollment trends in general science as taught to ninth grade students was essentially the same as mathematics. There was a slight increase in enrollment although the number taking this subject was not as high. Probably this was true because general science was offered only in about 75 per cent of the schools. It would seem that there was a slight increase in enrollment since in 1957 there were 13,459 students or 40 per cent, and 17,050 or 54 per cent in 1959, and 15,367 students or 43 per cent in 1960. This slight increase in enrollments for general science

might be attributed to the program of NDEA since during this period nearly half a million dollars was spent in this area.

Foreign languages experienced a phenomenal growth with the spending of large sums of money to provide language laboratories in some of the schools of Kansas. Total foreign languages grew from a low in 1957 of 9,116 representing 27 per cent to 15,531 representing 47 per cent in 1959 and on to a high of 17,598 representing 57 per cent in 1960. Here the amount nearly doubled and included about half of the students of the ninth grade in some kind of foreign language. The languages taught were Latin I, French I, Spanish I, and German I. In this area the bulk of the students, as many as 80 per cent in 1960, were found in group D with an increased number found in group C. In compiling this report it was noted that a number of the smaller schools showed a large enrollment in 1959 in the language offered in that school and a decided decrease the following year. This may be due to the fact this was probably the first opportunity many had to enroll in foreign languages and the class was probably filled with some upper classmen, therefore, the following year there was not as much demand for the class. Also, it should be noted that the number taking the second course in languages had dropped considerably and this might well indicate that the courses in foreign languages may not last long and may again drop to a new low in a few years.

The tenth grade displayed in Table II, showed the enrollment in 1957 was 30,521, in 1959 was 31,215, and in 1960 was 30,357 which indicated a rather stable population. Their enrollments in geometry represented a much smaller part of their class for only 35 per cent or 10,737 enrolled

in 1957, and 52 per cent or 16,122 enrolled in 1959, while 49 per cent or 14,860 were in class in 1960. This was a net increase from 1957 to 1960 of 14 per cent of the tenth grade enrolled in geometry. Geometry increased much more than the population change in the same period and was very probably due to the stimulation of the times and was aided by the NDEA. The enrollment of tenth grade students was better in the biology classes where 77 per cent or 23,661 enrolled in 1957, and 82 per cent or 25,864 enrolled in 1959, and 82 per cent represented by 25,053 were enrolled in 1960. This showed a 5 per cent gain, but this subject was often the only science course used to meet the state requirement and therefore had been almost a required subject in many schools for the past years. The fact biology increased would indicate that it was influenced by the advancing program of stressing a science course.

The tenth grade was assigned the second year language courses in Latin, French, and Spanish with total enrollments in 1957 running to 13 per cent equalling 4,160 students, 16 per cent equalling 5,341 students in 1959, and 23 per cent equalling 7,152 stuuents in 1960. This showed a 10 per cent increase in the total number of students enrolled and it occured mostly in the group D schools with some contribution from those of the C group. Here again as in the ninth grade it still was questionable if this trend of increase was well enough established to continue.

The eleventh grade, Table III, was more limited in its possible choices since the foreign languages III were dropped from this report due to their very small number of less than 100. There were 26,000 students in 1957, 31,793 students in 1959, and 30,357 students in 1960. This was also a rather stable population and represented only normal variation.

TABLE II

NUMBER AND PER CENT OF KANSAS SCHOOLS AND OF TENTH GRADE STUDENTS ENROLLED IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES DURING THE YEARS 1957, 1959, AND 1960

ENROLLMENT GROUP	YEAR	TENTH GRADE				GEOMETRY				BIOLOGY				LATIN II				FRENCH II				SPANISH II				TOTAL LANGUAGE II			
		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS	
		1[a]	2[b]	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A 0-50	1957	196	30	2,100[c]	8	106	55	1,076	46	121	65	1,412	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1959	177	29	1,688	5	102	58	917	54	117	67	1,450	86	3	2	28	2	-	-	-	-	2	1	6	0	-	-	34	0
	1960	172	28	1,487	5	100	58	843	57	117	68	1,378	93	5	3	60	4	1	1	9	1	9	5	17	1	-	-	89	0
B 51-100	1957	197	30	4,250[c]	17	134	69	1,528	29	169	87	2,908	56	-	-	104	2	-	-	-	-	-	-	3	-	-	-	107	2
	1959	181	29	3,299	10	135	75	1,669	51	146	81	2,842	87	6	3	49	2	-	-	-	-	5	3	14	0	-	-	63	0
	1960	180	29	3,135	10	131	73	1,704	54	145	81	2,693	86	9	5	70	2	4	2	16	1	5	3	36	1	-	-	126	1
C 101-300	1957	168	26	8,300[c]	33	94	24	3,609	35	165	97	6,256	61	-	-	497	5	-	-	-	-	-	-	171	2	-	-	668	7
	1959	184	30	7,807	25	163	89	4,040	52	180	98	7,178	92	33	18	424	5	10	6	94	1	20	11	268	3	-	-	788	2
	1960	183	30	7,573	25	162	89	3,811	50	171	93	6,671	88	37	20	512	7	14	8	113	2	30	21	464	6	-	-	1,143	3
D OVER 300	1957	84	13	16,000[c]	64	84	100	4,524	23	84	100	13,085	67	-	-	1,898	10	-	-	499	3	-	-	988	5	-	-	3,385	17
	1959	78	13	18,421	61	76	98	9,496	51	82	100	14,394	78	48	63	1,852	10	23	30	654	4	48	62	1,797	10	-	-	4,456	14
	1960	78	13	18,162	59	78	100	8,502	46	86	100	14,311	78	50	64	2,124	12	27	35	937	5	54	70	2,455	13	-	-	5,793	18
TOTALS	1957	645	100	30,521	100	481	75	10,737	35	539	84	23,661	77	-	-	2,499	2	-	-	499	2	-	-	1,162	4	-	-	4,160	13
	1959	620	100	31,215	100	476	77	16,122	52	525	84	25,864	82	90	14	2,353	8	33	5	748	2	75	12	2,085	7	-	-	5,341	16
	1960	613	100	30,357	100	471	77	14,860	49	519	84	25,053	82	104	17	2,766	9	46	8	1,075	4	106	17	2,972	10	-	-	7,152	23

[a]All odd numbered columns represent the number of units specified above them.

[b]All even numbered columns represent the per cent of the number of schools or of students presented in the preceeding column.

[c]Enrollment numbers for students of the tenth grade were not supplied in original data for 1957.

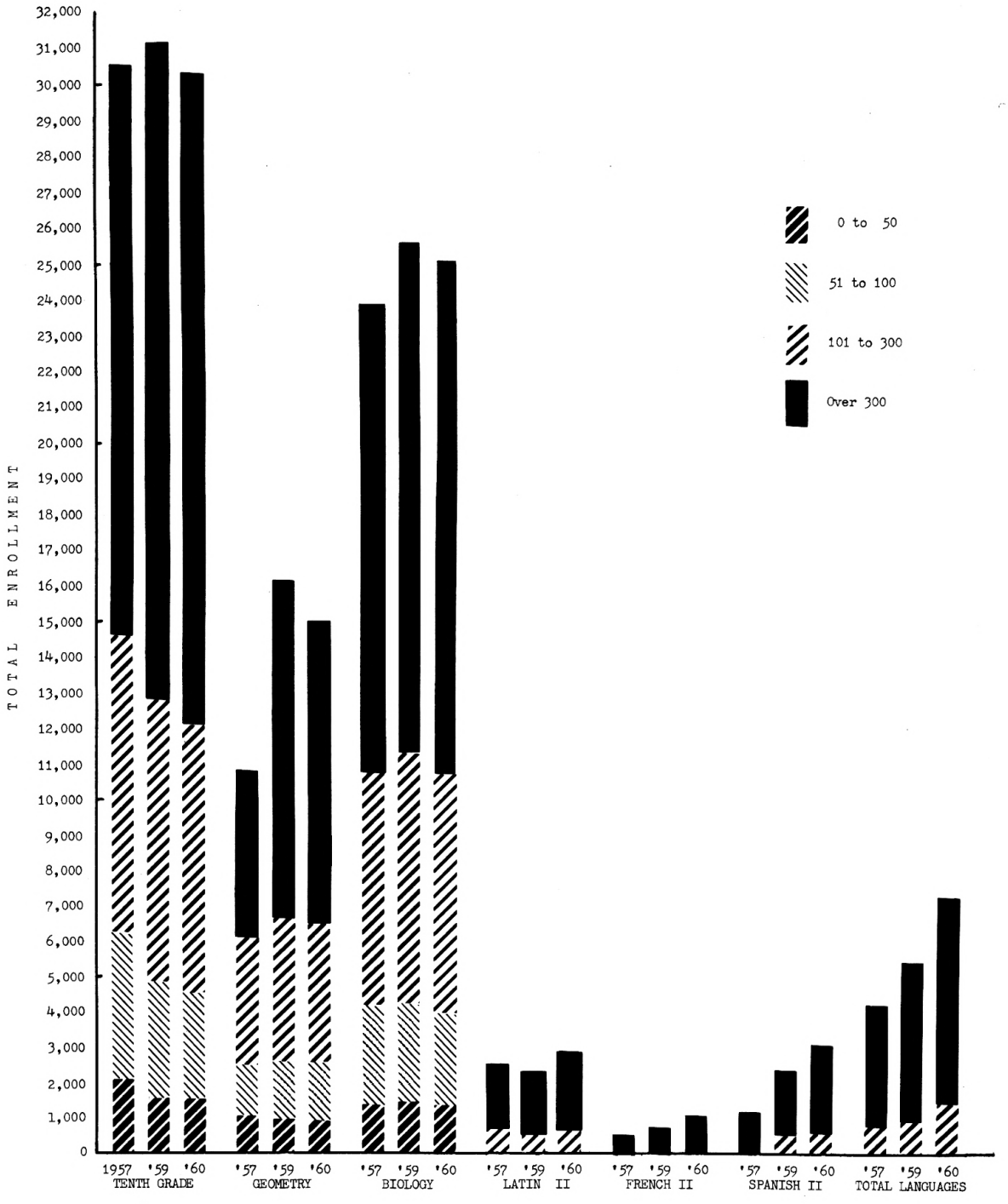

FIGURE 2

ENROLLMENTS IN THE TENTH GRADE OF KANSAS IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES
1957, 1959, AND 1960

Albegra II, however, in 1957 had 4,377 students, in 1959 it increased to 8,191, and in 1960 it decreased to 7,694. Algebra II enrolled 17 per cent of the eleventh grade students in 1957, 28 per cent in 1959, and 27 per cent in 1960. This was a net gain of 11 per cent and was significant since also the number of schools offering this course increased by 12 per cent, a similar amount. The increase was probably due to the stimulation of the times. Chemistry enrolled 7,404 students in 1957 which was 29 per cent of the possible population, in 1959 the 9,450 students represented 35 per cent of their fellow eleventh grade classmates, and in 1960 31 per cent was represented by 8,865. These chemistry students were rather evenly distributed throughout the various groups of schools and seemed to indicate little if any change. For a quick comparison a glance at Figure 3 will provide a proper perspective.

Table IV displayed much of what happened to the enrollments of these students in the observed subjects. It was interesting to note that these students represented in 1960 the same group studied as ninth grade students in 1957. Since this was a large class it would be expected to have a large twelfth grade. In 1957 their enrollments were 22,610, 26,304 in 1959, and 27,237 students in 1960. Trigonometry enrolled 3,490 students in 1957, in 1959 there were 3,264, and in 1960 there were 2,541 students. These trigonometry students represented 15 per cent of the twelfth grade in 1957, 12 per cent in 1959, and 9 per cent in 1960. This showed a notable decrease from 1957 to 1960 in the face of increasing twelfth grade enrollments and was occurring mainly in the larger school groups of C and D. Other mathematics, being a composite of all courses

TABLE III

NUMBER AND PER CENT OF KANSAS SCHOOLS AND OF ELEVENTH GRADE STUDENTS ENROLLED IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES DURING THE YEARS 1957, 1959, AND 1960

ENROLLMENT GROUP	YEAR	ELEVENTH GRADE SCHOOLS 1[a]	2[b]	STUDENTS 3	4	ALGEBRA II SCHOOLS 5	6	STUDENTS 7	8	CHEMISTRY SCHOOLS 9	10	STUDENTS 11	12
A 0 - 50	1957	196	30	1,800[c]	7	40	20	250	16	32	16	251	16
	1959	177	28	1,667	5	66	37	432	26	44	25	427	26
	1960	167	17	1,563	5	71	43	421	27	67	40	471	30
B 51 - 100	1957	197	30	3,600[c]	14	85	45	697	22	77	39	920	29
	1959	181	29	3,347	11	105	58	1,031	31	95	53	1,157	35
	1960	180	30	3,202	11	98	54	828	26	96	53	1,025	32
C 101 - 300	1957	168	26	7,100[c]	27	118	70	1,525	25	113	67	1,932	32
	1959	184	30	7,663	25	127	69	1,985	26	134	73	2,422	32
	1960	182	30	7,364	25	140	77	1,545	21	135	74	2,412	33
D OVER 300	1957	84	13	13,000[c]	50	81	96	1,905	16	82	96	4,301	36
	1959	78	13	17,530	58	66	85	4,745	27	73	94	5,444	31
	1960	78	13	16,916	57	70	90	4,900	29	71	91	4,957	29
TOTALS	1957	645	100	26,000	100	324	50	4,377	17	304	49	7,404	29
	1959	656	100	31,793	100	364	57	8,191	28	496	78	9,450	35
	1960	607	100	30,357	100	379	62	7,694	26	369	61	8,865	31

[a]All odd numbered columns represent the number of units specified above them.

[b]All even numbered columns represent the per cent of the number of schools or of students presented in the preceeding column.

[c]Enrollment numbers for students of the eleventh grade were not supplied in the original data for 1957.

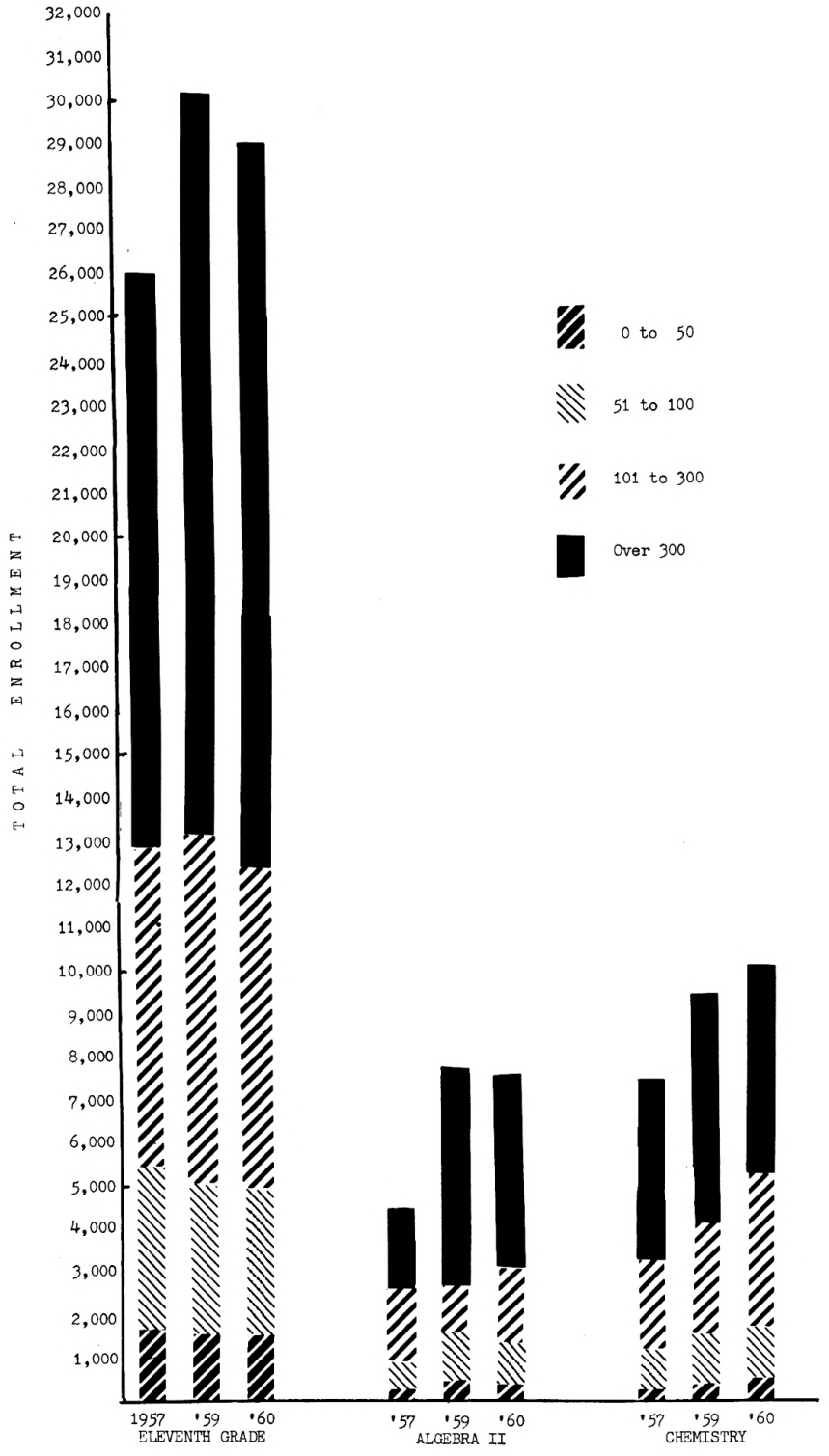

FIGURE 3

ENROLLMENTS IN THE ELEVENTH GRADE OF KANSAS IN MATHEMATICS AND SCIENCE, 1957, 1959, AND 1960

introduced to provide another unit of mathematics, was assumed to be offered only in the twelfth grade. It showed a slight increase in 1959 and 1960 with no comparable data available for 1957. On the other hand the total mathematics, the sum of trigonometry and other mathematics, dropped from 14 per cent in 1959 to 13 per cent in 1960. This was a slight drop and although it would not be probably expected, it was large enough to be significant. In science, too, there was a slight decrease in total enrollments of physics plus other sciences from 31 per cent in 1957, to 23 per cent in 1959 and to 22 per cent in 1960. The enrollments in physics were 5,162 in 1957, in 1959 there were 5,920 students, and in 1960 there were 5,401. A similar trend of decrease in percentages has occurred in the other sciences offered. This drop, although not large, was amplified by the increase in members of the class until it seemed larger, but it would be correct to assume that this was a normal occurrence. Therefore there was probably little change occurring in this class due to the NDEA.

In addition to the tables most of the same information is found displayed in the various graphs, Figures 1 through 4. The interpretation made of these depends very much on the desires and needs of the reader. It seems that there is very little here that can indicate a trend and it is not very useful as a predictor. This is due to the very limited period studied because the NDEA had been in effect only since 1958. Many of the trends are not definite enough to warrant thought.

TABLE IV

NUMBER AND PER CENT OF KANSAS SCHOOLS AND OF TWELFTH GRADE STUDENTS ENROLLED IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES DURING THE YEARS 1957, 1959, AND 1960

ENROLLMENT GROUP	YEAR	TWELFTH GRADE				TRIGONOMETRY				OTHER MATHEMATICS				TOTAL MATHEMATICS				PHYSICS				OTHER SCIENCE				TOTAL SCIENCE			
		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS		SCHOOLS		STUDENTS	
		1[a]	2[b]	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A 0-50	1957	196	30	1,550[c]	7	10	5	40	3	-	-	-	-	-	-	-	-	41	2	329	24	10	5	91	6	51	26	420	30
	1959	177	28	1,602	6	19	11	85	5	4	2	23	1	-	-	108	6	29	17	268	19	7	4	28	2	-	-	296	17
	1960	166	17	1,566	6	20	12	93	6	4	2	13	1	-	-	106	6	35	21	241	15	5	3	22	2	-	-	263	15
B 51-100	1957	197	30	3,100[c]	14	22	11	147	5	-	-	-	-	-	-	-	-	76	38	633	22	13	7	204	7	89	45	837	30
	1959	59	181	3,032	12	31	17	199	6	4	2	20	2	-	-	219	6	76	42	720	24	6	3	70	2	-	-	790	20
	1960	180	30	3,182	12	42	23	233	7	6	3	38	1	-	-	271	7	76	42	652	21	2	1	10	0	-	-	662	17
C 101-300	1957	168	26	6,100[c]	27	50	30	454	8	-	-	-	-	-	-	-	-	117	58	1,433	26	9	4	240	4	126	60	1,673	30
	1959	184	30	6,893	26	70	38	1,039	15	24	13	286	4	-	-	1,325	11	133	72	1,740	25	14	8	217	3	-	-	1,957	16
	1960	182	30	6,927	25	76	42	606	9	22	10	226	3	-	-	832	7	124	68	1,517	22	19	10	328	5	-	-	1,845	15
D OVER 300	1957	84	13	11,700[c]	52	51	61	2,849	27	-	-	-	-	-	-	-	-	83	100	2,767	26	22	25	1,331	13	105	55	4,098	39
	1959	78	13	14,777	56	51	66	1,941	13	21	27	865	6	-	-	2,806	20	70	90	3,192	22	25	32	1,252	9	-	-	4,444	32
	1960	78	13	15,562	57	51	66	1,609	10	34	44	1,412	9	-	-	3,021	22	69	89	2,991	20	25	32	1,186	8	-	-	4,177	30
TOTALS	1957	645	100	22,610	100	143	22	3,490	15	-	-	-	-	-	-	-	-	317	49	5,162	23	54	8	1,866	8	371	58	7,028	31
	1959	620	100	26,304	100	171	27	3,264	12	53	8	1,194	4	-	-	4,458	14	308	50	5,920	23	52	8	1,567	6	-	-	7,487	23
	1960	606	100	27,237	100	189	31	2,541	9	66	11	1,689	6	-	-	4,230	13	304	50	5,501	20	51	8	1,546	6	-	-	6,947	22

[a]All odd numbered columns represent the number of units specified above them.

[b]All even numbered columns represent the per cent of the number of schools or of students presented in the preceeding column.

[c]Enrollment numbers for students of the twelfth grade were not supplied in original data for 1957.

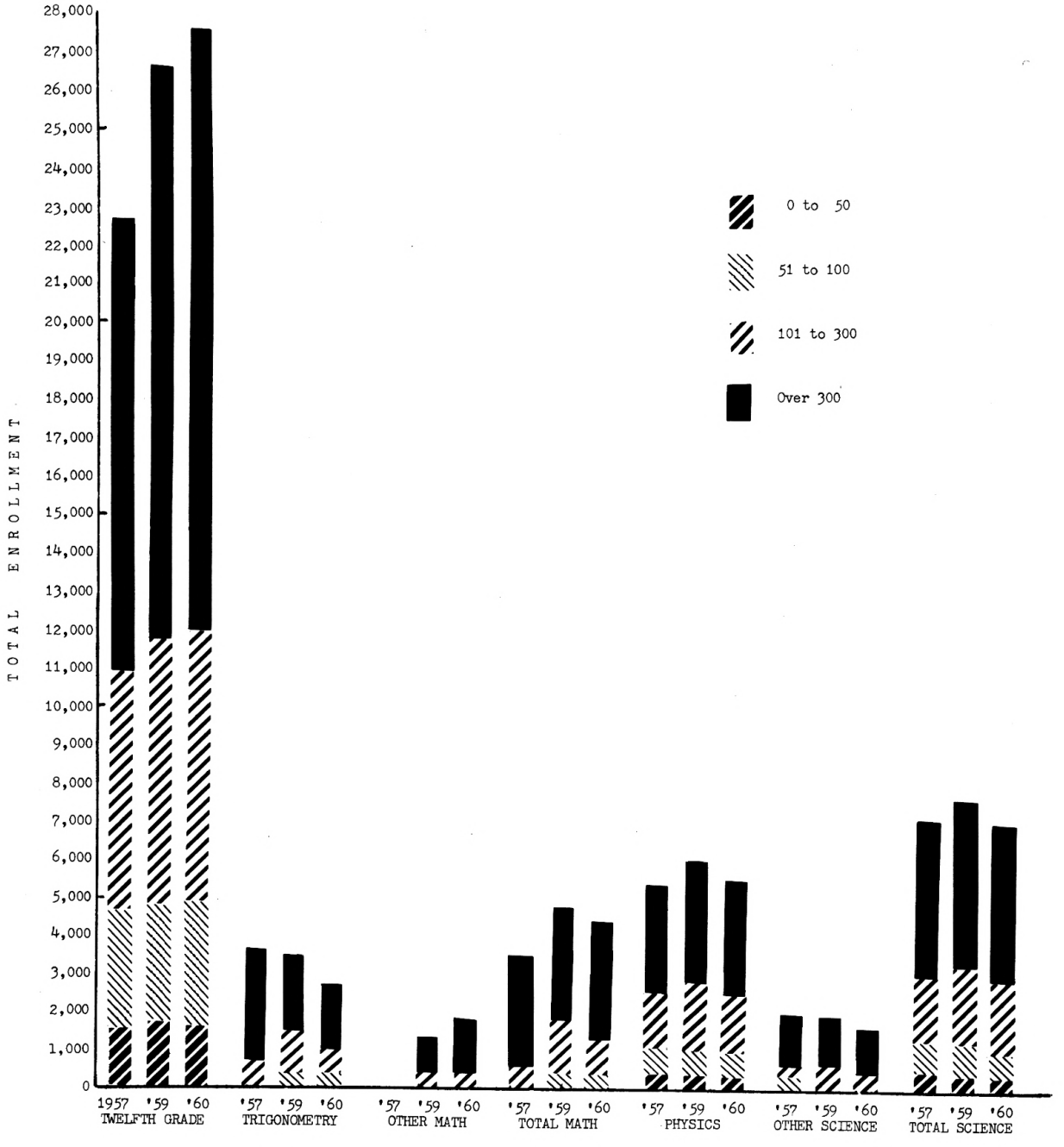

FIGURE 4

ENROLLMENTS IN THE TWELFTH GRADE OF KANSAS IN MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES
1957, 1959 AND 1960

SUMMARY

There is little in the data that would provide the basis for a definite conclusion. It is to be observed that there is a general increase in the school population which in itself is no discovery. The enrollments in the ninth and tenth grade in the subjects covered do show some increases and these increases may be attributed probably to more equipment and teaching aids which the NDEA money has produced in the school. Not only did the school plant change by the introduction of new equipment and facilities, such as laboratories for mathematics, science, and foreign languages, but also this program has been aided by the National Science Foundation in the retraining of the teachers. The teacher training provided could well be another phase of study in this area. This study might be continued and modified to have a more direct approach to the problem. Not to be forgotten as a probable contributing factor to any of the changes noted, is the increased use of the guidance counselor in his work of aiding the student to find himself. All these factors and some others have had a part in the results tabulated here, and there is no means in this report to separate these. Therefore, in this report there is little that can be stated as a definite conclusion, but rather that it is a study of the enrollment changes.

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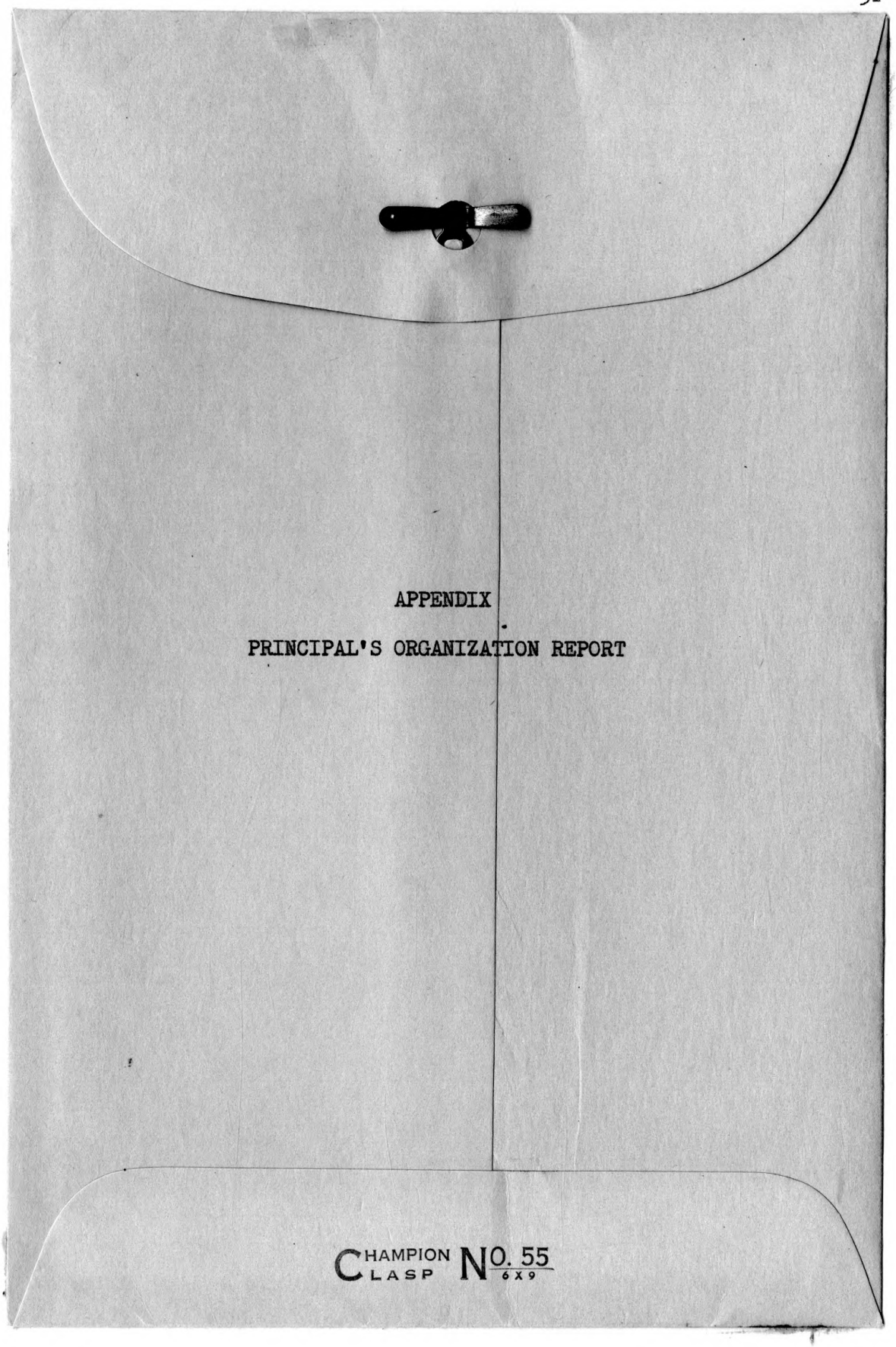
APPENDIX



APPENDIX

PRINCIPAL'S ORGANIZATION REPORT

City_____ School_____ County_____

STATE OF KANSAS
DEPARTMENT OF PUBLIC INSTRUCTION
ADEL F. THROCKMORTON, State Superintendent

School Year 196_____-196_____
Date Received_____
Classification 1959-1960_____
(CP-ST-AP) or (A-B-C-M)

HIGH SCHOOL PRINCIPAL'S ORGANIZATION REPORT

DUE AT THE OFFICE OF STATE SUPERINTENDENT OF PUBLIC INSTRUCTION OCTOBER 15, EACH YEAR

ADMINISTRATION

District No._____ School Telephone_____
Street Address_____
Superintendent_____
Principal_____

School Board (list all members)

President_____
Clerk_____
Treasurer_____
_____
_____
_____

Are meetings of board held regularly?_____
Formal minutes kept?_____ By whom?_____
If school is CSD, or RHS, or Community, are copies of minutes sent to County Superintendent as required by law?_____
Do you have regular faculty meetings?_____
Do you have written Board policies?_____
Describe recent problems or studies_____
_____
_____
_____

Check: Type of Organization: of High School.
6 year_____ 4 year_____ 3 year_____
Legal Organization: CSD_____ RHS_____ Com._____
Non-Public_____ City 1_____ City 2_____

On what basis do you admit students from other schools to advanced standing in your school?_____
Does your school operate a summer program?_____
Are all your textbooks Kansas approved?_____
Name exceptions_____
Do you use the textbook rental system?_____ What %?_____
Date of opening of school this year_____
Scheduled date for closing_____
Total days to be taught this year_____
(Statutory requirement is 180 days.)

Accreditation: (By September 1961 all schools are expected to meet increased requirements outlined in the 1959 KANSAS SECONDARY SCHOOL HANDBOOK. However, any school may elect to come under the new program this year by complying with the revised standards.)

Is it the intention of your school to be classified under the new standards this year?_____

Have you evaluated your school carefully according to the new standards?_____

If so, what classification (Comprehensive, Standard, Approved) have you determined is appropriate for your school?_____

SCHOOL ENROLLMENT

YEAR	*7	*8	9	10	11	12	P.G.	Total
Boys.....								
Girls.....								
Total.....								

* (For 6-year high schools)

RECORDS

Are school records kept in fireproof safe or vault?_____
Do you have a complete inventory of all equipment?_____
Are accurate, complete, and cumulative records kept for each student?_____
Check the items recorded on individual pupil permanent record cards: School marks_____; Intelligence test scores_____; standardized test results_____; health, character, personality_____; attendance record_____; record after leaving school_____
Are original attendance and driver education records kept for convenient state finance audit?_____
What type of report is made to parents on pupil progress?_____ How often?_____
Is an accounting system used for your High School Activities?_____
Who is responsible for the accounting of the activities finances?_____
_____
Does the person responsible have surety bond?_____
Do you issue serially numbered duplicate receipts for all money received?_____
Do you pay out money only by serially numbered checks?_____
Do you make periodic and annual summary reports to your school board?_____
Do you maintain a columnar account book?_____
Do you have a regular audit?_____

BUILDING—EQUIPMENT

How large is the school ground?_____
When was the building erected?_____
Are buildings and equipment adequately insured?_____
Does the school comply with the regulations of the state board of health and the state fire marshal?_____
Is the building well lighted?_____
Are classrooms sufficient in size and number for the needs of the school?_____
Does each room have equipment suitable for the purpose for which it is used?_____
Do you have suitable furniture and equipment for Home Economics?_____ Shop?_____
Bookkeeping?_____ Typewriting?_____
Is your laboratory equipped with suitable laboratory furniture?_____ Check the subjects for which the science equipment is adequate: General Science_____
Agriculture_____ Biology_____
Physics_____ Chemistry_____
Is provision made for decoration and repair of building?_____

28-4423-S—6-67-73

TRANSPORTATION

How many buses are owned by the district?_____ Contracted?_____
How many pupils are served by the buses?_____
If both (1) secondary pupils and (2) elementary pupils are conveyed, how many of each? (1)_____ (2)_____
Cost per pupil for the year?_____
How many pupils are transported by other means?_____
Cost per pupil?_____
How many miles are traveled daily by the buses?_____
How many miles in the longest route?_____
What is the longest time any one pupil is on bus?_____
Is adequate liability insurance provided?_____

HEALTH, SAFETY, AND PHYSICAL EDUCATION

Does your school have the services of a school nurse or county health nurse?_____
Is your school providing dental and visual screenings as required by law?_____
Is special effort made to integrate safety education as a part of the school program?_____
Do you have school lunch service? If so, is it sponsored locally or with federal funds?_____
How many pupils are served daily?_____
How many semesters of physical education do you require of boys?_____; for girls?_____ Is health instruction offered?_____
Do you have an organized and functioning intramural program for for boys?_____; for girls?_____
DIRECTOR OF PHYSICAL EDUCATION
a. For boys_____
b. For girls_____
Athletic Coach(es) for boys:
_____
_____

GUIDANCE AND PUPIL PERSONNEL SERVICES

If you have a planned guidance program, name persons with regularly assigned guidance duties, assigned time, and graduate hours in guidance.

NAME	Clock Hours Per Day	Graduate Hours in Guidance

SURVEY OF ACTIVITIES OF 1960 GRADUATES

	Boys	Girls	Total
A. Number of 1960 graduates			
B. Number presently engaged in each of the following activities:			
1. Employed full time			
2. Attending junior college			
3. Attending senior college or university			
4. Attending business or trade school			
5. Miscellaneous			
Totals of item B (Must agree with A above).			

C. Number 1960 graduates listed in Nos. 2, 3, 4, above:

	In-state	Out-state
Attending junior college		
Senior college or university		
Business or trade school		
TOTAL (Must agree with totals of B 2, 3, 4)		

THE STAFF

Do all teachers have proper certificates?_____
Number of equivalent full-time high school teachers, including principals_____
Number of new staff members_____
Number inexperienced_____
Does the board of education elect and dismiss teachers on recommendation of the administrative head of the school system?_____
Do you have a systematic salary schedule?_____
If so, does it encourage added teacher preparation and growth?_____
Is there a continuous, systematic program for in-service growth of all teachers?_____
Does the school maintain a professional library of books, periodicals and pamphlets for teachers?_____
Is an official transcript for each teacher kept on file?_____
Have these official records been used as the basis for indicating each teacher's preparation on this report?_____
Are official transcripts checked before employing and assigning teachers?_____

THE PROGRAM OF STUDIES

Does the daily schedule provide a minimum of 55 minutes in the clear for all laboratory-type courses?_____
What is the normal class load for any student?_____
How many units are required for graduation?_____
List any credits provided through supervised correspondence:_____
_____
_____
List subjects added this year:_____
_____
_____
_____
Subjects dropped:_____
_____
_____
Subjects alternated but not offered this year:_____
_____
_____
_____

ADULT EDUCATION

How many courses are offered?_____
Total enrollment in these courses_____
If high school credit is given, are regularly qualified high school teachers employed?_____
When are classes held?_____
How is adult education financed?_____

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Daily Program for _____ Senior High School

Omit this page if you send printed or duplicated program

List teachers alphabetically TEACHERS	* Hour															
	1st Period Length of Rec. Study / Subject	No. in Class	2nd Period Length of Rec. Study / Subject	No. in Class	3rd Period Length of Rec. Study / Subject	No. in Class	4th Period Length of Rec. Study / Subject	No. in Class	5th Period Length of Rec. Study / Subject	No. in Class	6th Period Length of Rec. Study / Subject	No. in Class	7th Period Length of Rec. Study / Subject	No. in Class	8th Period Length of Rec. Study / Subject	No. in Class

* Hour (9:00-9:40, etc.)

Fill in carefully. Be sure that the enrollment by classes, length of study and recitation periods, and names of subjects taught are given.

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______________________ HIGH SCHOOL

LIST TEACHERS ALPHABETICALLY Give full name. Do not use initials. Married women should include maiden name, if certificate was issued prior to marriage. NAME	SEX	KANSAS CERTIFICATE Kind (State exact title of certificate) (See list below)	Date of Expiration Month	Year	Annual Salary	Years Experience (Include this year) This School	Other Schools	Name of School and Level of Grade Taught Last Year; or Occupation Last Year.
Example: Smith, Mary Jane (Jones)................. (IF MARRIED WOMAN) LAST, FIRST, MIDDLE, MAIDEN	F	(3-year degree)	June	1961	$5,400	2	8	Hoisington
Superintendent..								
Principal								

In giving the kind of certificate held, use the abbreviations enclosed in parentheses.

Secondary Certificates currently issued: (3 year) (5 year) (1 year).

Other Certificates: (degree life) (special life) (special in________________).

‡ This column is to be filled out only for teachers of mathematics, foreign languages, and commerce in A & B Schools. In C Schools list all H. S. Units in field.

Teachers and administrators must meet all qualification requirements by October 15.

Place asterisk (*) on names of teachers devoting half time or more in grades one through eight reported on state school finance fund report (form 160).

Place double asterisk (**) on names that appear on both senior high school and junior high school reports.

School Year, 196____-196____

COLLEGE TRAINING		SCHOLASTIC PREPARATION (Information is to be secured from official College transcripts)							
Name of College	Degrees Held and Dates Issued	Subjects Taught in High School This Year	Sem. Hours in Subject	‡H. S. Units in Field	Sem. Hours in Field	Subjects Taught in High School This Year	Sem. Hours in Subject	‡H.S. Units in Field	Sem. Hours in Field
Bethany	A. B. '54	Algebra	10	1½	30	Physics	8		40
Kansas University	M. A. '55	Geometry	5	1	30	General Science	3		40
		Trigonometry	5	0	30				

Other Personnel (Names)

Custodian_____ Does he hold a vocational custodial certificate?_____

Transportation manager (other than superintendent or principal)_____

School lunch manager_____

Matron_____

Nurse_____

Office secretary_____

Registrar_____

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COURSES TAUGHT THIS YEAR FOR CREDIT TOWARD GRADUATION, GRADES 9-12

Indicate only those subjects which are offered this year

		Grade in Which Subject is Offered This Year		Units of Credit
		1st Sem.	2nd Sem.	
Group I English, Language, Arts.	English I			
	English II			
	English III			
	English IV			
	Debate			
	Speech			
	Dramatics			
	Forensics			
	Journalism			
Group II Mathematics.	General Mathematics			
	Algebra I			
	Algebra II			
	Plane Geometry			
	Solid Geometry			
	Trigonometry			
Group III Social Studies.	Citizenship			
	Vocations			
	World History			
	World Geography			
	American History			
	American Government			
	Economics			
	Sociology			
	International Relations			
	Driver Education			
	Family Living			
Group IV Sciences.	General Science			
	Earth Science			
	Practical Lab. Science			
	Biology			
	Physics			
	Chemistry			
	Aeronautics			
Group V Foreign Languages.	Latin I			
	Latin II			
	Latin III			
	Spanish I			
	Spanish II			
	French I			
	French II			
	German I			
	German II			

Indicate only those subjects which are offered this year

		Grade in Which Subject is Offered This Year		Units of Credit
		1st Sem.	2nd Sem.	
Group VI Business Education.	Business Mathematics			
	Bookkeeping I			
	Bookkeeping II			
	Business English			
	Shorthand I			
	Shorthand II			
	Typewriting I			
	Typewriting II			
	Office Practice			
Group VII Practical Arts and Vocational Education.	Home Economics I( )			
	Home Economics II( )			
	Home Economics III( )			
	(Check vocational) (✓)			
	Woodwork I			
	Woodwork II			
	Mechanical Drawing			
	General Shop			
	Auto Mechanics			
	Printing			
	Voc. Agriculture I			
	Voc. Agriculture II			
	Voc. Agriculture III			
Group VIII Fine Arts.	Chorus			
	Glee Club (girls)			
	Glee Club (boys)			
	Orchestra			
	Band			
	Music Appreciation			
	Art			
	Crafts			
Group IX Physical Education.	Physical Education			
	Health			
	Safety			
TOTAL UNITS OF CREDIT THIS YEAR				

Six-Year High Schools Will Check Here Those Courses Offered in Grades 7 and 8

7th Grade English ☐	7th Grade Science ☐
8th Grade English ☐	8th Grade Science ☐
7th Grade Social Studies ☐	7th Grade Industrial Arts ☐
8th Grade Social Studies ☐	8th Grade Industrial Arts ☐
7th Grade Mathematics ☐	7th Grade Music ☐
8th Grade Mathematics ☐	8th Grade Music ☐
7th Grade Home Economics ☐	Foreign Languages ☐
8th Grade Home Economics ☐	Physical Education ☐

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LIBRARIES

Name of Librarian(s)_____

Number of semester hours in Library Science_____

Number of years experience_____

Is your library under the supervision of (check):

Full-time librarian_____ If teacher-librarian is in charge,

Teacher-librarian_____ how many school hours a day are

Study Room Supervisor_____ allotted for library service_____

Appropriation this school year for high school: (excluding multiple textbooks, encyclopedias and dictionaries)_____

Do you use the Standard Catalog for High School Libraries?_____

Reader's Guide to Periodical Literature?_____ Abridged?_____

Dewey Decimal System of Classification?_____

Do you maintain an information file (pamphlets, clippings, pictures, etc.)_____

Is there instruction given in the use of the library?_____

Is there a public library in your community?_____

Other sources of obtaining books for general reading:_____

Name of the most recently acquired set of encyclopedia_____

Date of copyright_____

Latest unabridged dictionary_____

Date of copyright_____

Is the "Readers' Guide to Periodical Literature" in your library?_____

Abridged?_____

Distribution of Volumes in Library: (excluding multiple textbooks)

Classification	Number of volumes on hand last report	Number of volumes added since last report	Number of volumes discarded since last report	Total number of volumes now on hand
000 Reference				
100 Philosophy				
200 Religion				
300 Social Science				
400 Philology				
500 Natural Science				
600 Useful Arts				
700 Fine Arts				
800 Literature				
900 History				
Travel				
Biography				
Fiction				
Totals				

List Magazines and Newspapers (If more convenient attach list).

SPECIAL EDUCATION

Name of Director_____

Programs: (check those offered)

Mentally Retarded_____ Home, Hospital or Orthopedic_____

Speech Correction_____ Intellectually Gifted_____

Visually Handicapped_____ Psychological and Social Work_____

Are qualified special teachers employed?_____

Is high school credit given for special classes?_____

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ORGANIZATIONS OR ACTIVITIES

Names of literary, debating, athletic, music, or other pupils' organizations, clubs and activities worthy of favorable comment	Approximate membership	Number of meetings in year	Name of supervising teacher	Is school credit given for satisfactory work and, if so, how much?
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

CHANGES OR ADDITIONS SINCE SEPTEMBER 15 OF LAST YEAR

Building and grounds?

Equipment?

Business Education?

Home Economics?

Laboratory?

Shop?

Library?

SUPPLEMENTARY REMARKS

It is exceedingly desirable and highly recommended that this report be discussed fully in school board meetings, so that the school board members may become familiar with the school organization, procedure, and requirements.

Before signing this report please look it over and see that every item has received proper attention.

Signed: _____ Prin. or Supt.

_____ Clerk of Board

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THE EFFECT OF THE NATIONAL DEFENSE EDUCATION ACT OF 1958 TITLE III ON THE ENROLLMENTS IN THE SUBJECTS OF MATHEMATICS, SCIENCE, AND FOREIGN LANGUAGES TAUGHT IN THE HIGH SCHOOLS OF THE STATE OF KANSAS

by

DEAN L. BALDWIN

Sc. B., Ottawa University, 1932

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

School of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1963

Approved by:

Major Professor

This report dealt with the problem of how the changes in student enrollment might possibly have been caused by the National Defense Education Act of 1958 Title III, hereafter designated as the NDEA. The study covered the school years 1959-1960 and 1960-1961, hereafter known as 1959 and 1960 respectively. Included with the report is comparable data taken from a similar report prepared by Mr. George Cleland of the State Department of Education for the school year 1957-1958, hereafter known as 1957. The report tabulates the school enrollment population in the years 1957, 1959, and 1960 showing the number enrolled and the number of schools offering the mathematical subjects of algebra I, algebra II, geometry, trigonometry, and advanced mathematics; the science subjects of general science, biology, chemistry, physics, and other sciences; and the foreign language subjects of Latin I, Latin II, French I, French II, Spanish I, Spanish II, German I, and German II. The report also shows the total number of students enrolled in grades nine through twelve for the years of 1957, 1959, and 1960. These enrollments are classified into five groups according to the total enrollment of the school and also the total enrollments in the schools of the state of Kansas. The data for the report was gathered from approximately 1,600 High School Principal's Organization Reports for the years 1959 and 1960. The report also contains graphs displaying the information.

From the data the following information was found. The number of schools operating decreased about 9 per cent and the total enrollment increased about 8 per cent during the period of 1957 to 1960. Throughout the report comparable data for 1959 is recorded, but it is not

mentioned in this abstract, since the contrast between the period before NDEA, 1957, and after NDEA, 1960, was desired. The enrollment of students of algebra I increased about 15 per cent of the number of ninth grade students during the years 1957 to 1960. Enrollments of students in general mathematics decreased about 15 per cent of the ninth grade students during the years 1957 to 1960. The total number of students taking either algebra I or general mathematics was greater than 100 per cent because some upper classmen were also enrolled in these subjects. General science, which was taught in about 75 per cent of the Kansas schools included 43 per cent of the ninth grade in the year 1960. In 1957 foreign languages studied were taught to 27 per cent of the ninth grade while in 1960 they were taught to 57 per cent of the ninth grade.

In the tenth grade the enrollment of students in geometry changed from 35 per cent in 1957 to 49 per cent in 1960 based upon the entire enrollment of the tenth grade. Biology classes enrolled 77 per cent in 1957 and 82 per cent in 1960. Second year foreign languages, considered as a total group, showed a change from 13 per cent in 1957 to 23 per cent in 1960.

In the eleventh grade the enrollment in algebra II was 17 per cent of all eleventh grade students who were enrolled in 1957, and 27 per cent of those enrolled in 1960. Chemistry enrolled 29 per cent in 1957 and 35 per cent in 1960 of the eleventh grade population. No foreign language III was considered due to the small enrollments.

In the twelfth grade trigonometry enrolled 15 per cent in 1957 and 9 per cent in 1960 of the twelfth grade population which was also an increasing population during this period. Other mathematics enrolled a small per cent of the students and when combined with trigonometry the two classes of mathematics showed a slight drop in the total per cent during the period. Physics enrolled 23 per cent of the class in 1957 and only 20 per cent in 1960. Total enrollments in science, which included physics combined with other science, dropped from 31 per cent in 1957 to 22 per cent in 1960.

In summation the data of the report would not provide any basis for a definite conclusion. Increases and decreases were noted but were not strong enough to attribute any definite cause. They were probably influenced by the NDEA, the National Science Foundation, the changing times, or the use of guidance counselors.