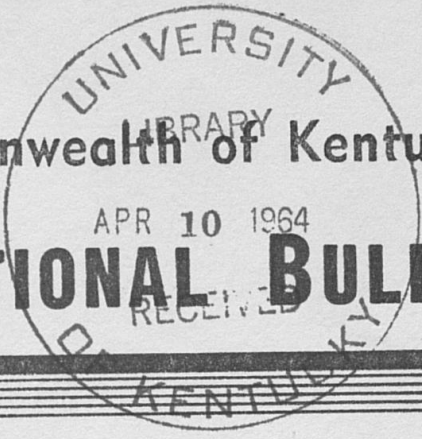


Per. a.

Commonwealth of Kentucky
EDUCATIONAL BULLETIN



**THE NATIONAL DEFENSE
EDUCATION ACT
IN KENTUCKY**



Published by
DEPARTMENT OF EDUCATION
DR. HARRY M. SPARKS
Superintendent of Public Instruction
Frankfort, Kentucky

ISSUED MONTHLY

Entered as second-class matter March 21, 1933, at the post office at Frankfort, Kentucky, under the Act of August 24, 1912.

POSTMASTER: Return undelivered copies of **EDUCATIONAL BULLETIN** to Commonwealth of Kentucky, Department of Education, Frankfort, Kentucky 40601. **RETURN POSTAGE GUARANTEED.**

VOL. XXXII JANUARY, 1964 NO. 1

FOREWORD

The National Defense Education Act of 1958 was intended to stimulate state, local, and private support for education at all levels in areas which the Congress considered to be critical. This bulletin covers activities of the State Department in the areas where the state has responsibility. Brief mention is also made of some of the other areas.

It is our feeling that the Act has been very helpful to education in Kentucky. The long strides made in the improvement in instruction in Science, Mathematics, and Modern Foreign Language would have been impossible without NDEA help. The vast expansion and improvement in guidance services is directly due to assistance under the Act. The introduction of machine data processing in the department is directly due to the provisions of Title X of the Act. The introduction of new courses in the area vocational schools was made possible by Title VIII of the Act.

Many able students have been able to enter college and continue their studies under provisions of the Act.

The content of this bulletin was contributed by Dr. Kearney Campbell, Dr. Frank Bean, Mr. Fred Martin, and Mr. Roy G. Smith.

Harry M. Sparks

Supt. Public Instruction

**THE NATIONAL DEFENSE
EDUCATION ACT IN KENTUCKY**

TABLE OF CONTENTS

CHAPTER	I	The National Defense Education Act -----	3
CHAPTER	II	Plan of Operation of Title III -----	7
CHAPTER	III	Supervisory Program Under Title III -----	15
CHAPTER	IV	Development of Guidance, Counseling and Testing Programs Under Title V-A -----	20
CHAPTER	V	Plan of Operation for Title V-A -----	25
CHAPTER	VI	Technical Education in Kentucky's Area Vocational Schools -----	44
CHAPTER	VII	Plan of Operation and Accomplishments of Title X -----	46
CHAPTER	VIII	College Programs -----	50
Appendix	A	-----	53
Appendix	B	-----	65

CHAPTER I

THE NATIONAL DEFENSE EDUCATION ACT

The National Defense Education Act of 1958 passed by the Senate on August 22, 1958, and by the House the next day, was signed into law by the President on September 2. It authorized over one billion dollars in Federal Aid to all levels of education, both public and private.

The purpose of the Act was to help every young person from the day he entered school to have an opportunity to develop his gifts to the fullest. In a free society the individual is the first line of defense.

The Act had ten titles as follows:

Title I—This title set forth the general provisions of the Act, and specifically prohibited Federal control.

Title II recognized the fact that many able students are unable to obtain a college education due to lack of money. Their services to business, industry, education, and even the military is thus limited. This title provided a student loan fund, financed jointly by the Federal government and the individual college or university, public or private, from which a student may borrow on extremely favorable terms, to further his education. The loan funds are administered entirely by the college, but special consideration must be given to students with superior academic backgrounds who intend to teach, and students whose academic background indicates superior capacity in Science, Mathematics, or Modern Foreign Language.

If the recipient of a loan becomes a teacher in a public school, ten percent of the total loan is forgiven for each year of teaching up to a limit of five years. It is needless to say that this title has enjoyed wide acceptance in Kentucky colleges, and seems to be fulfilling its purpose to a very marked degree.

Title III—Testimony before House and Senate committees emphasized our need to strengthen education. The three subject areas considered most critical were Science, Mathematics, and Modern Foreign Language. Studies had revealed that only one out of three high school students took Chemistry and one out of four took Physics. One student out of three took intermediate Algebra, and one out of eight took Trigonometry. One out of seven took a Modern Foreign Language. Many high school students attended schools that did not

offer these subjects, and many did not take them when they were available. The availability of the courses was often influenced by the fact that science courses are expensive due to cost of equipment, and in all three areas the size of classes increased the cost. Almost as bad was the fact that many schools were attempting to offer science courses without equipment or supplies and language courses without modern learning aids. Securing qualified teachers was also a problem.

Title III provided, on a 50-50 matching basis for a school district to procure equipment and materials suitable for improving instruction in Science, Mathematics, and Modern Foreign Languages. It also provided on the same basis for minor remodeling to utilize the equipment so obtained. Funds are also provided on a matching basis for states to improve supervisory services to improve instruction. An earlier Act provides for improved teacher training in teacher institutes administered under the National Science Foundation.

It is the responsibility of the State Department of Education to administer Title III. Chapters II and III of this bulletin will be devoted to activities under this title.

Title IV—The purpose of Title IV is to provide more college teachers. The tidal wave of students now moving through our elementary and secondary schools will soon reach our colleges. The prediction is that the college enrollment will soon double. At the same time the number of people obtaining PhD degrees has been smaller, and less than half of them have become teachers. Title IV authorized one thousand fellowships carrying adequate stipends for the first year of the program, and one thousand five hundred fellowships for each of the next two years, to enable a student to engage in a program leading to the PhD degree. It is hoped that a respectable number of the people thus obtaining degrees will engage in college teaching, however, this is not a requirement for the award of a fellowship.

Title IV also provides funds for the institutions to expand or extend their programs since the recipients of the fellowships must be in a program which is new or expanded in the institution. The University of Kentucky and the University of Louisville currently have fellows studying under Title IV.

Title V—There are two parts to Title V which recognized the fact that a large number of high school graduates do not go to college because they do not want to go. Many of them have never found out that they are bright and have not thought of themselves as college material. They have set their sights far below their potential because no one has helped them to look higher and farther.

T
mater
coun
stud
finan

T
in ou
Institu
stipen

F
Educa
to full
C
detail

T
that in
the te
perce
becom

Langu
often
numb
largely

C
traine
Title
for th
techni
provid
neglec
leges

T
full lo
The sl
must j
world
metho

O
pictur
educa
cal ar
Televi
can b
radio?

Title VA provides for matching expenditures by states for testing materials to help discover the bright student and to provide his counselor with information upon which to base his advice to the student. Also, guidance materials may be procured under the same financial arrangement.

The other problem is the scarcity of trained guidance counselors in our schools. Title VB provides for the establishment of Guidance Institutes for the training of counselors in the colleges, and for a stipend to be paid to the counselors in training.

Funds are also provided to enable the State Departments of Education to expand their supervisory services in the area of guidance to fully implement the intent of the title.

Chapters IV and V in the bulletin will deal with Title V in more detail.

Title VI—Testimony before congressional committees reveals that in spite of the expanding role of the United States in the world, the teaching of Foreign Languages in our schools is contracting. The percentage of high school students enrolled in Foreign Languages is becoming smaller and fewer high schools are offering Foreign Languages. In schools offering Foreign Languages the offering is often limited to French and Spanish. Even in these languages the number of years of training was too limited, and the courses were largely the outmoded translation method.

One of the road blocks was equipment, the other the lack of trained teachers. Title III provides help in obtaining equipment, Title VI_B provides for the establishing or foreign language institutes for the retraining of teachers, to enable them to use the newer techniques, and to extend the training of new teachers. Title VI_A provides for centers, research and studies in the less well known and neglected Foreign Languages. This title is administered by the colleges and universities directly under the U. S. Office of Education.

Title VII—Many of the problems current in education warrant a full look at the use of mass communication media as aids to teaching. The shortage of teachers, the vast amount of knowledge that teachers must impart to students, and the excellence in scholarship our modern world demands of graduates puts great strain on conventional teaching methods.

Of the various communication media—television, radio, motion pictures, tape recorders, and others are already playing large parts in education. Others are just beginning to make contributions. Mechanical and electronic equipment is revolutionizing language instruction. Television has promise of an unlimited future. What expanded use can be made of slides, filmstrips, magnetic tapes, projectors and radio? Title VII aims to get information on the advantages and

limitations of these media by efficient and objective research. Under this title grants in aid can be made by the Commissioner of Education to public or non-profit private organizations, agencies or individuals to do research in the utilization of these media.

Title VIII—This title is an extension and expansion of the George Bardon Act to provide for the training of highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary to the National Defense. This training must be carried out in Area Vocational Schools.

The Title VIII program in Kentucky will be covered fully in Chapter VI of this bulletin.

Title IX—This is the only title of the Act whose administration is not charged to the U. S. Office of Education. Administration of this title will be the responsibility of the National Science Foundation. The purpose of the title is to provide the services necessary to collect, abstract, index, and disseminate scientific information. It will also undertake programs to develop better and faster methods of making information available.

The National Science Foundation is presently providing this service. Title IX spells out this authority and provides funds to improve its services.

Title X—In today's massive business of gathering, analyzing and interpreting data about the public schools, the State Educational Agencies are squarely in the middle. From every district, large or small, they must painstakingly gather the facts: on pupils and teachers, organization and curriculum, sites and classrooms and equipment, moneys received and spent—in short or anything they deem important to the quality of education. And, being the collectors of data, they are also perforce the suppliers. They face an almost overwhelming demand for facts, not only from the Legislatures, research organizations, and citizens of their own states, but also from those who, like the Office of Education, seek the facts for the nation as a whole. Promptness and accuracy is required. Yet few departments had the staff or equipment to meet the demand for promptness.

Title X is helping overcome these shortcomings by providing funds to improve and strengthen the adequacy and reliability of educational statistics provided by the state and local reports and records, and the methods and techniques for collecting and processing educational data, and disseminating information about the condition and progress of education in this state.

A complete report on the progress that Kentucky has made in accomplishing the objectives stated above is contained in Chapter VII of this bulletin.

CHAPTER II

PLAN OF OPERATION OF TITLE III

A ground swell marked by dissatisfaction with our methods, facilities, and participation by students in Science, Mathematics, and Foreign Language courses in our schools was evident before Sputnik. The first Sputnik shook the remaining foot draggers out of their lethargy. Elementary Science was a read-about, talk-about subject with no student participation beyond a few field trips and collections. In far too many cases the same was true of Science at the junior and senior high school levels. Many high school science rooms could be identified only by the name on the plans for the building, and the presence of an empty demonstration desk with the plumbing and electrical fixtures disconnected and removed. Possibilities for a good Science program which could give a student an understanding of basic concepts and processes of Science or methods of critical thinking were too often just nonexistent. The idea that scientific concepts were wrested from nature, and not made known by some supernatural authority, was not advanced by rote learning without the opportunity to actually engage in laboratory experiences. The Science program from the first grade through the twelfth has lacked continuity and in many respects was highly repetitive. Progress is being made on this problem.

Title III provides Federal funds to match, on a dollar for dollar basis, expenditures made by local school districts for projects given prior approval by the State Department of Education. The reimbursement is limited to projects to procure equipment and materials and minor remodeling to improve instruction in the fields of Science, Mathematics, and Modern Foreign Languages in Grades 1 through 12. Non-profit private schools may participate on a loan basis by applying directly to the Commissioner of Education.

Title III is made to order for the new courses for the high school student in Biology, Chemistry, and Physics that are being developed and which stress understanding to a greater extent than ever before. The new and higher standards for facilities and equipment that are being developed require a greater outlay to provide the facilities.

Title III has provided material aid in the procuring of laboratory equipment and apparatus, in the remodeling of outmoded facilities to utilize the equipment, and in the provision by the State of Science Specialists in a supervisory capacity to upgrade our science curriculum.

In the field of Mathematics a whole new concept has been growing. Here again the emphasis is on understanding and not on the mere ability to handle mathematical operations. Many mechanical devices can help the student to understand mathematical relationships and basic concepts upon which Mathematics rests.

Probably the greatest change has taken place in the field of Foreign Language. The old idea that the ability to translate the Foreign Language into English or vice versa, has been superseded by the concept that a Foreign Language is a tool for face to face communication. Skill in its use is developed by practice like any other skill. This concept plus recognition of the fact that young children learn to become skilled in the use of a foreign tongue much more easily than the high school or college student, has led to the introduction of the study of a Foreign Language as early as the third grade in many of our school systems.

The whole approach is different and some degree of facility is acquired in speaking and understanding the Foreign Language before attempting to master the mechanics of written language.

This approach requires facilities for extensive practice in listening and speaking. More than fifty complete electronic Foreign Language laboratories have been installed in Kentucky high schools under Title III, and more are to come, having already been approved.

Two newer instructional methods have been aided very materially by Title III. The first is the field of audio visual equipment. Motion picture projectors and films, filmstrip projectors and filmstrips, overhead projectors, opaque projectors, tape recorders, maps, charts, globes, and reference books are among the kinds of equipment and materials procured under Title III. The second, a still newer method, is television. One Kentucky district has its own closed circuit system and about 40 Kentucky counties are in range of the Midwest Program of Airbourne Television Instruction. Many of these districts are currently using these instructional programs by means of equipment obtained under Title III. This use of instructional programs made available by television is just beginning. When the Kentucky State Program is in operation it is likely that all of our districts not already equipped, will secure equipment under Title III. More than 1,000 television receivers have been purchased at this time.

Another way in which Title III has proved of great value to Kentucky schools has been in the acquiring of library books. Approximately 7% of the money spent on Title III projects has gone for library and reference books. Textbooks are not eligible for approval for reimbursement, but many districts have purchased all of their library books in Science, Mathematics, and Modern Foreign Language under Title III.

the
dis
had
roll

Fisc

19

19

19

19

TOT

fiel
Sci
La
Sci
Sci
Mo

sch
rei
fo

Fiscal
Year

1959

1960

1961

1962

TOTALS

Following (Table I) is a tabulation of the projects approved in the first four years of participation under Title III by Kentucky school districts. In this period of time all of the districts except one have had projects approved. Less than .1% of Kentucky children are enrolled in districts which have not participated.

TABLE I
TABULATION OF ACTIVITIES UNDER TITLE III
FISCAL '59 THROUGH FISCAL '62

Fiscal	Science Projects		Mathematics		Modern Foreign Language		Total Projects
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	
1959	9	36	5	27	0	13	90
1960	209	426	139	180	29	97	1,080
1961	292	392	149	145	33	140	1,151
1962	419	467	148	139	38	133	1,344
TOTALS	929	1,321	441	491	100	383	3,665

More money has been spent on Science than any of the other fields. Table I indicates that 61% of the projects approved were for Science. Mathematics projects composed 25% and Modern Foreign Languages were covered by 14% of the projects. However, since Science projects were more costly, 76% of the money was spent for Science projects. Mathematics received 13.6% of the money and Modern Foreign Language 10.4% (Table II).

Table III tabulates the cost of projects carried out by Kentucky schools in the first four years of the Act. One-half of the cost was reimbursed to the district by Federal money under Title III. In the four years our districts received \$2,865,605.97 in reimbursements.

TABLE II
TOTAL COST OF PROJECTS UNDER TITLE III
FISCAL '59 — FISCAL '62, INC.
ONE-HALF OF THE SUMS BELOW WERE
RECEIVED BY LOCAL DISTRICTS AS REIMBURSEMENT

Fiscal Year	Science		Mathematics		Modern Foreign Language		TOTALS
	Elem.	Sec.	Elem.	Sec.	Elem.	Sec.	
1959	\$ 930.06	\$ 15,517.26	\$ 31.34	\$ 4,289.78	\$.00	\$.00	\$ 20,768.44
1960	437,048.84	1,254,428.96	177,582.64	140,560.02	70,075.50	199,646.58	2,279,342.54
1961	395,661.46	1,092,973.06	140,823.34	113,364.12	73,126.56	126,575.20	1,942,523.74
1962	382,540.60	768,894.54	115,354.98	93,006.72	23,583.68	105,196.70	1,488,577.22
TOTALS	\$1,216,180.96	\$3,131,813.82	\$433,792.30	\$351,220.64	\$166,785.74	\$431,418.48	\$5,731,211.94

In this period Kentucky schools could have received an additional \$1,060,649.03 in reimbursement had they been able to match Federal funds available, and had they submitted approvable projects to utilize the money. Table III is a record of the funds available and the funds used under Title III.

TABLE III
FUNDS AVAILABLE AND FUNDS USED
FISCAL 1959 TO FISCAL 1962, INC.

Funds Available for Acquisition of Equipment and Minor Remodeling			Funds Used for Acquisition and Remodeling	Reverting to the Funds U. S. Treasury
Fiscal Year	Current Year	Carried From Previous Year		
1959	\$1,321,201.00	\$.00	\$ 10,384.22	
1960	1,390,310.00	1,310,816.78	1,139,671.27	\$ 171,145.51
1961	1,214,744.00	1,390,310.00	971,261.87	419,048.13
1962	1,151,279.00	1,214,744.00	744,288.61	470,455.39
TOTALS	\$5,077,534.00		\$2,865,605.97	\$1,060,649.03

Districts can use for matching purposes the following funds:

1. Unencumbered general funds.
2. Funds from outside sources turned over to the Board of Education for this purpose.
3. Foundation program capital outlay funds (for items coded as equipment in "Uniform School Financial Accounting").
4. Funds secured from the sale of bonds, where equipping of a building was one of the stated purposes of the bond issue. The same restriction as Number 3 applies to bond proceeds.
5. School building funds under K.R.S. 160.476 with the same restriction as Number 3 and 4.

It will be noted in Table III that each yearly Federal appropriation for the acquisition of equipment and minor remodeling may, if unused, be carried over to the following fiscal year. Due to the fact that program under Title III did not get under way until very late in Fiscal 1959, we have operated one full year behind. Or stated another way; we have had the appropriation for two full years available each year.

Kentucky has not taken full advantage of the funds available for the administration of Title III and for the improvement of supervision in Science, Mathematics, and Modern Foreign Languages. Table IV is the record of our use of available funds for administration and supervision.

TABLE IV
FUNDS AVAILABLE AND FUNDS USED
FOR ADMINISTRATION AND SUPERVISION

Fiscal Year	Funds Available	Funds Used	Funds Reverting to U. S. Treasury
1959	\$ 20,302.00	\$ 10,256.67	\$ 10,045.33
1960	76,341.00	16,308.15	60,082.85
1961	68,858.00	30,666.37	38,191.63
1962	65,094.00	29,717.38	35,376.62
TOTALS	\$230,595.00	\$ 86,948.57	\$143,636.43

Under the original Kentucky State Plan, all of the school districts in Kentucky were eligible to participate on the same basis. The steps in becoming eligible were:

1. Submit for approval a local district plan following the guide outlined in the State Plan. The purpose of this requirement was to insure that the district would take a good look at their program in the three subject areas covered by Title III, and form plans for improving instruction in these areas.
2. Upon approval of the local district plan, the district could submit projects to carry out the plan. These projects include a list of the equipment and materials to be procured which would improve instruction in Science, Mathematics, or Modern Foreign Languages. Projects also could be submitted to remodel already existing areas to utilize the equipment obtained under Title III. Equipment to be procured was selected from standard lists of equipment and materials furnished to the districts. The lists, however, are open-ended, and districts can add other items for the approval of the State Department. Prior approval of the purchase of the equipment is required.
3. In preparing lists of equipment for approval, the district must be guided by the principle of priority in the State Plan. This principle called for districts to obtain the minimum lists of equipment in each subject area before going to the enrichment items in a given subject. It is also required that the projects be of a nature that would implement the overall plan for improvement approved for the district.

Laboratory apparatus and furniture specifically designed for use in a laboratory or laboratory-classroom is classified as equipment. Items such as charts, maps, globes, films and filmstrips which have a useful life of more than one year are classified as materials. Supplies are items such as chemicals and specimens for dissection. Supplies are consumed in use, and cannot receive approval for reimbursement.

Later in the life of the Program the Regulations were revised, and a new state plan (Appendix A) incorporating many changes was approved. The use factor became more important as a criterion for approval. Appendix B contains the Guidelines for the new Regulations, and serves as the authority for both the State Department and the local school districts.

Equipment and materials to be obtained under Title III must be specially suited for use in the subject area for which it is approved. The equipment must be for the use of the pupils in learning or the teachers in teaching or in preparing to teach. Equipment for producing work materials, such as a ditto or mimeograph machine, cannot be approved. Reference books, except general reference books such as encyclopedias, may be approved. Text books, except in limited quantities, are not eligible for approval.

The PURCHASE GUIDE prepared by the Council of Chief State School Officers, and distributed without cost to the schools, has been of great value to the entire program. The guide covers all three subject areas. It includes specifications for each item of equipment. School districts are urged to buy only equipment that will meet or surpass the PURCHASE GUIDE specifications.

Items not peculiarly suited to a Science, Mathematics or Modern Foreign Language classroom such as file cabinets, tablet armchairs, chair desks, ordinary straight chairs and tables suitable for use in any classroom, may not be approved. The one exception to "Specific" items is in the field of audio visual and television equipment. Audio visual equipment is specifically permitted in the Act. The actual language of the Law is: Sec. 303 (a) (1)—"funds paid to the State—(a) will be expended solely for projects approved by the State Educational Agency for (A) acquisition of laboratory and other special equipment, including audio visual materials and equipment and printed materials (other than textbooks) suitable for use in providing education in Science, Mathematics, or Modern Foreign Language in public elementary or secondary schools, or both, and (B) minor remodeling of laboratory or other space used for such materials or equipment."

The Law is interpreted to mean that "approval by the State Educational Agency" means PRIOR approval. Equipment bought or contracts let before receiving approval from the State Department cannot receive reimbursement from Federal funds. Disregard of this point has resulted in the loss of a great deal of money by some of our school districts.

Minor remodeling can be approved only to provide space and facilities for equipment obtained under the Act. Only existing space may be remodeled, and the remodeling must be done in the area in which the equipment is to be used. The cost of water and sewer lines,

electrical lines, or other utilities can be reimbursed only when done for the purpose of utilizing the equipment. Plastering, painting and flooring can be approved only when the original surfaces are removed or damaged in the remodeling. Chalk boards and tackboards are not eligible for reimbursement, nor can heating and ventilating equipment be reimbursed.

In new construction only equipment and installation costs of the equipment can be reimbursed. All utility lines must be stubbed in at the expense of the Board.

Each remodeling project is a different problem, and approval of the Division of Buildings and Grounds is required before the project can be approved under Title III. Extreme care must be taken to identify the cost of the reimbursable costs when a total project involves both reimbursable and non-reimbursable costs.

For the purposes of recording and reporting to the U. S. Office of Education, all projects must be for **either** Science, Mathematics, or Modern Foreign Language. Subject areas cannot be mixed in the same project. Also, and for the same reason, projects must be for either the elementary or secondary level. Thus, to cover all these subject areas at both levels in a district would require six projects. Subjects in the same field and grade level may be consolidated. One project could cover Physics, Chemistry, Biology and General Science. Remodeling projects may cover only one subject area. Additional projects are required if more than one subject area is involved.

Equipment lists must be prepared in duplicate. Both lists are submitted to the Department. The project application forms also must be prepared in duplicate and both forms submitted. One copy is signed and returned when approved, together with the approved list of equipment.

Project applications are reviewed by the Bureau of Instruction to check their compliance with the plan of the district and possible impact on the educational program. Final approval is expressed in written form by the office of the Title III Coordinator.

When equipment and materials have been delivered and paid for by the district, claims for reimbursement are presented to the office of the Coordinator. The claims are supported by copies of the paid invoices. All claims are reduced if they list items bought before approval was received, or if reimbursement for ineligible items is claimed. Unlisted and excess items are also deducted from the claim. The district is notified of all deductions, and opportunity is provided for the district to defend its position on the claim.

The expenditure of nearly six million dollars for equipment and materials in the three specified subject fields has had a tremendous

impact on the quantity and quality of such equipment and materials in use in our schools. Every new high school constructed in the State since 1958 has equipped the science departments with Title III help. In addition, 83 Science departments, 14 Mathematics departments, and 5 Language departments have been remodeled and equipped in existing buildings. Our districts have spent \$448,947.16 for Science remodeling and \$34,374.00 for Modern Foreign Language remodeling projects. More than 2,400 microscopes and 400 motion picture projectors have been purchased. The major part of the funds have been expended for basic laboratory apparatus including microscopes, charts, projectors, films and filmstrips, books and laboratory furniture. The laboratories that formerly appeared as a name on the plans for a building have now taken on the appearance of a laboratory. Even the elementary teacher now has the equipment to make the course in science come alive.

The stated purpose of Title III was to improve instruction in Science, Mathematics, and Modern Foreign Languages. That purpose is being achieved in Kentucky. There is still a long way to go, but thanks to Title III we are on our way.

CHAPTER III

SUPERVISORY PROGRAM UNDER TITLE III

Among the duties of the special supervisors is provision of consultant services in all districts where such services are requested. All NDEA, Title III Projects are reviewed by the science supervisors and local visits are made to those districts that needed consultant services in completing the projects. All blueprints on new building and on remodeling projects are reviewed and suggestions made where necessary.

Every effort is made, through the superintendent's office, to encourage them to permit the teachers to make request to the superintendent's office for equipment rather than the equipment purchases made without the teachers help. Each project is reviewed by the science supervisor and recommendations are made where necessary. It has been found that when the teachers are asked to submit a list of their equipment needs, they use it much more effectively.

Inservice workshops are held in the local districts where the need exists. Special summer workshops were held in one large district last summer. Some were held as drive-in workshops and all surrounding districts were invited to participate. The workshops met five days, six hours per day. As usual, many demonstrations in the effective use of equipment were given to groups of teachers and to district science teacher organizations.

Purchase Guides have been distributed to all districts in the state by the State Department of Education, lists of Suggested Equipment and Supplies for Biology, Physics, Chemistry, and General Science have been prepared. Guidelines have been prepared for Advanced Biology and consultant services are given to the districts initiating Advanced Biology. No special problems have arisen in this area since all remodeling and new laboratory projects are first planned by the local district and architects—then reviewed by the science supervisor and approved by the State Department of Education, Division of Buildings and Grounds.

There is a definite trend in our state toward remodeling of regular classrooms into junior high school science laboratories. The supervisors have been encouraging this since NDEA was started. A definite trend is noted in more laboratory work for the students and less lecturing and demonstrating by the teacher. Since individual participation in all science classes are constantly being stressed at

the state level, more laboratories are being remodeled to fulfill this need. The laboratories and equipment in every school are evaluated each year either by a science supervisor or general supervisor. If deficiencies exist, a written report is returned to the local superintendent and the principal. Most of the districts are correcting those deficiencies as their finances will permit.

In our public high schools, some 75% have well equipped science laboratories, another 10% are partially equipped with facilities such as demonstration desks, and probably 15% with no facilities and a limited amount of equipment.

Thus far a small percentage, probably 15% of our elementary schools, are equipped with science laboratory facilities. Usually the districts bring the high school laboratory facilities up to standard before concentrating on the elementary laboratories.

Demonstrations on the use of Giger Counters, in relation to the use of Radio-isotopes and half-life have been conducted. A unit on Radiation Biology was prepared and distributed to the biology teachers. The uses of the Van Graaf and other electrostatic devices were demonstrated in several districts. Also, other equipment was demonstrated where it was required or requested.

No specific evaluative studies have been made by the State Department of Education concerning the effectiveness of instructional equipment and materials in science. However, each school is evaluated each year in all areas by either a science or general supervisor from the State Department of Education.

State in-service programs are a part of the Title III program. In the 1962-63 school year, eighteen summer workshops on Title III were arranged by the State Department of Education in cooperation with the local districts. The workshops, in most instances, were held for five days, six hours per day for the purpose of giving teachers training in the New Approaches to Teaching Science and mathematics. Four workshops were held for the purpose of teaching the effective use of language laboratories. The workshops involved approximately 425 teachers. The estimated per cent of elementary teachers taking part in State sponsored Science In-service Program was very small; probably 5% of the total number of teachers. No workshops in high school were sponsored by the State Department of Education. Our high school science teachers are encouraged to attend NSF Science Institutes and most of them who have been teaching for several years have been able to attend at least one in the past three or four years.

All NSF Institute participants are encouraged to participate in in-service workshops and to provide consultant service to their local

districts. It should be noted that all in-service programs are arranged by the State Department of Education and are set up by the in-service consultants, which are in the Division of Certification. Many areas are considered in the in-service training of which science is one. We, as science supervisors, act as advisors in the science program.

Work has been done on revising the State Curriculum Guide and State Course of Study. The work was done by a committee, the science supervisors served as consultants and secretaries to the committee. A partial unit on Radiation Biology was prepared and distributed. The State Department of Education does not distribute any NSF Institute Publications since these are received by all schools from other sources.

Our state is sponsoring several pilot programs in the STEPS Program in cooperation with the U.S. Office of Education. The initial steps were taken in setting up a state wide coverage in Educational TV for Science. This is scheduled to be in operation September, 1964. We hope to give state wide in-service training for elementary science teachers as one of the first state wide programs.

Before NDEA, most of our state public high school science laboratory facilities were either non-existent or obsolete. Now, as previously stated, some 75% of our laboratories have been built new or improved in varying degrees. There is still much improvement to be brought about, however, our situation has been improved so much since NDEA, we may be prone to overestimate the level that has been obtained. No specific data on the improvement in science achievement tests is available, however, the college science instructors indicates there is a definite improvement that is shown by the students in science in the use of laboratory equipment and in their technique in solving problems in the laboratory.

Our state now has some 3,000 students studying at least one of the New Approaches to Learning Science, and some 3,500 pupils use the New Approaches to Learning Mathematics. More districts are planning to initiate these new approaches as soon as personnel and equipment is available.

More of our teachers are seeking in-service training and NSF Institutes each year, in order to become qualified to teach the New Approaches. We have no specific data on the specific number of elementary and high school teachers who have had substantial in-service training. However, at least 40% of our high school teachers have had at least one summer institute or other training in the last three or four years. A very small per cent of our elementary teachers have had this needed training.

Our Standards of Teachers Certification Preparation in Science, we feel, is one of the best in the nation, and is being studied and re-

vised as new courses are added to our curriculum. Our state, through the cooperation of the AAAS, for the past two years, have sponsored a national study on the certification of elementary teachers in the science area. The final draft of this publication will soon be available.

The present trend in secondary science offerings are toward more courses being offered, especially to junior and senior students. This has been made possible through better equipped laboratories and better qualified teachers. This is a result of NDEA and NSF Institutes. Our state requires at least two units in science for all graduates and the number of students who go beyond the two units have been increasing each year since NDEA.

Better laboratory facilities and equipment along with better salary is beginning to show some competition with industry in retaining our qualified science teachers. However, along with the Division of Certification, we estimate that our state needs 90 to 100 science teachers to fill vacancies for the 1963-64, and could use probably 400 qualified science teachers, if all positions were filled with fully qualified teachers. We do not have enough qualified teachers to fill these vacancies.

Conferences, workshops, programs, and committees in which the science supervisors participated in 1962-63 state and local were:

- a. Junior Academy Science, District Fair Consultant and Judges
- b. Kentucky Science Teachers Association, Directors
- c. Kentucky Atomic Energy Subcommittee, Elementary and Secondary Education
- d. State Committee on Certification of Science Teacher-Consultants
- e. Program participants and sectional discussion leaders N.S.T.A. Convention.
- f. NSTA—Chairman State Membership
- g. Southern States Workshop Conference
Daytona Beach, Florida—Members of committee on Space Exploration
- h. NASDTEC—Louisville, Kentucky, Consultants
- i. Regional Conference, NSTA, Cincinnati, Ohio
Consultants on panel discussions
- j. Conference—Bell Telephone Laboratories—Murray Hill, New Jersey

Work on Preservice Teacher Education originated in the Kentucky State Department of Education. Naturally, we hope that our State Board of Education will accept the recommendation set forth in this NASDTEC study for the certification of elementary science teachers.

All NDEA Projects on audio-visual equipment and library books are reviewed by the science supervisors. Every school in our state must appropriate at least \$1.25 per elementary pupil and \$1.50 for every high school student for library books each year. The science supervisors evaluate the libraries as to the purchase and use of science books as much as time will permit. Every elementary and high school is evaluated for accreditation each year; the science program is a part of each school's accreditation. Before any change is made in the accreditation rating of any school, it must be visited by an accreditation team, usually a science supervisor is on the accreditation team and evaluates the science and math program. The science supervisors have been members of the science curriculum committee for the past year and one-half, and have served as secretaries and editors to that committee. The Science supervisors have four counties each in which they do all the general supervision.

The supervisors collaborated with the NSF Institutes to the extent that teachers were encouraged to make application to attend. Their services were offered to appear before the institutes for demonstrations, procedures in securing NDEA equipment, etc. Local supervisors were the best source to communicate indirectly with the greatest number of teachers. Supervisors work with them in curriculum development, planning in-service workshops, etc.

The most important research project in Science Education in which the supervisors participated the preceding year was the certification standards for elementary science teachers. The title of this publication is, Guidelines for Science and Mathematics in the Preparation Program of Elementary School Teachers.

CHAPTER IV

DEVELOPMENT OF GUIDANCE, COUNSELING AND TESTING PROGRAMS UNDER TITLE V-A

Introduction

Guidance is an important part of a sound educational program in the school. It is one of the most recent big developments in American education. The importance of guidance has been highlighted by educators throughout the country. Dr. James B. Conant, one of our most able educators, once said, "Yet it would not be too much to say that on the success or failure of our guidance program hangs, in all probability, the success or failure of our system of public education."¹

Guidance in one form or another has been carried on in schools of the State for many years. During this time a few schools developed guidance programs and employed counselors or deans to assist with the program. However, it was not until 1955 at the annual meeting of the Kentucky Association of School Administrators, it was forcefully recommended that there was a need for guidance services in each school and that consideration should be given to the position of guidance counselor. In setting up regulations for implementation of the Foundation Program, the State Board of Education included the guidance counselor in the list of 13 school positions which might be classified as administrative and special instructional services.

During the past six years many factors have significantly influenced the growth and development of local programs of guidance services. Major factors include the following:

1. The Guidance Counselor unit (ASIS) provided for in the Foundation Program.
2. Development of Preparation-Certification Standards for Guidance Counselors.
3. Establishment of the Division of Guidance Services in the Department of Education.
4. Passage of the National Defense Education Act of 1958.

The National Defense Education Act of 1958 included as one of its ten titles Title V-A, Guidance, Counseling and Testing. The purpose of this program is to provide financial assistance to the States to

¹ J. W. M. Rothney and B. A. Roens, *Guidance of American Youth*, Harvard University Press, Cambridge, Massachusetts, 1950, Foreword.

establish and maintain: (1) a testing program in secondary schools to identify students with outstanding aptitudes and ability; and (2) a program of guidance and counseling in the public secondary schools to encourage students to complete their secondary school education in preparation for their entrance into institutions of higher education and to enter such institutions.

Development of Local Programs of Guidance Services

Since the inception of the Title V-A program significant progress has been made in the development and improvement of guidance services in local school districts of the State. An increasing interest has arisen in guidance among school administrators, teachers and other school personnel. This interest has been manifested in several ways; the number of teacher in-service training programs in guidance, counseling and testing that have been held throughout the State; requests for the ASIS Guidance Counselor Unit; requests for consultative and supervisory services in guidance; requests for guidance information materials; and in the number of superintendents and principals who have expressed the desire to improve their programs of guidance services.

There has been a significant increase in the number of high schools that planned and organized programs of guidance services as an integral part of their total educational program.

Table I shows the number of high schools reporting organized programs of guidance services for the five year period 1958-59 through 1962-63.

TABLE I
NUMBER AND PERCENT OF PUBLIC HIGH SCHOOLS HAVING
ORGANIZED PROGRAMS OF GUIDANCE SERVICES UNDER
THE TITLE V-A PROGRAM 1958-59 THROUGH 1962-63

Year	Number	Percent
1958-59	93	20.2
1959-60	245	56.3
1960-61	261	60.2
1961-62	267	62.4
1962-63	222	54.0

Competent and qualified counselors are essential members of the guidance team in our public schools. The counselor helps provide leadership in coordinating the guidance program with and under the direction of the principal of the school. He assists teachers in carrying out their guidance responsibilities and counsels with pupils.

Because of a shortage of available certified guidance counselors in the State, and availability of Guidance Counselor Units under the Foundation Program, only a limited number of schools have been able

to employ counselors. Nevertheless, there has been and continues to be an increase in the number of certified counselors employed in schools of the State and the number of schools having the services of certified guidance counselors. Table II shows a summary of this information for the five year period 1958-59 through 1962-63.

TABLE II
NUMBER OF CERTIFIED COUNSELORS EMPLOYED IN PUBLIC HIGH SCHOOLS OF THE STATE AND THE NUMBER AND PERCENT OF SCHOOLS HAVING THE SERVICES OF A CERTIFIED COUNSELOR 1958-59 THROUGH 1962-63

Year	Number of Certified Counselors	Number of Public High Schools Having the Services of a Certified Counselor	Percent of Public High Schools Having the Services of a Certified Counselor
1958-59	80	60	13.0
1959-60	162	142	21.5
1960-61	192	160	36.8
1961-62	210	178	40.2
1962-63	234	193	46.9

Under the Foundation Program certain administrative, supervisory and special instructional units may be allotted to local school districts upon request and may be approved when local school districts give evidence that minimum criteria established for the unit will be met. One of these, the "Guidance Counselor" Unit, has significantly influenced the development of guidance programs in the State. In setting up this unit in a school, a certified guidance counselor must be employed, a tentative planned program of guidance services projected and physical facilities provided.

A considerable number of school districts have this unit in one or more of their high schools. The number of "Guidance Counselor" units (ASIS) is shown in Table III for the five-year period (1958-59 through 1962-63).

TABLE III
NUMBER OF "GUIDANCE COUNSELOR" UNITS (ASIS) APPROVED FOR LOCAL SCHOOL DISTRICTS 1958-59 THROUGH 1962-63

Year	Number of Units
1958-59	63.7
1959-60	121.9
1960-61	146.9
1961-62	180.0
1962-63	204.5

The goal for testing under this program is that appropriate testing be done to identify the aptitudes and abilities of students early enough in their school careers to be of value in academic and vocational planning, reports of which may be used for the following purposes: (a) to provide such information about the aptitudes and abilities of secondary school students as may be needed by school guidance personnel in carrying out their duties; (b) to provide information to other educational institutions relative to the educational potential of students seeking admission to such institutions.

During the past five years secondary schools have been conducting testing programs under the Title V-A program. During the 1958-59 school year 87% of Kentucky Public Secondary School districts conducted testing programs under Title V-A. Three years later (1961-62) 98.5% of Kentucky Public Secondary School Districts conducted testing programs under Title V-A.

Table IV summarizes the testing of secondary school students with various tests and test batteries during the 1961-62 school year.

TABLE IV
NUMBER OF KENTUCKY PUBLIC SCHOOL SECONDARY (7-12)
STUDENTS TESTED WITH VARIOUS TYPES OF TESTS AND
TEST BATTERIES AND NUMBER AND PERCENT TESTED
UNDER THE NATIONAL DEFENSE EDUCATION ACT
OF 1958, TITLE V-A (1961-62)

	Total Number Tested	Number Tested Under N.D.E.A.	Percent Tested Under N.D.E.A.
Scholastic Aptitude or Intelligence Tests	110,945	99,172	89.38
Multi-Factor Aptitude Tests.....	39,675	32,176	81.09
Achievement Test Batteries.....	111,519	98,395	88.23
Single Subject Achievement Tests	68,433	53,752	78.54
Total Number of Tests Given (all types)	330,572	283,495	85.75

From these figures and other supporting data, it is evident that N.D.E.A., Title V-A continues to give impetus to testing of secondary school students in the state. Table V shows expenditures under Title V-A.

TABLE V
EXPENDITURES FOR LOCAL PROGRAMS OF GUIDANCE,
COUNSELING AND TESTING UNDER TITLE V-A
FOR THE PERIOD 1958-59 THROUGH 1961-62

Year	Testing & Scoring	Guidance	Office Equipment	Travel	Clerical	Total
1958-59	\$ 66,039.02	\$ 36,335.62	\$	\$	\$	\$102,374.64
1959-60	70,425.31	98,137.02	42,161.63	75.00	210,798.96
1960-61	72,247.72	73,241.88	45,620.54	4,052.19	4,147.61	199,309.94
1961-62	79,206.45	54,585.61	34,365.28	5,134.63	7,282.52	180,574.49
TOTALS	\$287,918.50	\$262,300.13	\$122,147.45	\$ 9,186.82	\$ 11,505.13	\$693,058.03

Financial assistance through the Title V-A Program has aided local schools to carry out the following guidance activities:

1. Collect, organize and interpret information that is appropriate to understanding of the student's abilities, aptitudes, interests, and other personal assets and liabilities related to educational and vocational planning and progress.

2. Make available to the student and his parents, educational and vocational information that will help them to understand the various educational and vocational opportunities and requirements related to the choice of an educational program and a career.

3. Provide individual counseling to help the student and his parents develop a better understanding of the student's educational and vocational strengths and weaknesses; to help the student and his parents relate his abilities and aptitudes to educational and vocational opportunities and requirements; and to help the student, with assistance of his parents, make appropriate educational plans, including the choice of courses in the secondary high school and the choice of an educational institution beyond the high school.

4. Stimulate desires in the student to utilize his abilities in attaining appropriate educational and vocational goals.

5. Provide for the student such assistance as may be needed for the development of his aptitudes and the utilization of his abilities.

6. Provide educational services to encourage and assist students in making essential transitions, such as placement in educational institutions beyond the high school.

7. Provide such group activities as may be necessary to orient students to the high school program; educational opportunities beyond the high school; and general vocational opportunities and requirements.

8. Provide teachers and school administrators such information about individual students or groups of students as may be necessary to enable them to plan curricular and instructional programs appropriate to the educational needs of the State and Nation.

9. Collect and analyze such information as may be needed to evaluate the guidance and counseling program; and to provide guidance information as may be available and needed to evaluate the school's program in terms of the educational needs of the students and of the State and Nation.

CHAPTER V

PLAN OF OPERATION FOR TITLE V-A

The first State Plan for Guidance, Counseling and Testing was developed during December of 1958. It was approved by the State Board of Education on December 9th and approved by the U. S. Commissioner of Education to become effective December 12, 1958. Since this time the Plan has been revised several times to meet State program needs and Federal requirements. The current State Plan effective July 1, 1962 follows:

DIVISION OF GUIDANCE SERVICES KENTUCKY STATE PLAN FOR NATIONAL DEFENSE EDUCATION ACT OF 1958

Public Law 85-864

Title V-A

GUIDANCE, COUNSELING AND TESTING

The State of Kentucky, through the State Board of Education, hereby submits its State Plan for guidance, counseling, and testing, pursuant to the provisions of Section 501-504(a), inclusive, of Title V, Part A, of Public Law 85-864, and the regulations issued with respect thereto.

1.0 The State Educational Agency

- 1.1 **Name of Agency.** The name of the State Educational Agency is Kentucky State Department of Education and this agency is the sole agency responsible for the administration of the State Plan and for dealing with the Commissioner with respect to the plan. This agency qualifies as the State educational agency because the State Department of Education is designated by Statutes as the sole agency for the general supervision and control of the public common schools within the State.

Kentucky Revised Statutes 156.010—Department of Education. Composition, Functions

- “(1) The Department of Education shall consist of the State Board of Education and the Superintendent of Public Instruction, who shall be the head of the Department.

“(2) The Department of Education shall exercise all of the administrative functions of the State in relation to the management and control of the public common schools,” and because of the interpretation regarding supervision contained in the attached Attorney General’s opinion dated November 25, 1958.

1.2 Administration

- 1.21 The official title of the officer authorized by the State educational agency to submit State Plan materials is the Superintendent of Public Instruction. The Superintendent is Executive Officer of State Board of Education, Kentucky Revised Statutes 156.130—General Duties—“The Superintendent of Public Instruction shall be the executive officer of the State Board of Education in its administration of all public education placed under its management and control, and shall perform such duties as are assigned to him by the Board. He shall be responsible for the administration of the Department of Education. He shall execute under the direction of the State Board of Education the educational policies decided upon by the Board, and shall direct, under the general rules and regulations adopted by the Board, the work of all persons engaged in the administration of the common schools and public vocational rehabilitation.”
- 1.22 Custody of Funds—as provided by State Law, the State Treasurer, Frankfort, Kentucky, will receive and have custody of all funds to be expended under the plan.
- 1.23 The official title of the officer, who, on the state level, will have authority to authorize expenditures under the state plan is the Superintendent of Public Instruction.
- 1.24 The official titles of the officers and administrative units with the state educational agency who will administer the plan are indicated on the chart in Section 1.25.

1.3 The State Agency’s Authority

- 1.31 The following Statute contains authority of the state education agency to submit a State plan under Section 501-504(a) of Public Law 85-864 and to administer the plan. Kentucky Revised Statute 156-100—Board May Accept Federal Aid of Gift, Donation or Devise.

“The State Board of Education is authorized in its discretion to accept the provisions of any Act of Congress appropriating and apportioning funds to the state for use in connection with any phase of the state’s system of education. It

shall prescribe such regulations as it finds necessary to provide for the proper apportionment and disbursement of these funds in accordance with the state and federal laws. Said State Board of Education may accept and provide for the administration of any gift, donation or devise to the schools under its supervision or control."

1.32 The certification of the Attorney General, referred to under Section 1.1 of this plan, contains authority of the state educational agency for supervision of public elementary and secondary schools. Also, as stated under Section 1.1 Kentucky Revised Statute 156.010(2) confers administrative responsibility upon the State Department of Education.

1.33 The State educational agency is authorized under State law to expend funds for testing children in all public secondary schools in the State.

The State educational agency is not authorized under Section 189 of the Kentucky Constitution to utilize State school funds for the benefit of private schools. (September 18, 1959) The Constitution of the Commonwealth of Kentucky Section 189, states:

"School money not to be used for church, sectarian or denominational school. No portion of any fund or tax now existing, or that may hereafter be raised or levied for educational purposes, shall be appropriated to, or used by, or in aid of, any church, sectarian or denominational school." (September 18, 1959)

1.4 Reports

The State Department of Education will participate in periodic consultations with the Commissioner and his staff and will make such reports to the Commissioner as he may consider reasonably necessary to carry out his responsibilities under Sections 501-504(a) and 1004 of Public Law 85-864.

It also, will comply with such provisions as the Commissioner may find necessary to assure himself that such reports are correct and verifiable.

2.0 Fiscal Arrangements and Accounting Procedures

2.1 State Laws and Regulations

2.11 The State Department of Education is governed by the following cited state laws and regulations with respect to the hiring of personnel and the purchase of and accounting for supplies, materials, and equipment:
Kentucky Revised Statutes 156.200

“The Superintendent of Public Instruction shall receive and examine all reports required by law or by the State Board of Education and, in person or through his assistants, shall examine, and advise on all the expenditures, business methods and accounts of all Boards of Education and all institutions placed under the management and control of the State Board of Education. He shall see that all financial and educational accounts are accurately and neatly kept and that all reports are made according to the forms adopted by the State Board of Education.”

Kentucky Revised Statutes 156.140

“The Superintendent of Public Instruction shall have general supervision of all assistants, agents and employees in the Department. He shall . . . appoint and set the salary of all division heads, assistants, agents and employees of the Department.

2.2 Fiscal Records: State Level

2.21 The official accounts and documents showing receipts and expenditures of funds by the state agency under the approved state plan will be maintained by the following agency: State Department of Education. These accounts will be maintained in accordance with Federal regulations 143.17(a).

2.22 The accounts of the State Department of Education are audited by the State Auditor annually.

2.3 Fiscal Records: Local Level

2.31 The official accounts and documents showing receipts and expenditures of funds under the plan by local educational agencies will be maintained by the local school districts with copies available in the State Department of Education. These accounts will be maintained in accordance with federal regulations 143.17(a).

2.32 The Fiscal records of the local school districts shall be audited as provided in KRS 156.265 (1), (2) and 156.275 (1), (2), KRS 156.275 (a) requires that a copy of the audit be filed in the office of the Superintendent of Public Instruction. A copy of the Title V-A Schedule from the audit will be filed in the office of the coordinator of the Act.

2.4 Identifying and Pro-rating Expenses

It is anticipated that all of the professional guidance and clerical personnel will not be working full-time on programs

under this plan. Their salaries and other expenses will be pro-rated in accordance with the actual time spent on activities under the plan.

3.0 Program for State Supervision and Related Services

3.1 General Description of the Present Guidance, Counseling, and Testing Activities of the State and Local Schools—

Guidance, in one form or another, has been carried on in schools of the State for many years. In most of the schools this function is performed largely by principals and teachers. Well-defined and coordinated programs of guidance services have not yet been developed in many schools; however, there is considerable interest among school administrators to organize and develop such programs.

Several important developments at the state level are now serving to stimulate the development and improvement of guidance services in the local schools. These include:

1. Establishment of a Division of Guidance Services in the Department of Education to provide supervision for and to assist local school districts to develop, expand and improve local programs of guidance services. Personnel consisted of a Director and Assistant Director whose duties are described in 3.24-C.
2. Adoption by the State Board of Education certification standards for guidance counselors.
3. Provisions under the Foundation Program for allotment to local school districts special ASIS Units (Guidance Counselor and Psychologist.)
4. Test scoring services made available on a limited basis to school districts through the Kentucky Cooperative Counseling and Testing Service established by the Kentucky Association of Colleges, Secondary and Elementary Schools.
5. Establishment in seven colleges and universities of counselor education programs.

There are 80 part-time and full-time counselors employed in Kentucky schools and 70 of these hold either the provisional or standard guidance counselor certificate. Seven per cent of the high schools have either a part-time or full-time certified counselor. While most of the local schools carry on some essential activities of the guidance program, nearly all need to expand these services.

3.2 The Plan Program of State Activities

3.21 Objectives

The proposed program will assist secondary schools to establish and maintain guidance programs including the services of testing and counseling. More specifically the objectives are:

1. To assist secondary schools to identify students with outstanding aptitudes and abilities.
2. To assist secondary schools in the state to establish and maintain guidance programs to:
 - a. Counsel students as to courses of study best suited to their abilities, aptitudes, and skills.
 - b. Encourage students with outstanding abilities, aptitudes, and skills to complete their secondary education.
 - c. Encourage these students to take courses necessary for admission to institutions of higher learning.

Realization of these objectives will result in:

1. Establishment in many secondary schools of guidance programs—schools which have not previously had such programs.
2. Expansion and improvement of guidance programs in secondary schools which have already established minimum programs of guidance services.
3. Enrichment of guidance programs in secondary schools where comprehensive programs of guidance services have already been established.

3.22 Description of State Supervisory Program Under the Plan

The State Supervisory Program shall consist of the following:

1. Development, organization, general direction, and coordination of the guidance, counseling, and testing programs under this plan.
2. Planning the state programs and assisting in the planning of local programs.
3. Assisting local guidance personnel in establishing, maintaining, or improving programs under the plan.
4. Supervising the guidance, counseling and testing programs of secondary schools under the plan.
5. Helping in the planning and preparation of materials and information for state and local programs.
6. Evaluating the results of guidance and counseling programs.

7. Engaging in other activities as may be needed for the development and improvement of programs under the plan.
8. Reviewing local programs annually for the purpose of appraising the local and state program.
Funds may be used for categories of expense authorized by Regulations 143.24(b), 143.25, 143.26 and 143.27.

3.23 Program Review

The State Department of Education will review and evaluate at least annually (a) the program of State Supervision, (b) the testing program, and (c) the local programs of guidance and counseling.

3.24 Qualifications and Duties for Professional State Personnel

A. Professional positions may be added to the staff of the Department of Education as needed to provide supervision and specialized technical assistance for local school districts in the establishment and maintenance of guidance, counseling, and testing programs, and the technical assistance needed by the state staff in carrying out its duties and responsibilities.

These positions shall include the following:

1. Director of Division of Guidance Services
2. Assistant Director of Division of Guidance Services
3. State Supervisor of Testing
4. State Supervisor of Educational and Occupational Information
5. State Supervisor of Guidance Studies
6. Psychologist
7. Area Supervisors of Guidance Services (as needed)

B. Qualifications for Professional State Positions

1. Qualifications for Director of the Division of Guidance Services—
 - a. Education—The Director of the Division of Guidance Services shall hold a Master's Degree from a standard accredited college or university. He shall have had advanced graduate study in the field of guidance. This work shall include courses in guidance, counseling, and testing. He shall also have had courses in educational administration and supervision. He shall meet minimum certification standards required of guidance counselors in the public schools of Kentucky.

- b. Experience—the experience of the Director of the Division of Guidance Services shall include teaching, and supervision or administrative experience.
 2. Qualifications for Assistant Director of Division of Guidance Services—
 - a. Education—The Assistant Director of the Division of Guidance Services shall hold a Master's Degree including graduate study in guidance, counseling, and testing, educational administration or supervision from a standard, accredited college or university. This work shall include courses in educational administration or supervision. He shall meet the minimum certification standards required of guidance counselors in the public schools of Kentucky.
 - b. Experience—the experience of the Assistant Director of the Division of Guidance Services shall include teaching and supervision.
 3. Qualifications for State Supervisors—
 - a. Education—(1) The State Supervisor shall hold a Master's Degree or the equivalent from a standard, accredited college or university. (2) The State Supervisor's training shall include adequate course work in such subject areas as guidance, counseling, psychology, sociology, and education as are appropriate to the particular position.
 - b. Experience—The State Supervisor's experience shall include teaching, supervisory, or administrative experience.
 4. Qualifications of Supervisors (Area)—

Area Supervisors shall have the same education as State Supervisors and also meet minimum certification standards required of guidance counselors in the public schools.
 5. Qualifications of Psychologist—
 - a. Education—the Psychologist shall hold a Master's Degree in Psychology or the equivalent from a standard, accredited college or university.
 - b. Experience—the psychologist's experience shall include supervisory and administrative experience.
- C. Duties of Personnel
1. Director of the Division of Guidance Services shall:
 - a. Develop policies for operating the Division of Guidance Services.

- b. Plan cooperatively with other education leaders and local boards of education for guidance in local schools.
 - c. Develop guidance materials to be distributed to schools and local boards of education.
 - d. Work cooperatively with teacher training institutions in planning for selection and training of counselors.
 - e. Organize and hold conferences and workshops for counselors and other guidance personnel to assist them in improving services while on the job.
 - f. Study and recommend standards for guidance services in terms of personnel functions, housing, supplies, and equipment.
 - g. Conduct studies in the field of guidance including surveys, evaluations, etc.
 - h. Have general supervision of the guidance program in the public schools of Kentucky.
2. Assistant Director of the Division of Guidance Services shall:
- a. Assist Director in developing policies for operating the Division of Guidance Services.
 - b. Plan cooperatively with the Director and other education leaders and local boards of education for guidance in local schools.
 - c. Assist in development of guidance materials to be distributed to schools and local boards of education.
 - d. Work cooperatively with teacher training institutions in planning for selection and training of counselors.
 - e. Help organize and hold conferences and workshops for counselors and other guidance personnel to assist them in improving services while on the job.
 - f. Study and assist in recommending standards for guidance services in terms of personnel, functions, housing, supplies and equipment.
 - g. Assist in conducting studies in the field of guidance such as surveys, evaluations, etc.
 - h. Assist Director with general supervision of guidance programs in the public schools of Kentucky.
3. State Supervisor of Testing shall:
- a. Provide technical assistance for local school districts in the areas of tests and testing.
 - b. Conduct short-term workshops and conferences to assist local guidance personnel in selection, administration and interpretation of tests and inventories.

- c. Coordinate the collection of tests data for development of regional and state norms.
- d. Supervise local guidance programs.
- 4. State Supervisor of Educational and Career Information
 - a. Provide technical assistance for local school districts in collecting, maintaining, and using educational and career information essential to guidance and counseling.
 - b. Coordinate the state program of educational and career information (securing, evaluating, and distributing to local schools.)
 - c. Participate in short-term workshops and conferences to help local guidance personnel in improving their competencies in collecting, evaluating, maintaining, and using educational, career and personal-social information essential to effective guidance.
 - d. Supervise local guidance programs.
- 5. State Supervisor of Guidance Studies shall:
 - a. Make studies that relate to:
 - (1) effectiveness of guidance programs, practices and techniques.
 - (2) testing.
 - (3) follow-up of graduates and drop-outs.
- 6. Psychologist
 - a. Consultant to state supervisors and area supervisors.
 - b. Counselors' workshop consultant.
 - c. Consultant to local counselors, teachers and school administrators on psychological matters.
 - d. Confer with State Supervisor of Guidance Studies on procedures, analyses and reporting.
 - e. Individual testing.
- 7. Area Supervisor of Guidance Services
 - a. Supervise programs of guidance services in secondary schools in a designated area of Kentucky.
 - b. Hold meetings of guidance personnel and school administrators within the area for the purposes of acquainting these persons with the program, interpreting State and Federal policies.
 - c. Check schools for minimum standards required for approval under the plan.
 - d. Assist school administrators and guidance personnel in the development of the guidance program.

3

4.0

- e. Hold area conferences of guidance personnel for the purpose of up-grading.
- f. Assist school personnel in evaluating the guidance program.
- g. Attend professional meetings and meet with other agencies to promote and develop guidance services in the schools.

3.25 **Advisory Committee for Guidance, Counseling, and Testing.** A committee consisting of personnel from institutions of higher learning, secondary school counselors, superintendents of local school districts, secondary school principals, teachers and other school personnel may be established to serve in an **advisory capacity** to the Department of Education in the administration of the program.

4.0 **Testing Program**

4.1 **Description of Present Testing Activities in the State**

There is no state-wide testing program. Local school districts institute testing at their discretion and use whatever types of tests they choose. State Department of Education personnel and resource people from the colleges assist as requested. Mental ability tests are the most frequently used for secondary school students. Perhaps one-third to a half of secondary school students are being tested for aptitude or ability sometime during their high school days.

4.2 **Extent of Plan Testing Program**

Below are listed three steps for testing under the plan:

- Step 1. The goal of the Department of Education is that adequate testing to identify academic aptitudes and ability be done for all public secondary school students no later than the 9th grade. If adequate testing has already been done at grade 7 or 8 to accomplish this purpose, testing in grade 9 shall be optional.
- Step 2. If adequate testing to identify aptitudes and ability is already being done at grade 7, 8 or 9, another mental ability test and achievement battery, or aptitude battery, may be given at grade 10 or 11.
- Step 3. If adequate testing for academic aptitudes and ability is being done in grades 7 through 11, additional aptitude tests, achievement tests, or mental ability tests may be given at any secondary school level for which the local district can establish need consistent with the purposes of the program.

Goal of the Department of Education for the school year 1958-59 is the achievement of step one. Goals for the second year will be achievement of steps one and two. Goals for third, fourth and subsequent years will be the achievement and maintenance of steps one, two and three.

4.3 Types of Tests and Grade Levels

Local school systems shall, under the plan, administer at least one mental ability test to students in grades 7, 8 or 9. If grades 7 or 8 are not part of the secondary school organizational plan, then a mental ability test shall be administered to students in grade 9. If three mental ability test scores are available then a mental ability test at grades 10 and 11 shall be optional. School systems shall also make provisions for administering each secondary school student a combination of one multi-factor aptitude type test battery and one achievement test battery or two achievement test batteries.

5.0

The above testing shall constitute the minimum under the plan for identifying academic aptitudes and ability. Additional tests to further identify aptitude and ability may be given as outlined in 4.2 of this section and as approved by the Division of Guidance Services of the State Department of Education.

4.4 Procedures

1. The local school system shall be responsible for the planning and administration of the local testing program. The Division of Guidance Services of the State Department of Education shall be responsible for prior approval and general supervision of all local school testing programs under this plan. Additionally, the Division of Guidance Services of the State Department of Education shall be responsible for providing guidelines and consultants to the local school system.
2. Local school systems may secure the services of test scoring and reporting agencies that are approved by the State Department of Education. These agencies may score tests and report the results to the local school system. The local school system shall make provisions for recording test scores on individual cumulative records.
3. Within funds available the Educational agency will reimburse local boards of education for the following categories of expenses incurred in the establishment and maintenance of an approved testing program under the plan:

- A. Approved tests, answer sheets, student profile sheets, manuals, machine scoring stencils, electrographic pencils, class record sheets and similar materials, forms and charts essential to the administration and use of such tests.
- B. Scoring and reporting services with recognized public or private institutions or agencies.

4.5 Qualifications of Personnel

Qualifications of personnel are covered in Section 3.24 of this plan.

- A. State level personnel will meet the specifications and perform the duties as outlined in Section 3.24.
- B. Testing activities at the local level will either be performed by or supervised by personnel having sufficient training and experience to insure correct procedures.

5.0 Guidance and Counseling Programs in Public Secondary Schools

5.1 Description of Present Guidance and Counseling Activities at Local Level.

As previously indicated under Section 3.1, guidance and counseling programs in most of the local schools are not yet well developed. Eighty per cent of the high schools do not yet have organized programs of guidance services. In the majority of schools testing programs and guidance materials are inadequate for guidance purposes.

5.2 Scope, Objectives and Procedures of Plan Program at Local Level

Guidance and counseling programs in public secondary schools under the plan shall serve both to counsel students regarding courses of study best suited to their ability, aptitudes, and skills, and to encourage students with outstanding aptitudes and ability to complete their secondary school education, take the necessary courses for admission to institutions of higher education, and enter such institutions. The programs shall provide assistance to students by assessing abilities, aptitudes, interests, and educational needs; developing understandings of educational and career opportunities and requirements; and helping them to make the best possible use of these opportunities through the formulation and achievement of realistic goals. Such programs may be carried out by the following activities when directed to the foregoing purposes:

1. Collecting, organizing, and interpreting such information as may be appropriate to the understanding of the

student's abilities, aptitudes, interests, and other personal assets and liabilities related to educational and career planning and progress.

2. Making available to the student and his parents such educational and career information as may be essential for them to understand the various educational and career opportunities and requirements related to the choice of an educational program and a career.
3. Providing individual counseling:
 - a. To help the student and his parents develop a better understanding of the student's educational and occupational strengths and weaknesses.
 - b. To help the student and his parents relate his abilities and aptitudes to educational and career opportunities and requirements.
 - c. To help the student, with assistance of his parents, make appropriate educational plans, including the choice of courses in the secondary school and the choice of an educational institution beyond the high school.
4. To stimulate desires in the student to utilize his abilities in attaining appropriate educational and career goals.
5. To provide for the student such assistance as may be needed for the development of his aptitudes and the full utilization of his abilities.
6. Providing educational services to encourage and assist students in making essential transitions such as placement in educational institutions beyond high school.
7. Providing such group activities as may be necessary to orient students to the:
 - a. high school programs
 - b. educational opportunities beyond the high school
 - c. general vocational opportunities and requirements.
8. Providing to teachers and school administrators such information about individual students or groups of students as may be necessary to enable them to plan curricular and instructional programs appropriate to the educational needs of the student body and to the manpower needs of the State and the Nation.
9. Collecting and analyzing such information as may be needed to evaluate the guidance and counseling program; and to provide such guidance information as

may be available and needed to evaluate the school's program in terms of the educational needs of the students and of the State and Nation.

The local school system will be required to show evidence of progress under the plan.

5.3 Reimbursable Activities

Provision is made for counselors' salaries through the State Foundation Program Law for Education. Salaries of counselors paid through the Foundation Program Law may be used to match Federal funds only when they are for counselors engaged in approved activities under an approved program of guidance and counseling. These funds will be used for state supervision and to match local expenditures under the plan. Also, counselors' salaries paid by the local school system (not ASIS units) may be used to match Federal funds used at the local level under the plan. The State educational agency may reimburse a local school system for any of the following categories of expense incurred for the operation of an approved guidance and counseling program for its secondary school students.

1. The purchase of such materials (including library materials) and supplies as may be necessary to fulfill the functions of the guidance and counseling program under the plan.
2. Necessary travel expenses for guidance personnel engaged in plan activities to participate in such conferences and workshops as may be approved under the plan by the State Department of Education.
3. Purchase of office equipment for the use of approved guidance personnel carrying out guidance activities under the approved plan.

5.4 Manner and Amount of Reimbursement

1. Reimbursement of local school districts will be made on the basis of evidence that the local school district has expended funds for activities listed in 5.3 to carry out approved programs meeting the standards listed in 5.5 of this plan.
2. A uniform ratio will be used throughout the state. Beginning with school year 1962-63, Federal funds not budgeted for state supervision will be used to reimburse local school districts, based on a formula of 50% or less, for expenditures incurred for approved activities under the plan.

5.5 Standards for Approval of Local Programs for Reimbursement

- A. School districts desiring to participate in the program under the plan shall submit for approval by the Department of Education a proposed plan for carrying out the program. The plan shall include the following:
 - 1. Testing, guidance and counseling activities already being carried out.
 - 2. Proposed activities of the testing, guidance and counseling program.
 - 3. Guidance personnel who will participate in the proposed program.
 - 4. Time to be allocated to guidance personnel for testing and counseling students.
 - 5. Evidence that proposed activities will improve present guidance and counseling services.
- B. Only those schools' applications shall be approved to participate in the program under the plan who show evidence of meeting the following minimum standards for:
 - 1. A minimum testing program;
 - 2. Guidance and counseling activities;
 - 3. Qualifications of local guidance personnel;
 - 4. Counselor-student ratio;
 - 5. Physical facilities, equipment and materials; and
 - 6. Provision for adequate supervision and coordination of the program.
- C. Recommended standards are stated after each minimum standard.
 - 1. Guidance and counseling activities—Minimum: Those activities (1-9) designated in Section 5.2. Recommended: Same as above.
 - 2. Qualifications of local guidance personnel—Minimum: 1958-59—a person, or persons, with designated responsibilities for guidance, counseling and testing under the plan shall have had preparation in guidance equivalent to 6 semester hours required toward a guidance counselor's certificate. 1959-60—a person, or persons, with designated responsibilities for guidance, counseling and testing under the plan shall have had at least 12 semester hours in courses leading to guidance counselor's certificate.

1960-61, 1961-62—a person, or persons, with designated responsibilities for guidance, counseling and testing under the plan **should** have at least 15 semester hours in courses leading to the guidance counselor's certificate and shall participate in at least one day of in-service training conducted by the staff of the Division of Guidance Services devoted to an orientation to the program and understanding of these responsibilities under the National Defense Education Act and the local school plan. In no case shall such person, or persons, have less than 12 semester hours in courses leading to the guidance counselor's certificate. Recommended: a person, or persons, with designated responsibilities for guidance should have a guidance counselor's certificate.

1962-63—a person, or persons, with designated responsibilities for guidance, counseling and testing under the plan shall have had preparation in at least 18 semester hours in courses leading to a guidance counselor certificate which shall include at least one course or the equivalent in guidance or counseling and another in the field of tests and measurements or testing and shall participate in at least one day of in-service training conducted by the staff of the Division of Guidance Services devoted to an orientation to the program and understanding of these responsibilities under the National Defense Education Act and the local school plan. Recommended: a person, or persons, with designated responsibilities for guidance should have a guidance counselor's certificate.

Minimum: 1963-64—a person, or persons, with designated responsibilities for guidance, counseling and testing under the plan shall have had preparation in at least 24 semester hours in courses leading to a guidance counselor's certificate which shall include at least one course or the equivalent in guidance or counseling and another in the field of tests and measurements or testing and shall participate in at least one day of in-service training conducted by the staff of the Division of Guidance Services devoted to an orientation to the program and understanding of these responsibilities under the National Defense Education Act and the local school

plan. Recommended: a person, or persons, with designated responsibilities for guidance should have a guidance counselor's certificate.

3. Counselor-Student Ratio—Minimum:

A person, or persons, devoting one class period per day to guidance and counseling activities for every 100 students in grades 7-12 under the plan or such other ratios as the State agency deems necessary to the establishment and development of programs of guidance services in secondary schools consistent with the provisions and policies of the Foundation Program of Kentucky.

Recommended: Student-Counselor Ratio: A person, or persons, devoting one class period per day to guidance and counseling activities for every 50 students in grades 7-12 under the plan.

4. Physical Facilities, Equipment and Material—Minimum:

- a. each school shall provide adequate space for counseling pupils privately.
- b. each school shall provide office equipment and supplies necessary for performing counseling and guidance functions under the plan.
- c. each school shall provide the essential educational occupational and supplementary materials needed to provide the guidance and counseling activities under the plan.

Recommended:

- a. Each school shall provide adequate space for counseling pupil's privately, separate from administrative offices.
 - b. Same as Minimum 4-b.
 - c. Same as Minimum 4-c.
- D. The State Department of Education shall approve tentatively plans submitted by local school districts which meet the minimum requirements and standards.
- E. The State Department of Education shall assist local schools in achieving the recommended standards through supervision, consultation, workshops, developing and sending out guidance materials to local schools.

with
have

per
very
such
sary
ams
tent
tion

son,
y to
50

Mini-

for

and
and

uca-
rials
eling

e for
rom

rove
riacts
and

local
ards
de-
local

5.6 Provisions for Local Supervision of Local Programs

Supervisors of Guidance Services and the State Department of Education staff shall be responsible for general supervision of local programs in areas assigned them. Local school superintendents shall be responsible for devising a program of supervision for their participating schools. Nothing in this plan shall take precedence over local policies and regulations, provided such policies and regulations are consistent with the general purposes of the plan program.

5.7 Provisions for Coordination of Guidance and Counseling Program with Other Student Personnel Services

The Superintendent of the local school districts and the Principal of the individual school will be held responsible through local plan provisions for coordinating the guidance and counseling program with other student personnel services.

CHAPTER VI

TECHNICAL EDUCATION IN KENTUCKY'S AREA VOCATIONAL SCHOOLS

Area Vocational Education Programs under Title VIII, National Defense Education Act of 1958 are programs of vocational instruction of less-than-college grade. Courses are conducted under public supervision and control and on an organized, systematic class basis, designed to fit individuals for useful employment as highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary for the national defense.

While the concept of preparing workers for an employment market is not a new one to vocational education, the purpose has not been to develop experts with scientific knowledge but craftsmen or mechanics who perform basic manipulative skills. However, the immediate challenge confronting vocational education today is the establishment or strengthening of area program for the development and training of more highly skilled technicians for occupations requiring a greater degree of scientific knowledge and people who can operate modern, complex technical equipment.

Preparatory technical courses offered by the Kentucky Area Vocational Industrial-Technical Schools lie in both the high school and the post-high school levels; yet they differ in content and purpose from those of a college or university which trains the professionally-qualified man or woman. Courses in electronics and machine tool technology, for example, go beyond the steps now established in the regular trade training programs. Although much emphasis is placed upon training in mathematics, science, physics, orthographic projection, sketching, drafting, and reproduction, as an inherent part of the curriculum, the programs of instruction are usually more brief and more technical in content than those for professional training. However, both deal with the same general fields of industry and engineering.

The plant equipment used in technician type of training often differ from those required for other vocational programs. Laboratories predominate, in contrast with shops; instruments in contrast with tools. Some shops may be needed in certain curricula, but these are used mainly for the development of understandings of processes and practices. Extension and supplementary courses are designed to provide advanced technical training needed by skilled craftsmen in

thos
spec
tion:
inte:
exte
with
exte

is th
tech
tech
indu
pro:
facil
num
To t
esta
desi
som
of h
pres
stan
edu
nee

those trades where many of the operations call for the application of specialized scientific or technical knowledge to concrete job situations. Extension programs vary in length and content, from a short intensive unit course, to a complete curriculum. Sometimes the extension program includes a planned sequence of courses dealing with one technical phase of the occupation, or it may include curricula extending over several years of study.

The immediate challenge confronting vocational educators, today, is the establishment and strengthening of area programs to provide technical education programs of both breadth and depth to prepare technical workers at all levels for present and evolving occupations in industry. Long range educational planning includes the on-going promotion and development of new and expanded area vocational facilities necessary to serve more adequately the needs of increasing numbers of students not here-to-fore provided with such opportunities. To this end ten of Kentucky's Area Vocational Schools have presently established courses in various fields such as electronics, tool and die design, tool and die making, and metallurgy with an enrollment of some three hundred students. Thus the program for the preparation of highly skilled technicians in recognized occupations with all of its present emphasis and dynamic future is rapidly becoming a substantial segment of an enlarged and greatly diversified area vocational educational program with a final goal of meeting the total vocational needs of Kentucky's citizens.

CHAPTER VII

PLAN OF OPERATION AND ACCOMPLISHMENTS OF TITLE X

Functions

The Division of Statistical Services has two distinct but related functions: (1) to improve the collection and utilization of statistical data by local school districts and by the Department of Education; and (2) to improve attendance and attendance services in the local school districts. These two functions go hand-in-hand, however, this chapter will be directed toward the former.

In carrying out the first function, the Division works with other divisions of the Department in collecting data from school districts (the salary schedule is one example), and in turn processes the information for use by these other divisions in administering the statutes and in assisting district officials with problems. Furthermore, blank forms, such as the enrollment card, the *Teacher's Register*, and the dropout questionnaire, are provided to the districts to use in collecting data for their own records and for the Department.

History

On February 13, 1959, the Kentucky Department of Education inaugurated "A State Plan for Improvement of Statistical Services." This action marked the first official step at the state department level in Kentucky to implement Title X of Public Law 85-864, popularly known as the National Defense Education Act. The United States Office of Education approved the Kentucky "State Plan" on February 19.

The general aims, purposes, and policies were stated as follows:

- A. Improve the collection, processing, analysis and reporting of data supplied by local educational units.
- B. Conduct conferences and training for personnel of local educational districts.
- C. Improve methods for obtaining from other State agencies within the State, educational data not collected by the State educational agency.
- D. Expedite the processing and reporting of statistical data through installation and operating of mechanical equipment.
- E. Improve dissemination of educational information.

After Mr. Wendell Butler became Superintendent of Public Instruction in January of 1960, it was decided that automatic data processing should be a separate division of the Department of Education rather than be a part of the Division of Records and Reports. The name "Division of Statistical Services" was assigned, although it was not made official until February of 1961.

The first machines arrived in January, 1961, although before that time one operator had begun punching cards on machines made available by another department. By June 30, 1961, other personnel had been hired, and card punch machines, card verifying machines, a sorter, and a numeric collator had been added to the Division. Several ambitious projects had been started or had been set up to start at the beginning of the school year. Already a new application form for foundation programs basic units had been put to use. Plans had been made to introduce a joint salary schedule and high school organization report for 1961-62. In the fall of 1962 a notable innovation was the publishing of the 1961-62 "Kentucky School Directory."

Early in January, 1963, the machines of the Division were moved to a new room in the basement. Additional storage and work space, improved productions, and higher morale resulted from this change of location.

Equipment and Physical Facilities

The Division of Statistical Services uses equipment manufactured by International Business Machines, although the installation of machines of other producers is a possibility as expansion takes place. Eight machines are owned by the Department of Education and three are rented from the manufacturers. Those that are owned are three 024 card punch machines, two 056 card verifiers, one 077 numeric collator, one 083 sorter, and one 519 reproducer. The reproducer has attachments to enable it to record data from cards that are marked by pencil and the sorter recently has had an "alphabetic attachment" installed. The rented machines are one 087 alphanumeric collator, one 407 accounting machine, and one 548 interpreter. These machines comprise a "unit record" installation and stop short of a computer system. With the present equipment, the Division can sort data into categories, can print listings and summaries, and can add and subtract numerical data. However, calculations which require multiplication or division must be done on more complex machines. As examples, cost per pupil, average salaries, and percentages of attendance cannot be computed on the equipment operated in the Division. Such calculations now are done by computers in other agencies.

The installation of a computer system in the Division of Statistical Services has been under discussion for quite awhile; however, a de-

cision to order such equipment has not been made, and will depend on the expansion of the Division's services and on budgetary considerations.

Accomplishments

Although the Division of Statistical Services struggled through a long period of problems of space and staff, its accomplishments have been numerous. Furthermore, basic data have been collected, procedures have been developed, and forms and techniques have been tested. The foundation work has been done. Progress in the future should be rapid.

Already, a pre-printed foundation program basic unit application blank has been used three times (1961-62, 1962-63, and 1963-64). Also, two test runs of basic unit calculations have been made and have been compared with the official calculations. The comparisons indicated that the process for this machine calculation has been worked out to the point where it might be substituted for the traditional manual tabulation.

Another solid step has been the establishment of a cooperative arrangement with the Division of Teacher Education and Certification whereby a punched-card record is made of every certificate change. This system was inaugurated in the summer of 1961. It has contributed to the rank verification task in the computation of the foundation program. Also, it has made possible the printing of lists (although not yet complete) of teachers in various subject areas.

The tabulation of salary data from local districts' schedules has enabled the Division of Finance to correct inaccuracies in teachers' salaries and to notify districts if their salary allocations did not meet foundation program requirements.

Recently, the growth factor and the adjusted average daily attendance, both important to the foundation program, have been computed.

For three years the "Kentucky School Directory" has been largely a production of the data processing machines.

Census and attendance tabulations have become regular annual features of the machine scheduling.

The attendance and financial tables for 1961-62 and 1962-63, listed in the latest edition of the biennial *Report of Superintendent of Public Instruction*, were prepared from punched cards.

Many other major and minor tasks have been accomplished through the use of the data processing equipment. Those named above are important examples, and they illustrate the potentialities for the future.

Goals

It is impossible, of course, to list ultimate goals because every achievement leads to greater aspirations. Yet those that now seem important and that now seem possible to the Division of Statistical Services are listed below.

1. To assist local districts to improve attendance; particularly those with traditionally low records.

2. To assist districts to enroll higher percentages of their school-age populations and to keep these enrollees in school.

3. To continue to improve the reporting of data between local districts and the Department of Education and between the Department of Education and local districts.

4. To expand the services of the data processing section to other divisions of the Department of Education.

5. To expand the services of the data processing section to school districts:

a. To help them in the collection, tabulation, and analysis of their data; and

b. To assist them to establish their own automatic data processing units.

6. To expand the data processing section to the point that direct assistance in planning current and future projects will be given. Now the section is confined to analyses of activities that already have happened. Examples of assistance in planning are: population projections, building project scheduling; summer maintenance scheduling.

7. To place in operation in the near future the following projects which are already in advanced stages of planning:

a. calculation of foundation program allotments.

b. inauguration of property accounting in local districts; and

c. assistance with personnel and financial accounting in the Department of Education.

CHAPTER VIII

COLLEGE PROGRAMS

The story of the National Defense Education Act in Kentucky would not be complete without reference to some of the titles which affect higher education. Title II, the Student Loan Program and Title IV, the Fellowship Program were mentioned briefly in Chapter I.

The National Defense Student Loan Program, Title II of the National Defense Education Act is designed, in the words of the law itself, "to identify and educate more of the talent of our Nation," and "to insure trained manpower of sufficient quality and quantity to meet the national defense needs of the United States."

The Act provides for the creation, at American colleges and universities, of loan funds from which needy undergraduate and graduate students may borrow on reasonable terms for the purpose of completing their higher education.

The Congress appropriates funds for the purpose of the National Defense Student Loan Program. These funds then are distributed among all participating colleges and universities.

A participating college or university is required to contribute to the creation of its National Defense Student Loan Fund a sum equal to at least one-ninth of the amount contributed by the Federal Government. The responsibility for the administration of this fund thereafter rests with the institution.

Within conditions prescribed by the Act and by regulations issued by the U. S. Commissioner of Education, the institution itself selects student recipients, arranges the loans, and is responsible for their collection.

Since each participating institution is responsible for determining the eligibility of a candidate for a loan, a prospective borrower must apply for loan assistance to the financial aid office of the college of his choice. The law requires that each borrower be a full-time undergraduate or graduate student, that he be in need of the amount of his loan to pursue his courses of study, and that he be, in the opinion of his institution, capable of maintaining good standing in his chosen courses of study. The law further provides that special consideration in the selection of loan recipients be given to students (a) with a superior academic background who express a desire to teach in

elementary or secondary schools, or (b) whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language.

The student may borrow for college expenses in 1 year a sum not exceeding \$1,000 and, during his entire course in higher education, a sum not exceeding \$5,000. (The national average of the annual loan per student has been about \$500.) The borrower must sign a note for his loan. The repayment period of the loan begins 1 year after he completes his full-time course work and then extends over a 10-year period. Interest at 3 percent per year begins to accrue at the beginning of the repayment period. During periods of service in the Armed Forces or the Peace Corps (up to a total of 3 years) and during periods of full-time attendance at an accredited institution of higher education, no interest will accrue and no repayment is required. The borrower's obligation to repay his loan is to be canceled in the event of his death or permanent and total disability.

If a borrower becomes a full-time teacher in an elementary or secondary school, a maximum of 50 percent of the loan (plus interest) may be canceled at the rate of 10 percent for each year of teaching.

Information from the U. S. Office of Education indicates that in Fiscal 1962, 27 Kentucky institutions of higher learning were taking part in the Student Loan Program. Data compiled from questionnaires sent to these institutions at the close of the 1962 Fiscal year provided the data in Table I. Only 22 of the 27 institutions replied to the questionnaire so the data is incomplete. It does, however, indicate the rate of growth of the Program. The principal limiting factor has been the limited amount of Federal money provided by the appropriation for the Title. It will be noted that the average loan is slightly more than \$400.

TABLE I

	Number Students Receiving Loans	Total of Loans
Fiscal 1959	642	\$ 183,505.
Fiscal 1960	1772	763,078.
Fiscal 1961	2584	1,190,129.
Fiscal 1962	3624	1,503,950.

It was mentioned in Chapter I that only two Kentucky institutions were granting fellowships under Title IV. These institutions are the University of Louisville and the University of Kentucky. These fellowships are in the fields of Physics, Mathematics, History, World Affairs, Economics, Sociology, Ichthyology, and Limnology. Through Fiscal 1962, a total of 32 fellowships have been granted by these two institutions, 28 by the University of Kentucky and 4 by the University of Louisville.

Under Title V-B the University of Kentucky has enrolled 136 students in Guidance institutes. Of these students 112 were Kentucky residents and 24 from other states.

Under Title VI, the University of Kentucky has established a Foreign Language institute in French. Each summer approximately 50 high school teachers receive training in the new methods of teaching Modern Foreign Languages. In addition to the training the teachers receive a subsistence allowance which is adequate to pay the expenses incurred in the attendance.

APPENDIX A

A REVISED STATE PLAN FOR STRENGTHENING OF INSTRUCTION IN SCIENCE, MATHEMATICS AND MODERN FOREIGN LANGUAGES UNDER SECTIONS 301-304 OF TITLE III PUBLIC LAW 85-864 AS AMENDED

Submitted by the State of Kentucky

Approved by the State Board of Education on Dec. 17, 1963

Date upon which the Plan is effective in Kentucky Dec. 21, 1963

Date received by the Office of Education Dec. 21, 1963

The State of Kentucky, through the State Department of Education, hereby submits its Revised State Plan for strengthening instruction in Science, Mathematics and Modern Foreign Languages pursuant to the provisions of Sections 301-304, inclusive, of Title III of Public Law 85-864 as amended and the regulations issued with respect thereto.

1.0 THE PROGRAM FOR STATE PLAN ADMINISTRATION

1.1 **Name of Agency.** The name of the State Educational Agency is Kentucky State Department of Education and this Agency is the sole Agency responsible for the administration of the State Plan and for dealing with the Commissioner with respect to the plan. This Agency qualifies as the State Educational Agency because the State Department of Education is designated by Statutes as the sole Agency for the general supervision and control of the public common schools within the State.

Kentucky Revised Statutes 156.010—Department of Education, Composition, Functions

“(1) The Department of Education shall consist of the State Board of Education and the Superintendent of Public Instruction, who shall be the head of the Department.

(2) The Department of Education shall exercise all of the administrative functions of the State in relation to the management and control of the public common schools.”

1.2 Administration

1.21 The official title of the officer authorized by the State Educational Agency to submit State Plan materials is the Superintendent of Public Instruction.

Superintendent is Executive Officer of State Board of Education.

Kentucky Revised Statutes 156.130—General Duties—
“The Superintendent of Public Instruction shall be the executive officer of the State Board of Education in its administrative of all public education placed under its management and control, and shall perform such duties as are assigned to him by the Board. He shall be responsible for the administration of the Department of Education. He shall execute, under the direction of the State Board of Education, the educational policies decided upon by the Board, and shall direct, under the general rules and regulations adopted by the Board, the work of all persons engaged in the administration of the common schools and public vocational education and vocational rehabilitation.”

- 1.22 The Treasurer of the State of Kentucky, Frankfort, Kentucky, is the officer who has legal authority to receive and have custody of Federal Funds.
- 1.23 The State Superintendent of Public Instruction shall have the authority to authorize expenditures under the State Plan.
- 1.24 The State Superintendent of Public Instruction shall have the authority to administer the Plan.
- 1.25 An organizational chart for the administration of the State Plan is appended.

1.3 The State Agency's Authority

- 1.31 The following cited Statutes, and opinion of the Attorney General, contain the authority of the State Board of Education to submit a State Plan under Sections 301-304, inclusive of Public Law 85-864, and to administer the Plan.

Kentucky Revised Statutes 156.100

- 1.32 Superintendent is Executive Officer of State Board of Education.

Kentucky Revised Statutes 156.130—General Duties—
“The Superintendent of Public Instruction shall be the executive officer of the State Board of Education in its administration of all public education placed under its management and control, and shall perform such duties

as are assigned to him by the Board. He shall be responsible for the administration of the Department of Education. He shall execute, under the direction of the State Board of Education, the educational policies decided upon by the Board, and shall direct, under the general rules and regulations adopted by the Board, the work of all persons engaged in the administration of the Common Schools and Public Vocational Education and Vocational Rehabilitation.”

1.4 Reports

The State Department of Education will participate in periodic consultations with the Commissioner and his staff, and will make such reports to the Commissioner as he may consider reasonably necessary to carry out his responsibilities under Sections 301-304, inclusive and 1004 of Public Law 85-864, and will comply with such provisions as the Commissioner may find necessary to assure himself that such reports are correct and verifiable.

1.5 Hearings

Any applicant for a project under Title III, which has not been approved, shall have an opportunity for a hearing before the Appeal Committee in the Department of Education. The Department of Education shall establish an Appeal Committee consisting of the Assistant Superintendent of Public Instruction, the Head of the Bureau of Instruction and the Head of the Bureau of Administration and Finance. An appeal must originate with the local board of education and must consist of five copies of a formal affidavit setting forth the grounds for the particular items of dissatisfaction. The Superintendent of Public Instruction will send a written notice to the president of the Board of Education within 30 days after the filing of the appeal, setting forth the time and place of the hearing. The time of the hearing shall be not less than 30 days after the notification. Appellants shall be given ample opportunity to present written briefs supplemented by oral statements. The written briefs shall accompany the formal affidavit. All decisions made by the State Department of Education or the Appeal Committee shall be subject to review by the State Board of Education, if requested by the appellant.

1.6 State Administrative Review and Evaluation

The State will conduct a continuous review by means of the visits of the special supervisors in the specified subjects.

This review will be largely subjective. As time and personnel permit, more objective studies will be made to determine improvement being made in curriculum, equipment, teaching methods, enrollment, and teacher competency.

2.0 FISCAL MANAGEMENT, ACCOUNTING, AND AUDITING PROCEDURES

2.1 State Laws and Regulations

2.11 The State Department of Education is governed by the following cited State Laws and executive regulations with respect to the hiring of personnel and the purchasing of and accounting for supplies, materials and equipment.

Kentucky Revised Statutes 156.140—Superintendent to Control and Appoint Division Heads and Employees.

2.12 “The Superintendent shall have general supervision of all the assistants, agents and employees in the Department. He shall, subject to the provisions of Kentucky Revised Statutes 18.010 and 18.070 hereof and Kentucky Revised Statutes Chapter 12, appoint and set the salary of all division heads, assistants, agents and employees of the Department, but the appointment and dismissal of all division heads and other professional staff members shall be on the approval of the State Board of Education. The term ‘Employees’ as used in this section shall not be construed to include employees of local school districts.”

Kentucky Revised Statutes 45.170 (3)—Disbursements, How Authorized, Vouchers.

“The administrative head of each budget unit shall designate in writing the officer or employee authorized to sign advices of employment, copies of purchase orders and contracts, requisitions for reservations of funds, and letters of travel authorization for travel outside of Kentucky and no such advice, order contract or requisition shall be honored as a commitment statement unless the designation with a copy of the signature of the officer or employee designated is on file in the office of Department of Finance.”

2.13 The local districts shall operate on a cash basis KRS 160.550.

Expenditures by the local district shall not become an obligation of the State until the claim for reimburse-

ment has been received by the State. However, the fiscal year during which the local expenditure was made will determine the allotment from which the reimbursement will be made.

2.2 Fiscal Records and Auditing: State Level

2.21 The official accounts and documents showing receipts and expenditures of funds by the State Agency under the approved State Plan will be maintained by the State Department of Education in accordance with Regulation 141.17 on a cash basis. The State operates on the fiscal year July 1 to June 30, inclusive.

2.22 The accounts of the State Department of Education are audited annually by the Auditor of the State of Kentucky.

2.3 Fiscal Records and Auditing: Local Level

2.31 The official accounts and documents showing receipts and expenditures of funds by local school districts under the approved State Plan shall be maintained in the office of the local school district superintendent and duplicate invoices shall be on file in the State Department of Education in accordance with Regulation 141.17.

2.32 The fiscal records of the local school districts shall be audited as provided in KRS 156.265 (1), (2) and 156.275 (1), (2). KRS 156.275 (2) requires that a copy of the audit be filed in the office of the Superintendent of Public Instruction. A copy of the Title III schedule from the audit will be filed in the office of the Coordinator of the Act.

2.33 Requirements for the Audit

Section 156.265 (2) KRS

The Committee named in this section shall have the accounts of each board audited not less than once every two fiscal years. The Committee also may, at any time, cause to be made a comprehensive and complete audit of any board. Upon the written request of the State Board, the Superintendent of Public Instruction, the Attorney General, the Auditor of Public Accounts or the Governor, the Committee may cause the accounts of a board to be audited. Each audit shall cover such period of time, and shall include such auditing procedures and standards, as the Committee may designate.

Section 156.265 (3) KRS

Audits authorized under this section are in addition to any audits contemplated under KRS 11.090, KRS 156.200, or KRS Chapter 43.

Section 156.275 (1) KRS

The Committee shall select, to make the audit authorized under KRS 156.265, accountants who have no personal interest in the financial affairs of the board or of any of its officers or employees.

Section 156.275 (2) KRS

Immediately upon completion of each audit, the accountant shall prepare a report of his findings and recommendations in such form and in such detail as the Committee may prescribe. The report shall be to the Committee and in such number of copies as specified by the Committee. The Committee shall furnish one copy to the State Board of Education, one copy to the district board of education to which the report pertains, and one copy to the Superintendent of Public Instruction and one copy to the Auditor of Public Accounts. The district board of education shall keep a copy of the report on file in the office of the Superintendent of schools of the district and the report shall be open to inspection by any interested person subject to reasonable rules as to time and place of inspection.

2.4 Identifying and Prorating Costs

In case personnel work on programs under the National Defense Education Act and on other programs in the State Department, these facts will appear in the position description together with the proportion of the individuals time which will be normally devoted to each activity. The salary of each individual will be prorated in accordance with the normal time allocation and travel expense will be charged in proportion to the actual travel on each program.

3.0 PROGRAMS FOR EXPANSION AND IMPROVEMENT OF SUPERVISORY AND RELATED SERVICES

3.1 Present Program

The present State supervisory program is carried out under the direction of the Director of the Division of Instructional Services. There are eight area supervisors who have responsibility for the general supervision of a prescribed geographic area in the State. Certain of these supervisors have also a

special subject or program on a statewide basis. At present there are no supervisors in the special fields of science, mathematics and/or modern foreign languages. All of the supervisors meet the requirements of the State Board of Education for qualified supervisory personnel as detailed in Section 3.45.

3.2 Plan Program Objectives

The Supervisors, working with the districts of the Commonwealth will actively seek to improve the quality of Science, Mathematics and Modern Foreign Language instruction.

- (a) Establishing cooperatively clearly defined goals and purposes for S.M.F.L. education.
- (b) Establishing continuity and sequence in S.M.F.L. instruction in S.M.F.L. courses.
- (c) Helping local school districts plan S.M.F.L. facilities for quality learning experiences.
- (d) Planning of and participating in in-service training programs.
- (e) Evaluation of S.M.F.L. instructional programs.
- (f) Demonstrate instructional equipment in the context of S.M.F.L. instructional programs.
- (g) Visit schools not actually participating in acquisition programs to encourage improvement of instruction by participation.
- (h) Provide informational services on the improvement of S.M.F.L. instruction by course outlines, news-letters, announcements of in-service opportunities.
- (i) Encourage selected districts to develop pilot and experimental programs in S.M.F.L.
- (j) Help schools exchange information on effectiveness of specific items of equipment and materials.

3.3 Description of Program for Improvement of Supervisory and Related Services

To remedy the inadequacies in the fields of science, mathematics and modern foreign languages, the following steps will be taken.

- (1) Expand the regional consultant staff in the State Department of Education.
- (2) Revise and develop new curriculum materials in science, mathematics and modern foreign languages.
- (3) Develop improved standards for equipment and materials in the fields of science, mathematics and modern foreign languages.

- (4) Develop an organized pattern of in-service training conferences and local workshops in the fields of science, mathematics and modern foreign languages.
- (5) Establish a system of periodic evaluation by the Department of Education and other specialized personnel.

3.4 Duties and Qualifications of Professional State Personnel

The following professional staff members will be added to the State Department of Education. The work of these staff members will be a new service and will improve the existing service, which in the fields of science, mathematics and modern foreign languages is incidental as it relates to the general program.

- (1) Supervisor of Mathematics Education
- (2) Supervisor of Science Education
- (3) Supervisor of Modern Foreign Languages Education

3.44 The professional qualifications of the supervisors shall meet such standards as are set by the State Board of Education for both special subject supervisors and general supervisors. The Supervisor of Science, Mathematics, or Modern Foreign Languages Education have duties as follows:

- (1) To coordinate the efforts of State and local school personnel including the use of equipment and supplies, and encourage efforts to determine strengths and deficiencies, with emphasis on quality of instruction in all twelve grades.
- (2) To assist in expanding and improving instruction in science to the end that general and specific goals will be realized and through assisting in obtaining quality instruction in classrooms.
- (3) To encourage the enrollment of teachers in summer schools, workshops and other means of improving their ability to make use of new techniques and teaching devices in present programs and in new programs made possible wholly or in part by this Act.

4.0 PROGRAM FOR ACQUISITION OF LABORATORY AND OTHER SPECIAL EQUIPMENT (AND MINOR REMODELING)

4.1 Principles for Determining Priorities. The principles of priorities which are listed below will be used by the State Department of Education in the approval of projects for the acquisition of science, mathematics and modern foreign lan-

guages equipment submitted under this Title. Insofar as financial resources are available for the programs under Section 303 (a) (1) of the Act and provisions of the State Plan, projects will be approved only when they meet the common eligibility requirements listed below:

- (1) Projects will be approved only for schools at permanent or interim school centers as established by the School Facilities Survey of 1952 or subsequent surveys by the State Department of Education. Such school centers must have at the time of filing the project application an accredited standing with the State Department of Education.
- (2) Projects will be approved at the high school level only for subjects in the fields of science, mathematics and modern foreign languages which are part of the school's official course of study which is filed with the State Department of Education, or courses for which State Department of Education approval has been obtained.
- (3) Projects will be approved at the elementary school level in the fields of Science, Mathematics and Modern Foreign Languages only when such projects are a part of the present approved curriculum of the elementary school, or for which approval is granted by the State Department of Education.
- (4) Projects will be approved for subjects in the fields of Science, Mathematics and Modern Foreign Languages only when the teachers of the courses meet the minimum certification standards of the State Department of Education.
- (5) After having met the above common requirements, projects will be given priority for approval which in the judgment of the Special Supervisor in the geographical area will contribute the most to the educational program of the district in the particular subject.

4.2 Description of the Program for the Acquisition of Equipment and Minor Remodeling

4.21 Description of Program for Improving Education in each of the Fields of Science, Mathematics and Modern Foreign Language through the Purchase of Equipment and/or Minor Remodeling.

4.211 Mathematics, Elementary and Secondary. Items of equipment may be selected from lists published by the State Department. The lists are

opened and project applications may list for approval other items found on lists published by Teachers' Associations, the Purchase Guide or appearing in catalogs of reputable companies. Items of equipment must be for specific instructional purposes, preferably selected by teachers with the advice of Supervisors. The lists are subject to review by the State Supervisor and the Administrator of Title III. Priority will be given by the Supervisors to items for individual student use and teacher demonstration. Major equipment such as laboratory furniture will be closely checked for suitability to the situation. Through visits, the Supervisors will be familiar with each situation in each district and will review all project applications. Plans and specifications for minor remodeling to utilize equipment obtained under the act will be reviewed by the Division of Buildings and Grounds. Approval of the State Superintendent will be required for all remodeling plans.

4.212 The program for purchase of equipment for improving instruction in Modern Foreign Language will be much the same as for Mathematics. Emphasis at the secondary level will be on language laboratories and audio materials.

4.213 The program for Science, elementary and secondary will follow the same plan. Emphasis at the elementary level is on providing facilities for individual experimentation. At the secondary level, the provision of adequate space and facilities for individual laboratory experiences. Emphasis is also placed on reference materials, charts, models, and demonstration equipment at both grade levels.

4.22 Procedures

Having determined the identity and quantities of equipment to be secured, and/or the minor remodeling to be contracted for, the district through its Superintendent or authorized agent shall submit a project application, accompanied by a list of the equipment and materials to the State Department. In case of minor remodeling the plans and specifications for the re-

modeling must receive the approval of the Division of Buildings and Grounds, acting for the Superintendent of Public Instruction.

The project application shall be reviewed by the Special Supervisor in the subject field for its acceptability to the Department, and relative priority for the district. The project application will then be reviewed by the Administrator of Title III for its technical compliance and availability of funds. Upon approval by the Administrator of Title III, one copy of the application will be signed and forwarded to the Superintendent of the district authorizing him to proceed with the project.

4.23 State Operated Public Schools

Public elementary or secondary schools operated by the State Department of Education or other state agencies or institutions shall be eligible for inclusion in this program.

4.3 Standards for Equipment and Minor Remodeling

The criterion for the eligibility of an item for approval shall be the use to be made of the item. The item must be used by the student in learning, or the teacher in teaching or preparation for teaching. The item must not be categorically ineligible for approval.

Standard lists previously published will be used as suggested lists, but additional items meeting the above criterion in improving instruction in S.M.F.L. courses may be approved when listed in project applications.

4.4 Reimbursement for Approved Projects

4.41 Method of Reimbursement

Districts will be reimbursed to the extent of 50% of the cost of approved projects. The reimbursement shall be on the basis of a claim supported by copies of paid invoices, submitted by the district. The reimbursement rate shall be uniform for all districts.

4.42 Processing Claims for Reimbursement

Claims for reimbursement are made on a form supplied by the Department and upon which the following data is supplied by the district.

1. Name and address of district.
2. Number, subject and grade level of project.

3. Name of vendor or contractor.
4. Invoice number.
5. Number of check with which district paid invoice.
6. Cost of equipment.
7. Cost of remodeling.
8. Signature of superintendent and board treasurer.
9. Copies of all invoices for which 50% reimbursement is claimed.

From records in the Department, the approval date of the project is entered on the claim form. The items invoiced are checked against the list which was a part of the original project application, and deductions made for unlisted or ineligible items. The amount due the district is calculated, and the claim signed by the Title III Administrator and the Superintendent of Public Instruction or his agent.

Intr
Lak
Ma
Mir
Pro
Est
A

APPENDIX B

GUIDELINES
TO
NEW REGULATIONS FOR TITLE III, N.D.E.A.

TABLE OF CONTENTS

	Page
Introduction -----	66
Laboratory and Other Special Equipment -----	68
Materials -----	78
Minor Remodeling -----	83
Projects -----	88
Establishment of Standards for Equipment Acquisition and Minor Remodeling -----	91

INTRODUCTION

The chief objective in revising the Regulations applicable to Sections 301 through 304 of Title III, National Defense Education Act of 1958, was to apply the results of more than four years' experience of the States and of the Office of Education in operating the program. This experience indicated, among a number of things, that program regulations do not provide an adequate basis for determination of eligibility of expenditures for equipment, materials, minor remodeling, and personal services, or for documentation of such determinations. Fiscal audits by the Regional Grant-in-Aid Auditors and by the General Accounting Office resulted in audit exceptions amounting to substantial sums of money in a number of States. In order to guard against the periodic repetition of such adverse audit findings the Office of Education has developed this set of Guidelines to Title III, NDEA, Regulations.

Examination of the new Regulations and these Guidelines will disclose several significant changes. One of the changes will enable teachers to acquire new knowledge and to teach with greater confidence and effectiveness through the acquisition by schools of professional reference materials. Another will permit States to approve projects which will provide teachers of science, mathematics, and modern foreign language with equipment and materials appropriate for the preparation of audio-visual aids. A third permits approval of projects originated by public elementary or secondary schools such as those for the deaf and blind which, under State law, are operated by the State educational agency. Other major changes which will be discussed fully in the Guidelines include those related to minor remodeling and storage equipment.

As the knowledge and equipment of science and technology are applied increasingly in the performance of the work of the world, less and less of the equipment used in providing education in science, mathematics, and modern foreign languages is special in the sense that it is peculiar to the laboratories and classrooms in which such programs are conducted, even in the limited environment of the school plant. Many of the instruments essential to the study of electricity and electronics in the science laboratory are now used in the assembly, maintenance, and operation of electrical and electronic equipment and systems in modern school buildings. The calculator and the computer suitable for instruction in modern mathematics may be identical with those used in the school administrative offices. The tape recorder with playback used in foreign language instruction

is the same type used in remedial speech instruction. The microscope has many uses in instructional, health, and school operational functions, as well as in the biology laboratory. A sound motion picture projector is becoming standard equipment for school athletic programs as well as for presenting instructional materials in science, mathematics, and modern foreign language. A fire extinguisher for demonstration use in physics or chemistry laboratories may be identical with one installed in the cafeteria kitchen. Thus, an item of equipment or material is not eligible or ineligible in and of itself for acquisition under an approved NDEA Title III project. Only those items to be acquired for use in providing education in science, mathematics, and modern foreign language, and which are otherwise eligible under the Act and Regulations, are eligible for inclusion in a project for acquisition with NDEA funds.

The Office of Education and the respective State educational agencies are accountable and responsible to the Congress for the efficiency and the integrity of the operation of this program in the interests of the objectives set forth in the Act. In the discharge of that accountability it is necessary to depend upon the leadership, integrity, and prudent judgment of teachers, supervisors who are specialists in the three subject areas, administrators, and other officials in the local, State, and Federal educational agencies.

These Guidelines should assist the States in interpreting the revised Regulations and should furnish the basis for common understandings among local school systems, State educational agencies, the U. S. Office of Education, and program auditors and reviewers. Although these Guidelines cannot be all-inclusive, it is expected that their use will serve to minimize the number of time-consuming problems regarding eligibility, thereby permitting the concentration of maximum effort on accomplishing the purpose of Title III—improvement of instruction in science, mathematics, and modern foreign language.

LABORATORY AND OTHER SPECIAL EQUIPMENT

Section 141.1(h) of the revised Title III Regulations provides as follows:

“Laboratory and other special equipment” means (1) fixed or movable articles, which are particularly appropriate for use in providing science, mathematics, or modern foreign language education in an elementary or secondary school, and which are to be used either by teachers in connection with teaching or by students in learning in such courses; (2) audio-visual equipment, such as motion picture, slide, filmstrip, overhead, and micro projectors, recording equipment, and television receivers, to be used, either by teachers in connection with teaching or by students in learning, primarily in providing education in science, mathematics, or modern foreign language in an elementary or secondary school; (3) “materials” as defined in paragraph (j) of this section, and devices (other than for motion-picture production or for duplication or printing, such as mimeograph machines, ditto machines, and offset printing machines and standard keyboard typewriters) to be used primarily for preparation of science, mathematics, or modern foreign language audio-visual materials; and (4) storage equipment to be used solely for the care and protection of the foregoing items when used in laboratories or classrooms for science, mathematics, or modern foreign language. (The term does not include such items as general-purpose furniture, items for the maintenance and repairs of equipment, or radio or television broadcasting apparatus or inter-communication systems.)*

B.

A. Criteria for Determining Equipment Eligibility:

In determining equipment eligible for reimbursable purchase in accordance with the definition of “laboratory and other special equipment,” it is essential that careful consideration be given to the following criteria that it be—

1. in conformity with the State equipment standards;
2. suitable for use in providing education in science, mathematics, or modern foreign language;
3. appropriate to the attainment of instructional objectives consistent with the improvement of education in science, mathe-

*For discussion of materials in Category (3), see Guidelines, page 15 et seq., and Section 141.1(j) of the Regulations.

matics, or modern foreign language and with the desired curriculum goals;

4. of such nature that it will, with reasonable care and use, be expected to last for more than one year;

5. of the type which is not normally provided in furnishing an ordinary classroom;

6. adaptable to the space available or to be made available; and

7. that it not be an integral part of the building and not be for maintenance purposes.

B. Basic Considerations:

1. There is nothing inherent in equipment which in and of itself determines its eligibility; rather it is the use of the equipment and its direct relationship to science, mathematics, or modern foreign language instruction which determine its eligibility for purchase under an approved project. For example—

Hot plate

If an electric hot plate is purchased as a heat source for use in a science class, it would be eligible. If purchased for use in a home economics class, it would not be eligible.

Mirrors

Mirrors for studies of the reflection of light would be eligible. Mirrors for general purposes would not be eligible.

Tools

Hand tools having specific utility in science, mathematics, or modern foreign language would be eligible; triangular file to cut glass tubing; a mallet for popping corks in gallon jug experiments; a saw to illustrate sound pitch; a rubber mallet for striking tuning forks; and gardening implements when used in botanical or horticultural study integral to science instruction.

Kits

When the cost of consumable items in kits is known to be included but is an unknown portion of the total cost of the kit, which for the most part contains eligible equipment, the State may approve the purchase of the kit for the total cost.

When the cost of consumable items in kits is known to represent the major portion of the total cost of the kit, the State should not approve the kit for reimbursable purchase.

When the cost of consumable items in kits is known, the State may at its option deduct the cost of these items from the total cost of the kit and approve only the cost of the otherwise eligible items for reimbursement.

2. Items declared ineligible under the category of "materials" are necessarily ineligible under the definition of "laboratory and other special equipment."
3. Equipment for use in demonstration and instruction in local district centers for in-service training of teachers is not eligible for reimbursable purchase. This does not preclude the acquisition and use of equipment in a regularly equipped classroom or laboratory to be used also for in-service training of teachers.
4. Equipment may be purchased for use in buildings which are leased or rented, provided title to the equipment is vested in a local educational agency, or in a State educational agency as in the case of a State school.
5. The equipment acquired for education in science, mathematics, or modern foreign language must be for use in the classroom or laboratory or elsewhere in the school setting for the convenient use by science, mathematics, or modern foreign language teachers and students.
6. Equipment for the protection and safety of students in science laboratories may be acquired when equipment, such as asbestos gloves, goggles, lab aprons, lucite shields, safety showers and first-aid cabinets (excluding supplies) are not normally provided in the furnishing of ordinary classrooms. Safety equipment which is commonly provided in the furnishing of ordinary classrooms is not eligible for Federal financial participation.
7. Equipment acquired should be of such a nature that it may be repaired, if necessary, and spare parts should be available, although Title III funds may not be used for servicing or repairing equipment.
8. The cost of construction and/or installation of new equipment is a part of the cost of equipment acquisition and not minor remodeling. (See Minor Remodeling, page 26.)

C. Examples of Eligible and Ineligible Laboratory and Other Special Equipment

Technological advances continue to present questions concerning the eligibility of equipment for reimbursable purchase with Title III funds. As questions arise, the States are invited to continue to seek the professional guidance of the U. S. Office of Education. Literally thousands of items of equipment are available for use in providing education in science, mathematics, or modern foreign language. Below are listed examples by category of items of equipment which would be eligible for reimbursable purchase when the State has determined that such equipment is suitable for use and is to be used in providing education in science, mathematics, or modern foreign language.

[Category (1) of Regulation 141.1(h)]

Student Laboratory Equipment

Science

Glass and porcelain ware

Battery jars

Beakers

Bottles

Burettes

Crucibles

Flasks

Funnels

Microscope slides

Mortars

Pestles

Petri dishes

Pipettes

Stoppers, glass

Vials

Watch glasses

Electrical devices

Battery chargers

Coils

Generators

Hot plates

Incubators

Meters

Mathematics

Abaci

Counting devices

Desk calculators

Devices to develop representations of mathematical concepts

Drawing instruments

Graph chart stencils (polar coordinate)

Graph chart stencils (rectangular coordinates)

Laboratory apparatus for physical construction of mathematical theorems

Materials for mathematical model construction

Mathematical games

Measuring instruments

Number lines

Optical devices, such as prisms and lenses

Peg boards

Perimeter-area boards

Place value devices

Slide rules

Student Laboratory Equipment (Continued)

Science

- | | | |
|---|---|--|
| <p>Motors
Power supply units
Rectifiers
Rheostats
Solar cells
Switches
Transformers</p> <p>Kits</p> <p>Electrical circuit
Electronic
Embedding
Polarized light
Soil testing
Transistor</p> <p>Models and display materials</p> <p>Anatomical models
Atomic models
Biological models
Collections, such as insect,
rock, and plant
Embedded biologicals
Skeletal mounts
Specimen mounts</p> <p>Measuring and recording devices</p> <p>Balances and weights
Barometers
Boyle's law apparatus
Calipers
Calorimeters
Counters and timers
Eudiometers
Hydrometers
Manometers
Meter sticks
Meters and gauges</p> | <p>Scalers
Tachometers
Thermometers</p> <p>Optical devices</p> <p>Binoculars
Lenses
Light filters
Magnifiers
Microscopes
Prisms
Telescopes</p> <p>Other laboratory devices</p> <p>Aspirators
Autoclaves
Cages
Centrifuges
Clamps
Dessicators
Heat sources
Insect mounting boards
Magnets
Microtomes
Nets
Pulleys
Pumps
Radiometers
Special science keyboard
typewriters
Steam generators
Sterilizers
Stethoscopes
Stoppers, rubber
Tongs
Tuning forks
Water baths
Vasculums</p> | <p>Aqua
Cath
Clou
Colo
Dem
Gyro
Hors
Line
Liter
Mag
Moc
Opti
Osci
Plan
Phot
Phot
Radi
(d
Ripp
Sim
Spec
Stro
Terr
Traj
Van</p> <p>Fun
Ger
Gro
Lab
Lab
Mok
sc
Pott
Sink
Tea
an</p> |
|---|---|--|

Teacher Demonstration Equipment

(Some items are also eligible for student use.)

Science

Aquariums
Cathode ray tubes
Cloud chambers
Color apparatus
Demonstration radio receivers
Gyroscopes
Horsepower apparatus
Linear expansion apparatus
Liter blocks
Magdeburg Hemispheres
Mock-ups
Optical benches
Oscilloscopes
Planetariums
Photoelectric cells
Photometers
Radio transmitters
(demonstration)
Ripple tanks
Simple machine apparatus
Spectroscopes
Stroboscopes
Terrariums
Trajectory apparatus
Van der Graaf generators

Mathematics

Chalkboard drawing instruments
Chalkboard guides—polar and
rectangular coordinates
Charts
Clocks, demonstration
Counting and grouping devices
Demonstration measuring devices
Demonstration slide rules
Desk calculators and adding
machines
Grid liners
Models of mathematical concepts
Slated globes
Surveying instruments
Two- and three-dimensional
models
Typewriters with special mathe-
matics keyboards

Furniture and Fixtures

Science

Fume hoods
Germinating beds
Growing frames
Laboratory carts
Laboratory tables
Mobile laboratories used in
schools
Potting benches
Sinks
Teacher demonstration desks
and tables

Mathematics

Chalkboards
Magnetic panels
Rectangular and polar coordinate
panels
Sliding panels
Drawing and work tables
Individual work cubicles
Specialized student and teacher
work desks

Special Equipment for Modern Foreign Languages

Amplifiers and preamplifiers
Auxiliary classroom speakers
Headphones
Interconnecting accessories such as (jackboxes, switches, wiring)
for language laboratory systems
Microphones
Mobile language lab carts or units
Portable dividers
Record players
Short wave receivers
Specially wired tables
Student booths
Student stations
Tape recorders or decks
Teacher consoles
Two-way classroom or laboratory inter-communication systems
as an integral part of the language laboratories
Typewriters with special foreign language keyboards

Ineligible Equipment

Because of the categorical nature of the Act and the Regulations, certain fixed or movable articles are not eligible for purchase with Title III funds. Such equipment by its very nature is general purpose, is normally found in general classrooms, or is standard equipment in most schools. The Office of Education has not attempted to compile an all-inclusive list of ineligible equipment items. If questions arise concerning any item of equipment not listed in these Guidelines, and if State officials are doubtful as to eligibility, questions may be submitted to the U.S. Office of Education for opinion. Following are examples of general-purpose furniture and equipment not eligible for purchase with Title III funds:

General-Purpose Furniture and Equipment

Classroom Furniture	Equipment
Bulletin boards	Air conditioners
Chairs	Alarm or regular clocks
Library or folding tables	Erasers
Ordinary chalkboards	Fluorescent light units
Ordinary teacher's desks	Office equipment
Student lockers	Paper cutter or trimmer
Wall clocks	Paper punches

General-Purpose Furniture and Equipment (Continued)

Equipment

Pencil sharpeners
Pointers
School public address and
intercommunication systems
Staplers
Step ladders
Tape dispensers
Work or lathe benches

Maintenance Equipment and Replacement Parts

Belts, motor
Brushes and brooms
Eraser cleaners
Film booking or catalog systems
Film inspection machines
Film polishers
Film rewinds
Projector lamps
Transistors
Tube testers
Tubes, electronic
Vacuum cleaners

D. Audio-visual Equipment

The "audio-visual equipment," referred to in Category (2) of Regulation 141.1(h), by its very nature and versatility is suitable for use in providing education in many fields of instruction. Accordingly, it is incumbent upon project applicants to show that such equipment will be used primarily in the teaching of science, mathematics, or modern foreign language.

Audio-visual equipment serves multiple purposes: to the extent that such equipment is used by teachers to provide instruction or to produce instructional materials to provide education in science, mathematics, or modern foreign language, it is eligible for acquisition. (However, see ineligible devices, page 13, and ineligible maintenance equipment (above) in these Guidelines.)

Following is a partial list of audio-visual equipment which may be eligible for reimbursable purchase:

- Darkening shades, blinds, or curtains
- Filmstrip or slide previewers
- Flannel and magnetic boards
- Projection screens
- Projection stands and tables
- Projectors:
 - 16 mm and 8 mm, sound or silent
 - Filmstrip
 - Opaque
 - Overhead
 - Slide
- Record or transcription players
- Stereoscopes
- Tape recorders and play backs
- Teaching machines (See Policy Bulletin, Series III, No. 13, June 12, 1963)
- Television camera, when attached to microscope
- Television receivers
- Television reception accessories:
 - Amplifiers
 - Antennas (but not towers or masts)
 - Co-axial cable
 - Converters
- Videotape recorder (non-camera type)

**Devices for Production or Reproduction
of Instructional Materials for Science,
Mathematics, or Modern Foreign Language**

Category (3) of Regulation 141.1(h) permits the purchase of devices to be used by teachers *primarily* for the preparation of science, mathematics, or modern foreign language audio-visual materials. Following are examples of eligible devices which may be purchased, and ineligible devices which may not be purchased, with Title III funds:

Eligible	Ineligible
Bulk tape erasers	Ditto machines
Dry mounting presses	Mimeograph machines
Embossographs	Motion picture cameras
Head demagnetizers	Offset presses
Laminating machines	Printing presses

ay be

Eligible

Lettering devices
Special keyboard typewriters
Still cameras
Tape duplicating equipment
Tape splicers
Transparency makers

Ineligible

Radio or television broadcasting
apparatus
Standard keyboard typewriters

E. Storage Equipment:

Category (4) relates to storage equipment to be used solely for the care and protection of equipment and materials used for providing education in science, mathematics, or modern foreign language.

It should be emphasized that science, mathematics, or modern foreign language storage equipment sometimes is of a *special* nature, i.e., it is designed and/or produced by equipment manufacturers especially for use as science, mathematics, or modern foreign language *storage* equipment. Such especially designed and/or produced storage equipment is eligible for reimbursable purchase. However, and in this connection, some *general* storage items such as refrigerators suitable for the same purposes may be required to supplement the especially designed and/or produced storage equipment. Perhaps the need for the care and protection of an unusually large amount of laboratory or other special equipment is involved. Such *general* storage items should be carefully selected for the purpose to be served and the space available in relation to other equipment in place or to be acquired. Laboratory or special classroom furnishings should present an orderly appearance reflecting careful planning, organization, selection, suitability, and availability. Attention should be given to safety and to aesthetics.

If storage equipment is constructed, the cost of materials, supplies or parts for construction may be considered for Federal participation (See Regulation 141.29). Cabinets, closets, shelving and bookcases (for reference books in science, mathematics, or modern foreign language), storage and display cases, counters, key cases, tote tray cabinets, and the like, may be considered eligible storage equipment when needed solely for the care, protection and accessibility of equipment or materials used in providing education in a science, mathematics, or modern foreign language course.

This category does not include wardrobes for the storage of clothing and personal belongings; storage cabinets, bookcases or shelving for storage of textbooks; filing cabinets for office use; or tables, shelving, or standard equipment for libraries.

ervices
ence,
erials.
ased,
e III

MATERIALS

Section 141.1(j) of the revised Title III Regulations provides as follows:

“Materials” means those items which with reasonable care and use may be expected to last for more than one year and are suitable for and are to be used in providing education in science, mathematics, or modern foreign language in an elementary or secondary school. The term includes such items as tapes and discs; slides and transparencies; processed films and filmstrips; books, pamphlets, and periodicals for reference use; and other printed materials such as maps and charts. The term does not include such items as textbooks (as defined in paragraph (v) of this section), general-purpose reference books or general encyclopedias, nor does it include chemicals and other supplies which are consumed in use.

“Devices,” referred to in Section 141.1(h)(3), have been treated in these Guidelines under “equipment.” See page 13.

A. Determining Eligibility:

The chief criterion for determining the eligibility of materials for purchase with Title III funds is *suitability for use in providing education in science, mathematics or modern foreign language* in elementary or secondary schools. “Suitable for and . . . to be used in providing education,” — which replaces the former wording, “particularly appropriate as media for instruction” — permits the acquisition of teacher’s materials in the Title III subject fields; that is, professional materials to enable the teacher to keep up to date in subject matter, methods, materials, and laboratory equipment, or materials to be used by the teacher in preparing his instructional or demonstration materials for the class or laboratory. For example, programmed books (if not used as basic texts) or other programmed learning materials (if not consumed in use) may be acquired either for the instruction of students or for the teacher’s use in improving his knowledge and skills in science, mathematics, or modern foreign language when such improvement is needed to make his teaching more effective.

Another criterion for determining eligibility of materials as distinguished from consumable supplies is their durability. Materials, with reasonable care and use, are expected to last at least one year. Noted below are examples of materials which would be approvable for

reiml
they
in th

B. I
Char
Cons
Diag
Dior
Disc
Film
Film
Flat
Glob
Grap
Labo

Map
Micr
Moc
Mod

Pam
Peri
Plan
Prof

Prog
Prog

Real

reimbursable purchase under Title III when it is determined that they are suitable for, and will be used to strengthen, instruction in the Title III subject fields.

B. Examples of Eligible Materials:

- Charts
- Constructs (scale reproductions of scientific phenomena)
- Diagrams
- Dioramas
- Discs
- Films (processed)
- Filmstrips (processed)
- Flat pictures
- Globes
- Graphs, tables
- Laboratory materials not consumed in use, such as
 - activated carbon
 - iron filings to demonstrate magnetic fields
 - radio isotopes
 - wet cells
- Maps
- Microfilms
- Mock-ups
- Models (biological, electronic wiring breadboard, geological, topographical, 2- or 3-dimensional, movable parts)
- Pamphlets for reference or supplementary use
- Periodicals of special use in SMFL
- Planispheres
- Professional materials for SMFL, such as
 - books
 - films on methods, materials, or equipment for SMFL
 - journals**
 - references
 - research reports
- Programed books (not basic texts)
- Programed learning materials (not consumed in use) for supplementary, experimental, or reference use
- Realia, such as
 - artifacts
 - coins
 - moonballs
 - mounted specimens
 - puppets
 - skeletons**
 - stamps

- Reference books for SMFL, such as
 - SMFL books not used as basic texts
 - special dictionaries
 - special encyclopedias
- Slides, transparencies
- Strip drawings
- Tapes
- Teacher's materials for use in instruction, such as
 - curriculum bulletins
 - laboratory handbooks
 - teaching guides
- Teacher's materials for use in producing instructional material of a durable or permanent nature, such as
 - construction materials for production of visual models
 - laminating materials
 - leader and splicing tape for preparing magnetic tapes
 - mounting materials
 - transparency production kits

The above list is not exhaustive.

C. Basic Limitations:

Textbooks are excluded by the Act. A textbook is a book used as the principal source of study material for a given class or course, a copy of which is expected to be available for the individual use of each pupil.

Workbooks and laboratory or other manuals for individual use are in the category of textbooks as defined in Section 141.1(v). (Instructional materials which are not used as the principal source of course content may be purchased in classroom quantity, such as scripts for films, picture charts, study prints, foreign language songbooks, science career bulletins, slide rule instructional booklets, glossaries of mathematical terms, tables of mathematical functions, reprints of articles, supplementary class or laboratory exercises.)

Another basic limitation applies to materials which are useful in general, such as general reference books, but not specialized in the fields of science, mathematics, or modern foreign language. Likewise, general classroom supplies, although used in connection with teaching science, mathematics, or modern foreign language, are ineligible. Also, materials consumed in use, such as laboratory chemicals and projector bulbs are ineligible. Materials for maintenance of equipment are ineligible because the Act authorizes expenditures for acquisition of equipment and materials only, and not for the maintenance of equipment.

The fol
materi

D. Ex
Biologi
Books i
Film (p
Genera
atl
co
ge

Live sp
Manua
Materi
cle
dr
fu
lul
sa

Suppli
ad
ba
bc
bu
ca
ch
ch
cl

Textbo
Workb

E. M
The te
used b
a dura
141.29

“
of
m
ti

Mater
eligibl
used e
materi

The following are representative examples of ineligible items in the materials category:

D. Examples of Ineligible Materials:

Biological specimens for dissection

Books in fields other than SMFL

Film (photographic) for motion or still pictures

General reference books, such as

atlases

comprehensive or general dictionaries

general encyclopedias

Live specimens, plant or animal

Manuals for individual use as basic texts

Materials for maintenance, such as

cleaners, sponges

dry cells

fuses

lubricants

sandpaper, steel wool

Supplies for classroom or laboratory, general or consumable, such as

adhesives

balloons

bottled gas

bulk glass tubing

candles

chalk, crayons, erasers

chemicals

class record books

corks, cotton

first-aid supplies

ink, paint

paper (copying, graph, duplicating,
filter, worksheets)

pencils, pens

pins, staples, tacks

poster board

Textbooks

Workbooks

E. Materials and Supplies for the Exclusive Use of the Teacher:

The term "equipment" includes "materials." Materials and supplies used by the teacher in the production of instructional materials of a durable or permanent nature are eligible, as provided in Section 141.29, as follows:

"... the cost of such materials, supplies, or parts for construction of equipment for use in instruction in a science, mathematics, or modern foreign language field may be considered for participation."

Materials and supplies such as those listed above, although not eligible for general classroom and laboratory use, are eligible when used exclusively by the teacher for the preparation of instructional materials which will last at least one year.

F. Approval of Projects Involving Materials:

It is suggested that any project application for the acquisition of materials should (1) specify — where it is not self-evident from the nature of the item — the exact use intended to be made of the materials in order to strengthen instruction in science, mathematics, or modern foreign language at the elementary or secondary school level; and (2) show evidence that the classroom teachers who will use the materials have collaborated in the preparation of the project and in the selection of the materials requested. It is also suggested that, when a project application includes materials or supplies for the teacher's use in producing instructional materials, as provided in Section 141.29, this fact be documented.

Section
follows

“M
cor
or
ins
me
mc
ter
po
wi
ext
vic
lar
str
ing

A. In
Minor
followi

1.
pr
lan
ac
2.
bu
w
or

A proj
model
aspect
State c

B. E
The n
be the
remod
in wh
III, in

MINOR REMODELING

Section 141.1(1) of the revised Title III Regulations provides as follows:

“Minor remodeling” means those minor alterations in a previously completed building in space used or to be used as a laboratory or classroom for science, mathematics, or modern foreign language instruction, which are necessary to make effective use of equipment used in providing education in science, mathematics, or modern foreign language. The term may also include the extension of utility lines, such as for water and electricity, from points beyond the confines of such laboratory or classroom but within the confines of such previously completed building, to the extent attributable to make effective use of equipment used in providing education in science, mathematics, or modern foreign language. The term does not include building construction, structural alterations to building, building maintenance, or building repairs.

A. Introduction:

Minor remodeling is permitted with Title III funds when both of the following conditions are met:

1. To make effective use of equipment and materials used in providing education in science, mathematics, or modern foreign language regardless of how such equipment or materials were acquired or are to be acquired.
2. When minor alterations are performed in a completed school building and are confined to laboratory or classroom space in which science, mathematics, or modern foreign language is being, or will be, taught.

A project application may be submitted and approved for minor remodeling *only* or for minor remodeling *and* equipment acquisition. *All aspects of these Guidelines must be carefully weighed in considering State approval of any minor remodeling project.*

B. Examples of Eligible Minor Remodeling:

The nature of the work to be done, rather than relative costs, should be the determining factor in differentiating between minor and major remodeling since major remodeling is not eligible. Minor remodeling, in which there may be Federal financial participation under Title III, includes:

1. Removing and/or erecting partitions (other than a bearing wall) in existing classrooms or laboratories or adjacent space; cutting new doors or windows, or closing old ones; repairing plaster and paint damaged in erecting or removing partitions, doors, or windows; finishing newly-erected walls; and installing electrical lines, plumbing, waste, and service lines, and special exhaust vents from a point within the building to the classroom or laboratory where the equipment requiring facilities will be used. (*Installing service lines outside the building or modifying exterior building walls – other than by cutting new doors or windows or closing old ones – and modifying building roofs do not constitute eligible minor remodeling.*)
2. Modifying or replacing inadequate or unsuitable utility service lines within a completed building leading to existing laboratories or classrooms used to provide instruction in science, mathematics, or modern foreign language.
3. Restoring, if necessary, a floor to its original condition, including the floor covering damaged by the installation of equipment and/or approved minor remodeling; and adding, to that area of the floor affected, support required by weight of the equipment. Where acid-resistant flooring in a science laboratory is required in connection with remodeling the laboratory, there may be Federal financial participation in the cost of the new acid-resistant floor covering. (*Title III funds are not available for tearing up a whole floor or ceiling, rebuilding the floor or ceiling, or pouring or otherwise constructing a new floor.*)
4. Providing additional lighting beyond normal classroom lighting requirements where needed to illuminate a particular area of the classroom or laboratory in order to make effective use of equipment. (*Title III funds are not available for modernizing or replacing general room-lighting systems.*)
5. Modernizing existing classroom or laboratory equipment such as old laboratory tables by installing new sinks, faucets, service lines or outlets, to make them more usable and, in this connection, the refinishing of such tables. (*The repair and refinishing only of classroom or laboratory equipment and furniture are normal maintenance costs and therefore not eligible for Federal financial participation.*)
6. Attaching supports to hold special equipment such as ceiling pulley hooks and hoists.
7. Finishing ceiling or walls *damaged* by the installation of equipment and/or minor remodeling. (*This does not include*

repainting of walls or ceilings unaffected by the installation of equipment or by minor remodeling. Minor remodeling under Title III does not include other renovating or refurbishing of classroom or laboratory interiors, since such work is considered normal maintenance.)

8. Installing acoustical treatment in language laboratories where required.

9. Paying for architect's services when required for minor remodeling and when drawings accompany the project proposal.

10. Converting existing space in a completed building into a planetarium, vivarium, terrarium, observatory, or greenhouse used for instruction in science and mathematics, provided, however, that the basic structure or the outer confines of the building are not altered.

C. Use of Space:

Revised Regulation Section 141.1(1) states that the space must be "space used or to be used as a laboratory or classroom for science, mathematics, or modern foreign language instruction."

There may be Federal financial participation in converting an existing room (such as a storeroom or general classroom) in a completed building into a room suitable for use in providing education in science, mathematics, or modern foreign language.

Converting a large space, such as a gymnasium or warehouse into classrooms or laboratories by replacing or rebuilding the floors, erecting walls and ceilings, installing windows and doors, or installing general lighting, heating, and ventilating systems is major remodeling and is not eligible for Federal financial participation. The cost of installing utility service lines, outlets, lighting and exhaust vents in rooms under construction in such large space which are to be used as science, mathematics, or modern foreign language classrooms or laboratories would be a part of the major alteration costs comparable to costs of construction of a new building and therefore not eligible for Federal financial participation under Title III.

This does not preclude minor remodeling in a large space where the remodeling is necessary to provide laboratories or classrooms for science, mathematics, or modern foreign language and is limited to eligible types of work, such as, removal of existing partitions or the erecting of partitions.

It is possible that a project could be submitted for the performance of minor remodeling under Title III at a time when major remodeling

is also to be performed. In this event, the project application should contain sufficient information as described in paragraph F of this Guideline to insure that the minor remodeling is related to work to be performed in existing classroom or laboratory space and not to rooms under construction in a large space.

Title III funds may *not* be used to alter space such as an auditorium or gymnasium so that such space can be used for audio-visual rooms, lecture or team-teaching rooms, or areas for supervised study when such space has multiple uses and is not equipped with the instruments of instruction necessary to make the space a suitable science, mathematics, or modern foreign language classroom or laboratory.

Likewise, such funds are not available to provide space for instructional materials centers, resource centers, or libraries, even though a portion of the equipment and materials used in such centers or libraries may relate to instruction in science, mathematics, or modern foreign language.

D. Basic Limitations:

Minor remodeling costs do not include:

1. The cost of equipment and its installation, referred to in revised Regulations Section 141.1(h).
2. The cost of construction of equipment and its installation, referred to in Section 141.29.
3. The cost of alterations or minor remodeling in buildings under construction, or in buildings not owned and operated by a local or State educational agency.
4. The cost of transferring equipment from one school building to another.

E. Costs of Installation of Equipment:

Costs for constructing equipment and its installation are equipment acquisition costs, *not* minor remodeling costs.

Costs for installing equipment purchased (delivery to the school from point of delivery by the manufacturer or supplier, uncrating, assembling, placing, and connecting to existing service lines) are considered a part of the cost of equipment. Such costs generally are incurred in agreement with the equipment supplier, a separate contractor, or by arrangement with the school maintenance staff. However such costs are incurred for the above type of installation, they must be adequately and separately documented as a part of the cost of equipment.

School
structi
may b
for su
adequ
orders
not be

F. P
In kee
and 1
model
of wo
condit
trades
to be
appro
minor

School districts which employ personnel and have facilities for constructing equipment, installing equipment, or to do minor remodeling may be reimbursed under an approved project with Federal funds for such costs (including materials and labor) provided such costs are adequately documented and supported by invoices and/or work orders. The cost of time of teaching and administrative staff may not be included.

F. Project Content:

In keeping with the requirements of the Regulations (Sections 141.7(a) and 141.19(a)), it is strongly urged that all projects for minor remodeling contain sketches and drawings, descriptions of the type of work to be done, how it is to be done, by whom, and under what conditions. Labor and material costs should be itemized by the trades involved (carpentry, electrical, plumbing, etc.), and by rooms to be remodeled so as to provide the kind of information the project approving officer will need in order to see the relationship between the minor remodeling and the effective use of equipment.

PROJECTS

Section 141.1(n) of the revised Title III Regulations provides as follows:

“Project,” as applied to the acquisition of laboratory or other special equipment or minor remodeling, means (1) a proposal submitted by a local educational agency, or agencies, or other public school authority (under applicable State law) below the State level, or (2) in cases where the State educational agency under State law operates one or more public elementary or secondary schools, a proposal submitted by the highest administrative officer of such school or schools. Such proposals shall contain: (1) Itemized description and current cost estimates of the equipment to be acquired and/or minor remodeling, if any; (2) certification that the equipment is to be used primarily for providing education in science, mathematics, or modern foreign language, except that in the case of storage equipment the certification shall be to the effect that the storage equipment will be used solely for the care and protection of equipment and materials for science, mathematics, or modern foreign language; and (3) information showing the direct relationship of the proposed expenditures to the overall design for enriching the planned educational program and the achievement of desired curriculum goals in the particular subject area.

In launching the Title III programs, and in continuing them, many States requested local educational agencies to submit projects for the acquisition of equipment, including materials and necessary minor remodeling, on the basis of long-range planning for the improvement of educational programs and the enrichment of curriculum offerings in the subject areas under this Title.

Because of limiting circumstances and the desire to get the programs underway as expeditiously as possible, some States permitted local educational agencies to submit (either annually or as often as desired) projects without also submitting long-range plans.

In view of the types of equipment States were approving for purchase early in the program, as compared to the types of equipment which, under the revised Regulations, States now may approve, project applications take on new dimensions. Equipment contained in such projects should now show a direct relationship to the overall design for enriching a planned educational program and to the achievement of desired curriculum goals in the areas of science, mathematics, or modern foreign language.

The ed
projects
achieve
should
for achi
the bes
make p
the acq

All Stat
projects
veloped
objectiv

With th
should
whole c
underst
plement
the con
dertake
cordanc
made f
year in

Under
“labora
materia
ment to
matics,
the U.
school
broade

Thus, v
used b
include
made
instruc
the ele
minor
to be
ern for
uses ar
As pro
posal
quired

The educational planning involved in the preparation of Title III projects should reflect the purpose, direction, and continuity to be achieved. It is essential that the projects as they are developed should detail the immediate and long-term needs of the school system for achieving adequately equipped and modern facilities to provide the best educational environment that technology and knowledge make possible. In developing projects, priorities should be given to the acquisition of essential equipment and materials.

All State educational agencies should encourage the submission of projects in science, mathematics, or modern foreign language developed by local school systems with immediate and long-range objectives in mind.

With the approval of a comprehensive project in one year, the State should develop a system whereby the project may be completed in whole or in part the first year or in succeeding years. It should be understood that a comprehensive project can be amended or supplemented as is necessary. As school systems complete one phase of the comprehensive project, and funds are available for them to undertake another phase, they should be encouraged to do so. In accordance with established fiscal procedures, provisions should be made for accounting and for documenting expenditures in the fiscal year in which the expenditures are made.

Under the revised Regulations Section 141.1(h) the definition of "laboratory and other special equipment" includes equipment and materials to prepare instructional aids; and also includes storage equipment to be used solely for the care and protection of science, mathematics, or modern foreign language equipment. It is incumbent upon the U. S. Office of Education, State educational agencies, and local school systems to insure that the purchases are strictly within the broadened definition of eligible equipment and materials.

Thus, when storage equipment—or equipment and/or materials to be used by teachers in the preparation of other instructional aids—are included in projects, the projects should specify the exact use to be made of such equipment and/or materials in order to strengthen instruction in science, mathematics, or modern foreign language at the elementary or secondary level. Likewise, a project involving minor remodeling should indicate clearly that the space remodeled is to be used for providing education in science, mathematics, or modern foreign language. The State agency should assure itself that such uses are within the scope of the law and the Title III Regulations.

As provided for in the Regulations Section 141.1(n), each project proposal involving the acquisition of equipment shall contain the required certification. (Also see October 6, 1960, Policy Bulletin.) In

addition, if a project application involves the purchase of instructional materials or if it involves minor remodeling, it should contain additional information as noted in the Guidelines for Materials and for Minor Remodeling. (See pages 20 and 26 of these Guidelines.)

Such certification requirements place a major responsibility for insuring the proper use of Title III funds on the local school officials who are, in the final analysis, responsible for seeing that the project is properly prepared and carried out. However, this does not relieve other officials either in the U. S. Office of Education or in the State educational agencies of their responsibilities for the proper administration of these programs.

FOR EQ

Section I

It sh
esta
and
assis
rela
scie
use
the

The for
standar
as a sep
procedu
promptl
accord

A. Equ

The ter
a set of
such ot
mining
the exis
ment an
subject

The use
and Tit
eligibili
basis fo
standar
sistance
formula

It will
existing
Guideli
and as
ings lis
contrib
lists m

ESTABLISHMENT OF STANDARDS FOR EQUIPMENT ACQUISITION AND MINOR REMODELING

Section 141.31 of the revised Title III Regulations provides as follows:

It shall be the responsibility of each State educational agency to establish standards on a State level for equipment to be acquired, and for minor remodeling to be performed, with Federal financial assistance under Title III of the Act. Such standards are to be related to the State's programs for improving instruction in science, mathematics, or modern foreign languages and will be used by the State agency as the basis for approving projects for the acquisition of equipment or minor remodeling.

The former Regulations required that the State plan "shall contain" standards. Under the revised Regulations, standards will be regarded as a separate document and will not be incorporated in the plan. This procedure will permit a State to revise and update its standards promptly as needs develop. These standards will of necessity be in accord with the Act, Regulations, Guidelines, and Policy Bulletins.

A. Equipment Acquisition Standards:

The term "standards," with respect to equipment acquisition, means a set of criteria, categories of eligible equipment and materials, and such other relevant information as the State wishes to use in determining eligibility. Such standards should be developed to indicate the existence of a direct relationship between the acquisition of equipment and materials and the improvement of instruction in the three subject areas.

The use of the standards will provide State subject-matter specialists and Title III administrators with evaluative information upon which eligibility judgments will be based. The standards will also be the basis for project reviews and for eligibility audits. In addition, the standards may be used for other purposes, such as for providing assistance and guidance to the local schools and school districts in the formulation of their projects to improve instruction.

It will be necessary for the States to re-examine and modify their existing standards in the light of the revised Regulations and the Guidelines. In connection with the modification of State standards—and as a part of them—the State may prepare under categorical headings lists of illustrative items of equipment and materials which will contribute to the improvement of instruction. Previously established lists may, of course, be utilized wherever appropriate.

The use of equipment and materials means the actual and direct employment of such items in the development, presentation, and learning of the subject matter or content of the course of study in one or more of the three subject fields. The improvement of instruction, which is the intent of Title III, can be achieved for example, in the following ways: (1) increasing understanding of content; (2) offering more content; (3) developing greater student skill; (4) enriching student experiences; (5) introducing new subjects and more advanced courses; (6) improving teaching methods; and (7) increasing teacher competencies through the use of equipment and materials. These general measures for improvement can be translated into specific instructional objectives such as the following:

Instructional Objectives for Science

1. To develop an interest in and an understanding of the nature of science and the work of scientists.
2. To develop manipulative, experimental, and problem solving skills in science.
3. To develop an understanding of the impact of science on society.
4. To provide an understanding of the dynamic nature of science as evidenced by current scientific developments.
5. To develop an understanding of the interrelationships that exist among the science fields.
6. To provide opportunities to discover, understand, and apply basic scientific principles.
7. To provide information concerning scientific careers and hobbies.

Instructional Objectives for Mathematics

1. To discover and to understand mathematical concepts.
2. To apply abstract mathematical concepts to concrete situations.
3. To develop skills in the use of abstract symbolization in computations.
4. To develop natural curiosity and understanding of students concerning mathematical principles.

5. T
and
6. T
its re
7. T
dent
ically
8. T
the a

In
(The ove
cation an
1. T
temp
2. T
on a
3. T
lish
4. T
with
5. T
gua
6. T
por:
is b
7. T
or:
the
8. T
lite
stud

Local sc
instruct
unit an
material
tivities.

5. To acquire skill in the use of mathematical laws and concepts and principles in problem solving.
6. To understand the historical development of mathematics and its relationship to cultural progress.
7. To develop mathematical abilities peculiar to individual students of differing intellectual levels, and to encourage the academically talented.
8. To refine the ability of students to work independently in the areas of applied and abstract mathematics.

Instructional Objectives for Modern Foreign Languages

(The over-all goals in foreign language study are effective communication and cultural understanding.)

1. To understand a foreign language when spoken at normal tempo on a subject within the range of pupils' experiences.
2. To speak sufficiently to make direct contact with a native on a subject within the range of pupils' experiences.
3. To read with direct understanding, without recourse to English translation, material on a general subject.
4. To write, using the authentic patterns of the language and without conscious reference to English.
5. To understand linguistic concepts, such as the nature of language and how it functions through its structural system.
6. To understand, through the foreign language, the contemporary values and behavior patterns of the people whose language is being studied.
7. To acquire a knowledge of significant features of the country or area (geographical, cultural, economic, political, etc.) where the language being studied is spoken.
8. To develop an appreciation for and understanding of the literary and cultural heritage of the people whose language is studied.

Local school systems will of necessity need to convert these or similar instructional objectives into specific learning activities for a given unit and grade level. The selection of appropriate equipment and materials to achieve the objectives will be determined by these activities.

Criteria

The following criteria are not all inclusive but are examples of evaluative measures which may be used by schools and school systems in the selection of equipment and by States in considering the eligibility of projects.

1. Equipment and materials relate directly to an increased knowledge, understanding, and skill on the part of the student in science, mathematics, or modern foreign language. For example, the equipment and materials—

A. Specifically relate to the objectives of the instructional program.

B. Reflect the school's effort to improve the program along lines necessary for greater achievement, for example, longer sequences of study, increased offerings, continual sequential development, etc.

C. Contribute to the students' interests and desirable attitudes toward the subject.

2. The degree of usability and suitability of such equipment and materials is optimum and of clear educational value in the subject field concerned. For example, the equipment and materials—

A. Reflect a proper consideration for student laboratory activities as well as for teacher demonstrations and presentations.

B. Are appropriate for the grade level and type of activity in which they will be used.

C. Are compatible with the instructional program being offered or anticipated by the school.

D. Provide a learning potential not now available in the program.

3. The quantity, quality, and up-to-dateness of the equipment and materials are satisfactory with regard to the needs of the school or school system for which they are being acquired.* For example:

*For recommendations concerning equipment in modern foreign language, see: *A Technical Guide for the Selection, Purchase, Use and Maintenance of Language Laboratory Facilities*, by Alfred S. Hayes, Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, Bulletin 1963, No. 37, OE-21024. Available from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. Price 50 cents.

A. The number of items requested is adequate for the number of students and teachers who will use the equipment or materials at one time.

B. The quality and durability of the equipment and materials are in keeping with the desired performance.

C. The costs of the equipment and materials are compatible with the durability and performance characteristics needed for school use.

D. Due consideration has been given to the selection of late models of equipment and up-to-date materials, and to maintenance requirements.

4. The teachers' use of such equipment and materials, both in teaching and in preparation for teaching, will result in the improved quality and quantity of instruction in one or more of the three subject fields. For example:

A. Teachers possess the necessary degree of understanding or competency to make effective use of the equipment and materials (or provision is made for in-service preparation).

B. Supervisory services are available or are being provided for continuing evaluation or improvement of the instructional use of equipment or materials.

B. Minor Remodeling Standards:

The term "standards," with respect to minor remodeling, means a set of criteria and such other relevant information as the State wishes to use in determining approvability of projects involving minor remodeling. The standards for minor remodeling must be developed to indicate the existence of a direct relationship between the minor remodeling and the improvement of instruction in the three subject areas.

In establishing standards for minor remodeling, consideration should be given to the following criteria, among others:

1. The facilities available for current and future needs in science, mathematics, or modern foreign language have been surveyed.

2. Suitable facilities are to be acquired for instructional needs, teacher's preparation, experimental work areas for special projects, and display and storage needs.

3. Suitable facilities for the equipment on hand and to be acquired are being provided or expanded.

4. Adequate utility services are being provided for laboratory and other equipment needs.
5. Remodeling costs are warranted by the instructional objectives to be served.
6. Remodeling is consistent with State and local building and safety codes and health regulations.

It is of primary importance in the development of minor remodeling standards to give full consideration to the conditions under which Title III funds may be used for these purposes. For this information the State should become thoroughly familiar with the Title III NDEA Regulations and Guidelines prior to the development of such standards. Following the development of such standards, the local educational agencies should become familiar with the State standards and Guidelines for the development of their projects.

The Office of Education specialists in the Division of State Grants are available for consultation and are most willing to assist States in any way possible in the revision of their standards.

atory

tive

and

eling

which

tion

DEA

and

edu-

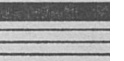
lards

rants

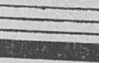
es in



EDU



A
The
Of



Entere

POSTMA
TIN
Fran

VOL