

Student Work

6-1-1966

Title III of the National Defense Act: An Analysis of Activities in Iowa During the 1964-65 School Year

Wade John Bruggeman
University of Omaha

Follow this and additional works at: <https://digitalcommons.unomaha.edu/studentwork>
Please take our feedback survey at: https://unomaha.az1.qualtrics.com/jfe/form/SV_8cchtFmpDyGfBLE

Recommended Citation

Bruggeman, Wade John, "Title III of the National Defense Act: An Analysis of Activities in Iowa During the 1964-65 School Year" (1966). *Student Work*. 2561.
<https://digitalcommons.unomaha.edu/studentwork/2561>

This Thesis is brought to you for free and open access by DigitalCommons@UNO. It has been accepted for inclusion in Student Work by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.

69 150

TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT --
AN ANALYSIS OF ACTIVITIES IN IOWA
DURING THE 1964-65 SCHOOL YEAR

A Field Project
Presented to the
Department of School Administration
and the
Faculty of the College of Graduate Studies
University of Omaha

In Partial Fulfillment
of the Requirements for the Degree
Educational Specialist

by
Wade John Bruggeman
June - 1966

UMI Number: EP74104

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP74104

Published by ProQuest LLC (2015). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Accepted for the faculty of the College of Graduate Studies of the University of Omaha, in partial fulfillment of the requirements for the degree Specialist in Education.

Chairman _____ Department _____

Graduate Committee

L. C. Leary
Name _____ Department _____
Kenneth Bushholder

A. H. Gorman

Conf 5-17-67

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM AND DEFINITIONS OF TERMS USED	1
The Problem	2
Statement of the problem	2
Importance of the study	2
Limitations of the study	3
Sources of data	4
Procedures used	5
Definitions of Terms Used	7
Local educational agency	7
County unit	8
Four-year high school district	8
Operating non-high school district	8
Special school district	8
Project	9
Equipment	9
Materials	10
Minor remodeling	10
Allocated funds	10
Approved funds	10
Reimbursed funds	11
II. REVIEW OF THE LITERATURE	12
Federal Publications	12
State Publications	19

CHAPTER	PAGE
Individual Publications	29
III. PRESENTATION OF DATA	45
Participation	45
State	46
County units	51
Four-year high school districts	58
Operating non-high school districts	72
Special school districts	74
Expenditures	79
Subject matter areas	80
Grade levels	87
Comparisons	92
Materials vs. equipment	98
Curriculum	134
Evaluative Judgments	141
IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	167
Summary	167
Conclusions	175
Recommendations	182
BIBLIOGRAPHY	185
APPENDIX	189

LIST OF TABLES

TABLE	PAGE
<p>I. Distribution of the Approved Equipment Projects under Title III of the National Defense Education Act in Iowa during 1964-65</p>	48
<p>II. Distribution of the Approved County Projects by Area and Grade Level under Title III of the National Defense Education Act during the 1964-65 School Year</p>	55
<p>III. Participation Distribution of the 99 County Units under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year Organized into Area Education Districts</p>	58
<p>IV. Distribution of the Approved Projects by Area and Grade Level to Four-year High School Districts in the State of Iowa under Title III of the National Defense Education Act for the 1964-65 School Year</p>	64
<p>V. Participation Distribution of the 459 Four-year High School Districts under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year Divided by Area Education Districts</p>	69
<p>VI. Participation of Four-year High School Districts in the State of Iowa under Title III</p>	

of the National Defense Education Act during the 1964-65 School Year as Classified according to Enrollment Totals 73

VII. Distribution of the Approved Projects by Area and Grade Level to Operating Non-high School Districts in the State of Iowa under Title III of the National Defense Education Act for the 1964-65 School Year 76

VIII. Distribution of the Approved Projects by Area and Grade Level to the 5 Special School Districts in the State of Iowa under Title III of the National Defense Education Act for the 1964-65 School Year 78

IX. Federal Reimbursements to County Units according to Subject Matter Areas under Title III of the National Defense Education Act in the State of Iowa for the 1964-65 School Year 84

X. Federal Reimbursements to Individual School Districts according to Subject Matter Areas under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year 85

XI. Distribution of Federal Reimbursements to Iowa School Districts according to Grade Level under Title III of the National Defense Education Act

TABLE

PAGE

for the 1964-65 School Year 93

XII. Federal Reimbursements to Four-year High School Districts Receiving Federal Reimbursements under Title III of the National Defense Education Act during the 1964-65 School Year Classified according to Rank Order Enrollment Quarters 98

XIII. Distribution of Questionnaire Responses by 317 School Administrators with Reference to Percentage of Expenditures of Federal Reimbursements for (1) Materials and (2) Equipment under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year 113

XIV. Distribution of Questionnaire Responses by 317 School Administrators Comparing Total Reimbursements by Critical Subject Area and Grade Level with Reported and not Reported Expenditures under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year 129

XV. Distribution of Questionnaire Responses by 317 Administrators with Percentage Responses Translated into Dollars Relative to Expenditures of Reimbursements for (1) Materials and (2) Equipment under Title III of the National Defense

	Education Act in the State of Iowa during the 1964-65 School Year	130
XVI.	Distribution of 320 Questionnaire Responses by School Administrators Relative to the Effect of Receipt of Funds under Title III of the Na- tional Defense Education Act toward Strength- ening Curricular Improvements in the State of Iowa during the 1964-65 School Year	137
XVII.	Distribution of 318 Questionnaire Responses by School Administrators Relative to the Effect of Matching Funds upon Money Made Available for Other Curriculum Areas as a Result of Par- ticipation under Title III of the National De- fense Education Act in the State of Iowa dur- ing the 1964-65 School Year	140
XVIII.	Distributed Responses of 318 Administrators of High School Participating Districts un- der Title III in the State of Iowa in Re- action to the Expansion of the National De- fense Education Act Implemented in January of 1965	144
XIX.	Distribution of 318 Questionnaire Responses from Administrators of Four-year High School Districts in Iowa Relative to Future Altera- tions of Title III of the National Defense	

TABLE

PAGE

	Education Act	147
XX.	Distribution of Questionnaire Responses of 116 Administrators of Four-year High School Districts in the State of Iowa Suggesting Alterations in the National Defense Education Act according to Area and Choice	151
XXI.	Distribution of Responses of 318 Administrators of Four-year High School Districts in Iowa Relative to Price Changes aside from Inflationary Rise of Items Purchased under Title III of the National Defense Education Act	154
XXII.	Distribution of Listing of Most Advantageous Aspect of Title III of the National Defense Education Act by 318 Administrators of Participating Four-year High School Districts in the State of Iowa	160
XXIII.	Distribution of Suggested Disadvantageous Aspects of Title III of the National Defense Education Act Offered by 273 Administrators of Four-year High School Districts in the State of Iowa	166

LIST OF FIGURES

FIGURE	PAGE
1. Percentage Distribution of Approved Projects for the Acquisition of Equipment and Minor Remodeling under Title III of the National Defense Education Act for Fiscal Years 1959-63 . . .	50
2. Percentage Distribution of Approved Title III Equipment and Minor Remodeling Projects in the State of Iowa in the Areas of Science, Mathematics, and Modern Foreign Languages under the National Defense Education Act for the 1964-65 School Year	50
3. Fractional Percentage Representation of Participating County Units under Title III of the National Defense Education Act during the 1964-65 School Year according to Area Education Districts	59
4. Fractional Percentage Representation of Participating Four-year High School Districts under Title III of the National Defense Education Act during the 1964-65 School Year according to Area Education Districts	70
5. Representation of Location by Area Education District of 11 Operating Non-high School Districts Participating under Title III of the National	

Defense Education Act during the 1964-65 School Year in Context with the Existing 202 Operating Non-high School Districts in the State of Iowa . 75

6. Representation of the Percentage of Federal Reimbursement according to Subject Matter Areas under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 School Year Based upon the Distributed Total of \$1,177,200.33 88

7. Estimated Total Cost and Percentage Distribution of Approved Projects under Title III of the National Defense Education Act for the Fiscal Years of 1959-63 95

8. Total Federal Reimbursements and Percentage Distribution of Approved Projects under Title III of the National Defense Education Act in the Areas of Science, Mathematics, and Modern Foreign Languages in the State of Iowa during the 1964-65 School Year 95

CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

The National Defense Education Act was signed into Public Law 85-864 by President Eisenhower on September 2, 1958. This legislation, broad in view of federal aid to education from the vantage points of coverage, administration, and intergovernmental relationships, has become part and parcel of the American educational scene, having most recently been extended through June 30, 1968.

Although ten different types of federal aid to education have been provided by this Act, the scope of this research was limited to the portion of Title III which provided payments for equipment and materials purchases to local and intermediate public school systems through the state educational agency. The territorial limitations used were co-terminous with the geographical boundaries of Iowa and the time interval encompassed the 1964-65 school year, a year of diversification in the area of Title III. Changes since the incipience of the Act in 1958 applicable at the embarkation of the 1964-65 school year were based upon regulation changes established in August and September of 1963. Some of the foremost relevant diversifications in the area of eligibility included: (1) reference materials for teachers, (2) equipment and reference materials for limited production of instructional aids, (3) testgrading equipment

and specialized equipment for audiovisual libraries serving schools, and (4) broadening local educational agencies to include public elementary and secondary schools operated under the auspices of the state educational agencies. However, to additionally complicate circumstances, on October 16, 1964, an alteration was enacted amplifying coverage to include history, civics, geography, English, and reading as eligible subject matter areas in addition to mathematics, science, and modern foreign languages, the eligible subjects from the onset of the Act. Upon this depicted environmental basis the study was conducted.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine the effects of Title III federal reimbursements to Iowa public schools during the 1964-65 school year measured in terms of (1) participation, (2) expenditures, (3) curriculum, and (4) evaluative judgments of participating school superintendents.

Importance of the study. A debate relevant to the question of federal aid to education has been in existence for many years. The veritable question involved has been the degree to which the federal government should support education, a state function delegated by the Constitution. Nevertheless, the evolutionary nature of the government and

intergovernmental relationships has produced federal monetary support for education of the spiraling variety. The National Defense Education Act has represented a significant directional step in the area of federal aid to education and has been viewed as a forerunner of subsequent noteworthy legislation in terms of scope and administration. Although this study involved one portion of one title of the Act within one state during one year, the significance was measurable in terms of a grass roots approach toward determining the effects of the Act in the form of nature, extent, and reaction within one constituent part of the whole.

Limitations of the study. The study was confined to the portion of Title III of the National Defense Education Act pertaining to reimbursements to local educational agencies for purchase of equipment and materials and for minor remodeling issued by the State of Iowa during the 1964-65 school year. The study did not involve the remaining segment of Title III affecting the supervisory function of the state agency. Finally, the state administrative structure and procedure for Title III involving allotments, requests, authorizations, and payments were not specifically studied.

Sources of data. A significant data source was the Department of Public Instruction of the State of Iowa. From the Director of Title III Activities, Mr. William Edgar, was secured a summary of Title III activities entitled "Federal

Reimbursements to Individual Schools for 1964-65 -- Regular and Supplemental."¹ In addition to providing the information suggested by the title, this basic accumulation of data provided useful yearly general summaries depicting participation in terms of dollars under Title III. This compiled data was used in depth and provided directional assistance in the formulation of the study.

A statistical publication of the Department of Public Instruction, Data on Iowa Schools -- 1965, was a valuable source of compiled information on the common facts and figures pertaining to Iowa schools formulated on the basis of numerous reports completed by local educational agencies.² Data utilized in context or supplemented with more detailed information on file in the Department of Public Instruction included: (1) names and locations of the local educational agencies, (2) enrollment totals at the beginning of the school year, and (3) school district differentiations. This annual storehouse of information has been supplied to local school superintendents as a part of Department of Public Instruction policy for utilization by local and intermediate school units.

¹Department of Public Instruction, "Federal Reimbursements to Individual Schools for 1964-65 -- Regular and Supplemental" (Des Moines: State of Iowa, 1965), pp. 1-12.

²Department of Public Instruction, Data on Iowa Schools -- 1965 (Des Moines: State of Iowa, 1965), pp. 14-22.

A third source of data consisted of the tabulated results of a questionnaire received from various superintendents of the local educational agencies operating four-year public high schools in the State of Iowa during the 1964-65 school year. Superintendents of local school districts which received federal reimbursements under Title III provided the information which served as the basis for the curriculum and evaluative considerations.

A final source of data was the Report of the National Defense Education Act of 1963.³ In addition to providing a report for the fiscal year 1963, this publication contained summaries of the yearly national activities and comprehensive data relevant to the first five-year period of the existence of the Act. Several of the comprehensive representations, serving in the capacity of established trends, were utilized for the purpose of formulating comparative measurements.

Procedures used. In chronological sequence the first procedure undertaken consisted of a fact-finding survey within the Department of Public Instruction in the State of Iowa. Useful data compiled by personnel employed by the Department of Public Instruction included: (1) allocated federal funds

³United States Department of Health, Education, and Welfare, Report on the National Defense Education Act of 1963, A Report Prepared by the Office of Education (Washington: Government Printing Office, 1964), pp. 17-24.

under Title III to the State of Iowa for each school year, (2) federal reimbursements to individual school districts according to instructional areas covered under Title III, and (3) county and special programs in effect during the 1964-65 school year under Title III assistance. Additionally, the essential state plan was loaned for reading purposes. The results of the fact-finding survey provided the primary data source for the participation and expenditure phases of this project.

A second procedure consisted of personal interviews with selected individuals. Mr. William Edgar, Director of Title III Activities for the State of Iowa, was consulted relative to interpretation of available coded material found in the Department of Public Instruction and was helpful in providing insights for item construction of the questionnaire type. Dr. Edwin Coen, Crawford County Superintendent, and Mr. M. B. Levengood, County Superintendent of Ida and Cherokee Counties, were interviewed with reference to county programs under Title III during the 1964-65 school year. Directional insights were secured concerning the scope and fund utilization phases of county programs throughout the State of Iowa.

A final procedure employed was a one-page questionnaire. This device was formulated to provide evaluative judgments concerning fund utilization, curriculum effects, and projective commentary. The questionnaire was partially

check-type and partially open-ended based upon the nature of judgment sought. An illustrative copy of the questionnaire was placed in the Appendix. A total of 340 questionnaires were sent to superintendents of public four-year high school districts and special school districts under state guidance designated on the foundation that the school district represented by these superintendents participated in some degree under Title III during the 1964-65 school year. A total of 318 questionnaires or 93.5 per cent of them were returned. Some, however, were only partially completed. The questionnaire results provided the primary data source for the curriculum and evaluation phases of this study.

II. DEFINITIONS OF TERMS USED

Local educational agency. Throughout the course of this field project the term "local educational agency" was interpreted according to the definition supplied in the Title III Regulations.

Local educational agency means a board of education or other legally constituted local school authority having administrative control and direction of public elementary and/or secondary schools in a city, county, township, school district, or other political subdivision in a state, or any other public institution or agency having administrative control and direction of a public elementary and/or secondary school.⁴

⁴United States Department of Health, Education, and Welfare, NDEA Title III Guidelines, A Report Prepared by the Office of Education (Washington: Government Printing Office, 1965), p. 27.

County unit. The term "county unit" was used to describe the ninety-nine counties within the State of Iowa which did or did not provide materials and/or equipment to the local public schools under Title III.

Four-year high school district. One type of school district as classified by the Department of Public Instruction was the "four-year high school district." This type of local educational agency was one which provided four complete years of public high school training.

Operating non-high school district. This term was used to describe those school districts within the State of Iowa which operated schools composed of elementary students, junior high school students, and/or high school students, but did not operate a complete four-year high school. This type of district was contrasted to the non-operating, non-high school districts which transported the students to nearby operating districts on a tuition basis.

Special school districts. The term "special school district" was used to depict school systems which did not fulfill the requirements of the previously enumerated types of districts. Districts so categorized included laboratory schools operated by public colleges and universities, juvenile homes under public control, correctional institutions under public control, homes for dependent or neglected

children under public control, and mental and/or health institutions under public control.

Project. "Project" as utilized throughout this field study was applied to a proposal submitted by a local educational agency containing (1) an itemized description and current cost estimates of the equipment to be acquired or minor remodeling to be performed, (2) certification that the equipment was to be used primarily for providing education in the critical areas except in the case of storage equipment to be used solely for the care and protection of equipment and materials used in providing such education, and (3) information showing the direct relationship for the proposed expenditures to the overall design for the achievement of desired curriculum goals in the critical subjects.⁵

Equipment. Several types of equipment have been collectively titled throughout this project. Included were audiovisual equipment, storage equipment, testgrading equipment, and specialized equipment for audiovisual libraries which could generally be referred to as fixed or movable articles that were particularly appropriate for use in providing education in the critical subjects in the public elementary and/or secondary schools.⁶

⁵Ibid.

⁶Ibid., p. 40.

Materials. Throughout this report the term "materials" was used as defined in the regulations formulated for Title III.

Materials means those terms which with reasonable care might be expected to last for more than one year and are suitable for and are to be used in providing education in the critical subjects in an elementary or secondary school. The term includes such items as films and filmstrips; tapes and discs; slides and transparencies; books, pamphlets, and periodicals; and other printed and published materials such as maps, globes, and charts. The term does not include such items as textbooks, chemicals, or other supplies which are consumed in use.⁷

Minor remodeling. In the course of this study the term "minor remodeling" referred to those minor alterations in a previously completed building in space used or to be used as a laboratory or classroom for education in the critical subjects. The alterations were needed to enhance the utilization of materials and equipment within the subject area.⁸

Allocated funds. The term "allocated funds" was used to refer to the total amount of funds authorized by the federal government for use in administering programs in Iowa under Title III of the National Defense Education Act.

Approved funds. The term "approved funds" throughout

⁷Ibid., p. 62.

⁸Ibid., p. 67.

the report of this investigation consisted of the proposed expenditures by the local educational agency which were approved by the Department of Public Instruction for federal reimbursement.

Reimbursed funds. The terms "reimbursed funds" or "reimbursement" used in this study referred to those funds which were actually paid to the local educational agencies in the State of Iowa which had conducted projects under Title III of the National Defense Education Act.

CHAPTER II

REVIEW OF THE LITERATURE

A wealth of available printed materials surrounding the National Defense Education Act was located by the author. Particularly abundant were publications formulated in the immediate span of time following the legislative action which resulted in the original law. This abundance was reflected by Lawrence Parr, for example, when he formulated a library research thesis which centered around the National Defense Education Act.¹ Faced with this affluence of available material, the author was unable to include many of the fragmentary testimonial publications in a specific manner. Therefore, only summaries of material significantly involved with or closely related to the topic under consideration were included within this section.

I. FEDERAL PUBLICATIONS

A most significant series of federal publications contacted was NDEA Title III Guidelines. Appearing first in the form of regulations in December of 1958, the federal operational implementation procedures of the Act became known as guidelines in September of 1963. Revisions, caused

¹Lawrence Parr, "The Educational Implications of the Russian Sputnik Success as Exemplified by the National Defense Education Act," (unpublished Master's thesis, Drake University, Des Moines, 1962), p. 1.

by alterations and extensions, were produced in March of 1964 and January of 1965. Since this study centered around the 1964-65 school year, the editions of 1964 and 1965 were consulted for the formulation of the supporting paragraphs which attempted to outline the federal restrictions under which local projects have been designed.

Within the area of administration of the state plan were noted regulations and procedures governing amendments, reports, management control, accounting, and evaluation to be adhered to by the state educational agency. Additionally, the coordinating responsibility was outlined and the project approval procedure was presented as a prime example of the need for an excellent coordinator. The purpose of the state plan was depicted as follows:

The foundation of the Title III program is the State plan, the contract or agreement between the State and the U. S. Office of Education for the operation of the programs which the State has designed to strengthen instruction in the critical subjects of its elementary and secondary schools.²

This statement exemplified the significance of the state plan governing all subordinate activities within the particular state educational agency.

The NDEA Title III Guidelines suggested a segment of the state plan be devoted to the areas of priorities and standards. Proposed were principles through which priorities

²NDEA Title III Guidelines, op. cit., p. 1.

could be established in a predetermined manner for the purpose of assigning relative importance and order of approval of locally submitted projects involving the acquisition of equipment and materials for minor remodeling. Provisions were also recommended for the suitability of equipment and minor remodeling in the form of descriptive standards. These advisements were intended to promote the optimum utilization of available funds toward improvement of instruction in the critical areas.³

An important section of the NDEA Title III Guidelines from the point of view of this study was the portion devoted to individual projects for consideration of state and local educational agencies in terms of eligibility, planning, certification, and documentation. A Title III project was considered "a specific plan for improvement of instruction in which a school examines (1) weaknesses and gaps in instruction, (2) needed changes in objectives or direction, and (3) the equipment and materials needed in upgrading."⁴

This analysis was appended by listing specific goals in each of the critical subject matter areas which schools should attempt to achieve with the assistance of federal reimbursements toward proposed expenditures to be incurred. A related local requirement stressed was the necessity that

³Ibid., pp. 12-15.

⁴Ibid., p. 29.

the local educational agency show the direct relationship of the proposed expenditures to the overall design for improving instruction in the critical subjects. Two specific requirements relative to the certification of local projects were:

- (1) Each project proposal involving the acquisition of equipment and materials must contain a certification that the equipment and materials are to be used primarily for providing education in one or more of the critical subjects, except that in the case of storage equipment, the certification shall be to the effect that storage equipment will be used solely for the care and protection of equipment and materials used in providing such education.
- (2) Each approved project must show the date of approval by the state agency. There can be no Federal participation in the payment of obligations incurred or in expenditures made by the local educational agencies for projects under Title III if the projects have not first been approved by the state educational agency under the state plan.⁵

Complementary suggestions were added that every project application should specify the exact intended use to be made of the materials in order to strengthen instruction in one of the critical subjects at the elementary and secondary levels and should provide evidence that classroom teachers have collaborated in the selection of the requested materials.⁶ These suggestions revealed that, in the final analysis, a major responsibility for project preparation and insurance of proper use of Title III funds rested in the

⁵Ibid., p. 36.

⁶Ibid.

hands of the local school officials.

The final three sections of the NDEA Title III Guidelines were designed to clarify the eligible and ineligible articles within the categories of equipment, materials, and minor remodeling. Presented were selective criteria, limitations of the general category, and examples of specific articles included or excluded within the particular category under discussion.⁷

Several other federal government publications proved to be of value in relationship to this study. However, most of the available material consisted of the piecemeal variety and when located were tied to other federal aid to education programs. Another problem encountered was the noticeable lag before final yearly summaries were published. However, the paragraphs which follow will deal with some of the other federal publications utilized.

Within the publication Grants in Aid and Other Financial Programs Administered by the U.S. Department of Health, Education, and Welfare was formulated a clear outline which showed the procedure through which states receive their initial entitled allotment prior to redistribution of unused allocated funds should the situation exist. Presupposed, however, was the approval of the state plan with amendments submitted by the state educational agency to the United

⁷Ibid., pp. 40-69.

States Commissioner of Education. The allotment procedure was explained in the following manner:

The allotment to a state, subsequently paid to local educational agencies through the state machinery on the basis of state approved projects is based upon the product of the school-age population of the state and the state's allotment ratio. A state with a high income per child of school age has a relatively lower allotment ratio, and vice versa. A state's allotment ratio equals 100 minus 50 times the quotient of:

$$\frac{\text{(Income per child of school age in the state)}}{\text{(Income per child of school age in Continental U.S.)}}$$

except that no allotment ratio is less than thirty-three and one-third per cent or more than sixty-six and two-thirds per cent. The income per child of school age is based on the total personal income, and population aged five to seventeen, inclusive, for the three most recent years for which satisfactory data are available from the Department of Commerce. The sources of data include: enrollment in non-public elementary and secondary (denominational and nonsectarian) schools, Biennial Survey of Education, Statistics of State School Systems, Surveys of Current Business, and Current Population Reports and Advanced Decennial Census Reports.⁸

This allotment procedure revealed a type of equalization formula with a direct variation with school-age population and an inverse variation with income per child of school age.

Another federal publication encountered was the Annual Report of the Office of Education. This report in

⁸United States Department of Health, Education, and Welfare, Grants in Aid and Other Financial Assistance Programs Administered by the United States Department of Health, Education, and Welfare, A Report Prepared by the Office of Education (Washington: Government Printing Office, 1964), pp. 217-218.

capsule form featured the various activities under Title III of the National Defense Education Act. Although the numerous aggregate summaries presented were applicable to the fiscal year of 1964, an interesting picture of the magnitude of Title III activities was presented. The report showed an equivalent of 222 full-time special supervisors on the state level in the critical areas. This item of information was contrasted with the fact that only thirty-three such specialists were employed before the National Defense Education Act was passed.⁹

An additional federal publication considered worthy of note was Health, Education, and Welfare Indicators, a monthly presentation which offered statistical reports and legislative action summaries. Within the November, 1964, issue was printed an article depicting progress of the Act through the first six fiscal years of its existence. Harris reported that during this time span the federal government spent nearly one billion, eighty-four million dollars on all programs of the Act and two hundred ninety-three million dollars or twenty-seven per cent of the total under Title III for science, mathematics, and modern foreign languages.¹⁰

⁹United States Department of Health, Education, and Welfare, Annual Report, A Report Prepared by the Office of Education (Washington: Government Printing Office, 1964), p. 242.

¹⁰Arthur L. Harris, "Six Years of Progress under NDEA," Health, Education, and Welfare Indicators, II (November, 1964), pp. xv-xvi.

A final federal publication encountered relevant to Title III of the National Defense Education Act was School Life. From the inception of the Act through 1964, this publication contained many articles of the reporter variety. In addition, several interestingly written narrative selections dealing with the progress of the operational aspects of the Act and state activities revolving around the established federal guidelines were published. However, a gradual loss of force during the time span covered in this field project resulted in discontinuance of the publication. School Life and Higher Education were combined into a new publication entitled American Education in 1965. A feature of this combined publication has been a monthly subtitle "Federal Money for Education." However, at the time of this writing the publication had not contained data relevant to the distribution of funds through state educational agencies to local educational agencies under Title III of the Act.

II. STATE PUBLICATIONS

Three publications of the Department of Public Instruction provided the administrative and operational bases for strengthening of instruction under Title III of the National Defense Education Act. These materials consisted of the "Request Blank," the "Title III Project Application," and the "State Plan." Each of these publications will be considered in the order listed in the ensuing paragraphs on

the basis of how each was utilized during the 1964-65 school year in the State of Iowa.

A form of request blank for application forms under Title III of the National Defense Education Act was used to give the Department of Public Instruction an estimate of the total amount of money (federal and local matching funds) that the local school district expected to spend. The total project requests were divided into subject matter areas and levels of instruction; namely, elementary, junior high, senior high, and combination junior-senior high. This request form additionally requested the indication of area and grade level for which application forms were desired, but this was of minor significance. The realistic philosophy underlying the use of a request blank was to give authorities indications of expected funds throughout the State of Iowa by area and level of instruction. A sample request blank has been placed in the Appendix for examination purposes.¹¹

The second and a most significant publication from the viewpoint of individual school districts was the official "Title III Project Application." This document was a form divided into two segments dealing with different phases of the project. The opening segment of the preparative matter consisted of classification data including name of district, address of district, subject area, level of instruction,

¹¹Department of Public Instruction, "Request Blank," (Des Moines: State of Iowa, 1964), p. 1. (Mimeographed.)

number of attendance centers, level enrollment total, and expenditure totals for materials and equipment and for minor remodeling. Another portion of the preparative matter was devoted to financial data. This segment asked for assessed valuation per pupil based on average daily attendance, the free bonding capacity available, and the total district mill levy. A final segment devoted to prerequisite material was that of certification bearing the signatures of the president and the secretary of the board of education and the superintendent of schools. With the signatures the school district certified that:

1. The equipment and materials included in this application will be used (by teachers in teaching and/or students in learning) to provide education in the critical subject areas.
2. The storage space included in this application will be used solely for the care and protection of equipment and materials used in teaching the critical subject areas.
3. The space to be remodeled, referred to in this application will be used for providing education in the critical subject areas.
4. The expendible materials included in this application will be used solely by teachers in preparing instructional aids to improve education in the critical subject areas. These aids should have a normal usage of at least one year.
5. None of the equipment and/or materials requested in the application will be purchased from a communist country.
6. The assurance of compliance with Title VI of the Civil Rights Act of 1964, filed with the Department of Public Instruction, dated _____, applies to the application submitted herewith.¹²

¹²Department of Public Instruction, "Title III Project Application," (Des Moines: State of Iowa, 1964), p. 1. (Mimographed.)

The second major portion of the "Title III Project Application" consisted of a description of the project segmented into specific areas. In the first portion applicants were to indicate dimensions and other pertinent information concerning the proposed project facilities. A second portion of the application required enumeration of the professional preparation of the personnel in the project area and program offerings including newly proposed subjects. Another aspect consisted of a check list of techniques that have been used to determine the gains and benefits derived from previous Title III funds. A fourth section was devoted to the justification or provision of supportive information which would have justified the approval of the project with particular emphasis upon unusual items. This response was of the open-ended variety, but the following suggestions were presented to aid in the formulation of the response:

1. Articulation of program K-12.
2. Unusual characteristics of the program in the subject matter area.
3. In-service educational plans that insure appropriate use of the equipment and materials requested.
4. Special qualifications of teachers in this area in addition to academic preparation.¹³

The final section of the application consisted of the proposed purchases listed in columnar form with complete information furnished with regard to identification and cost.¹⁴

¹³Ibid., p. 2.

¹⁴Ibid., pp. 2-3.

A sample of the application form was placed in the Appendix.

It was necessary to submit four complete copies of the "Title III Project Application" in order for the same to be considered for approval. The dispersement of the four copies after approval had been granted consisted of a copy sent (1) to the local school district which had submitted the application, (2) to the office of the county superintendent in which county the central attendance center of the applying school district was located, (3) to the Finance and Control Division of the Department of Public Instruction, and (4) to the Curriculum and Instructional Division of the Department of Public Instruction, the processing division of the Title III applications and endorsements.

The "State Plan for the Strengthening of Instruction in Science, Mathematics, Modern Foreign Languages, and Other Critical Subjects under Section 301-304 of Title III as Amended" was the most significant document encountered since it outlined the activities of the State of Iowa under Title III of the National Defense Education Act for the 1964-65 school year. The publication, submitted to and approved by the United States Commissioner of Education as amended, was divided into five sections which the ensuing paragraphs attempted to present in summarized form.

Section One of the plan was devoted to an outline of the program for administration. The section established the State Board of Public Instruction as the educational agency

of the state because of possessing the power of general supervision and control of public education within the State of Iowa as established by the Code of Iowa. A second portion of Section One established the authorization of certain officially titled officers, principally the Superintendent of Public Instruction, to perform certain functions based upon stated powers and responsibilities demanded by Title III of Public Law 85-864. A final portion of Section One erected a framework through which hearings before an Appeal Committee of the Department of Public Instruction for an aggrieved applicant for a project under Title III could be processed on a time schedule. Additionally, provision was made for annual review and evaluation of state programs and department organization.¹⁵

Section Two of the plan presented procedures for the fiscal management, accounting, and auditing procedures. Included in this section were the governing citations from the Code of Iowa relevant to fiscal affairs, annual state audits, and local audits also required yearly. During the course of these annual audits on the state and local levels, Title III project accounts have been audited by the state auditor, private certified, or registered public accountants. Also,

¹⁵Department of Public Instruction, "State Plan for the Strengthening of Instruction in Science, Mathematics, Modern Foreign Languages, and Other Critical Subjects under Sections 301-304 of Title III as Amended," (Des Moines: State of Iowa, 1964), pp. 1-7. (Mimeographed.)

provision was made for prorating costs of labor and materials within the Department of Public Instruction when individuals had been assigned dual roles one of which being outside the realm of Title III activities.¹⁶

Section Three of the plan concerned programs for the expansion and improvement of supervisory and related services and commenced with a description of the program at the time the original state plan was prepared. Depicted were the line-and-staff administrative organization for supervision and the titles, duties, and qualifications of the personnel engaged in the program. An important part of this section was the presentation of the program objectives established to accomplish improvement of instruction in the critical subject fields, strengthening of supervisory and related services generally, and acquiring needed equipment and more effective use of equipment in each of the critical subject fields in the public schools. The presented objectives were:

1. Enlarging programs of offerings in the critical subject fields.
2. Improving methods of instruction in the critical subject fields.
3. Developing, revising, and upgrading curriculum materials for the critical subject fields.
4. Stimulating local school districts to take more active part in upgrading their educational programs.
5. Encouraging and assisting local districts to improve facilities, equipment, and materials of instruction in the critical subject fields through acquisition of needed equipment, materials, and minor remodeling.

¹⁶Ibid., pp. 8-12.

6. Bringing the maximum number of schools in the state up to a higher standard of performance in the critical subject fields.
7. Encouraging the introduction of experimental programs in pilot schools in the critical subject fields.
8. Encouraging and assisting schools to make provisions for appropriate instruction of students possessing exceptional abilities and aptitudes in the critical subject fields.¹⁷

The remaining portion of Section Three was devoted to the definitions of the individual critical subject matter areas, advances made since the original approval of the Iowa State Plan for Title III, and future possibilities for additional consultive services.

Section Four of the state plan consisted of the program for acquisition of equipment and materials and for minor remodeling. Established were the following principles for determining priority of submitted projects:

1. A planned pattern of program development is evident.
2. Adequacy of personnel to conduct and improve the program.
3. Ability to implement the plan immediately and continually.
4. Adequacy of facilities and apparatus to conduct an improved program.
5. Effort has been demonstrated by program history.
6. Maximum utilization of available funds.
7. Priority is based upon the adequacy of submitted local plans in terms of the area of instruction and the grade level or levels.¹⁸

Another consideration was a description of the program for

¹⁷Ibid., p. 15.

¹⁸Ibid., pp. 30-31.

improving education in each of the critical subject fields through the purchase of equipment and/or minor remodeling. Reiteration resulted in each area with the repetition of the following four proposals in which the specific subject matter area has been changed to critical subject fields:

1. Increase the interest and motivation of the pupils in the critical subject fields through the improvement of instruction made possible by provision of adequate facilities, equipment, and materials procured with the aid of NDEA funds.
2. Provide for in-service education meetings designed to provide teachers with information, techniques, and procedures in the use of the equipment and materials purchased with NDEA funds.
3. Develop pilot projects to evaluate the use of equipment and materials that may be purchased with NDEA funds.
4. Provide information regarding current and promising research in the critical subject fields.¹⁹

Another segment of the section under consideration enumerated eligible applicants. Since Iowa did not have any state-operated public schools, public institutions were listed as follows:

1. All public and county school systems.
2. Schools for the handicapped which are operated by public agencies other than local school authorities.
3. Laboratory schools operated by public colleges and/or universities.
4. Juvenile homes under public control.
5. Correctional institutions under public control.
6. Homes for dependent and/or neglected children under public control.

¹⁹Ibid., pp. 31-35.

7. Mental and/or health institutions under public control.²⁰

A fourth area of consideration within this section was devoted to project approval procedures. The form and content of the applications considered earlier in this chapter were outlined in detail. The final portion of this section presented project reimbursement procedures. It was established that state payments were to be made to the lawful treasurer of the local educational agency in the amount of the non-local share of incurred expenditures with reimbursement established on a ratio type of matching basis up to fifty per cent. Additionally, the procedure used in receiving, processing, and verifying payment of a claim for an approved project was outlined in the following chronological order:

1. Distribution of application forms and guidelines for completing the forms.
2. Establishment of a deadline for completion of all application forms.
3. Processing of all eligible project applications by Title III personnel.
4. Notification of approval or non-approval of processed applications.
5. Receiving of claims for reimbursement.
6. Auditing of claims.
7. Payment of legitimate claims.²¹

The final section of the state plan for Iowa under Title III consisted of certification of the plan. Contained was the necessary documentation from the officer authorized

²⁰Ibid., pp. 35-36.

²¹Ibid., p. 37.

by the state educational agency to submit the state plan and from the attorney general who certified the original state plan and the amendment to include the areas of English, civics, history, reading, and geography along with science, mathematics, and modern foreign languages as critical subject areas.²²

III. INDIVIDUAL PUBLICATIONS

One rather lengthy and significant publication of the critical variety was a monograph prepared by Sidney C. Sufrin based upon the administration of the National Defense Education Act. The publication was a part of a series of studies on the economics and politics of American public education and was financed in part by funds granted by the Carnegie Corporation. Some of the most significant ideas presented were formulated in the paragraphs which follow.

Sufrin reported that the National Defense Education Act was in the tradition of American federal aid to education because it has required local, state, and federal cooperation while at the same time retaining a definite commitment to local and state autonomy. Sufrin showed the Act as an outgrowth of federal policy by citing some predecessors; namely, the Smith-Hughes Act of 1917 with its provision of federal, categorical, vocational aid to schools, the George-Barden

²²Ibid., pp. 38-39.

Act of 1946, and the National Science Foundation created in 1950 which initiated institutes for teachers. Furthermore, Sufrin felt that the novelty of the Act was to be found in its scope and content. In spite of the broad structure of the Act, Sufrin thought that the difficult administrative goals of leadership without domination and assistance without interference had been solved to a great degree in the National Defense Education Act.²³

Sufrin produced some significant answers to the question, "Why NDEA?", which were worthy of note. Although he felt that the Soviet launching of Sputnik in the fall of 1957 produced restructuring of the role of the federal government, Sufrin preferred to consider Sputnik as a catalyst which tended to hasten that which was inevitable. His basis for this contention was that educational policies and programs have tended to be of long-term, not short-run, impact. Considered also in the decision were the precedents mentioned in the preceding paragraph paired with the idea that professional educators and public officials had been considering such a move for some time. Furthermore, Sufrin considered the popular twentieth century interest in science and its handmaiden mathematics a very important contributing

²³Sidney C. Sufrin, "Administering the National Defense Education Act," Public School Finance, ed. Jesse Burkhead, Syracuse, New York: Syracuse University Press, 1964), pp. 286-289.

factor to the prominent roles each of these areas achieved. It was upon these bases that Sufrin concluded the National Defense Education Act to be not merely a reaction to Russian scientific advance, but rather a major attempt at federal aid with wider and more diffuse categories than had ever before been attempted.²⁴ These ideas presented by Sufrin reflected the following statement by the former Commissioner of Education Lawrence G. Derthick:

Poised on the threshold of the scientific revolution, we are faced with the long-term need for a highly trained citizenry that is individually and collectively capable of meeting problems so severe and demanding that a failure to solve them may well mean the destruction of civilization. This Act is a significant step toward meeting this need.²⁵

As part of his research Sufrin interviewed state and local school administrators with experience under the National Defense Education Act. The results were collectively presented under eight headings as follows:

1. There was an emphatic feeling that federal aid was desirable, but that it should be general, not categorical. However, when categorical aid was offered, officials were reluctant to pass up a chance for 'cheap' money, even if it involved matching. It was held by some that matching was a means of federal control.
2. Sometimes money was used for other purposes. This made crooks out of local boards and local principals. It also promoted seeking and finding questionable accounting techniques

²⁴Ibid., p. 289.

²⁵Lawrence G. Derthick, "Impact of the National Defense Education Act," The Nations Schools, LXIII (February, 1959), p. 114.

- and rationalizations for the use of equipment for purposes other than those contemplated by categorical grants.
3. There was general agreement that the accounting, auditing, and purchase order procedures were burdensome and probably irrelevant in that they did not reflect the accountability needs of all three levels.
 4. It was thought that to large districts the National Defense Education Act had been more of a boon than to some smaller communities. Some said richer communities had taken more advantage of the Act than poorer ones.
 5. Many felt that principles of equity were not being met by the Act. One suggested that a poor state match with twenty per cent and a rich state with seventy per cent for purposes of equalization.
 6. Many favored general aid based upon the universal philosophical principle that curriculum and personnel control was and should be state-orientated.
 7. The general feeling was that if the National Defense Education Act continued for a relatively few years, then it must be continued forever because the programs which schools have undertaken with available funds have been built into the total curriculum and budget. Withdrawal would then be disastrous.
 8. There was a unanimous belief that those interviewed expressed that the Office of Education should not initiate any advice to the state or local school authorities, and state officials felt it should not deal with local districts except through the state. However, all believed that the advice, technical studies, and technical assistance of the Office of Education would be most desirable.²⁶

Many similar reactions were reflected in the responses received on the questionnaires utilized for the purposes of the study being presented.

Finally, Sufrin indicated the optional policy at the

²⁶Sufrin, op. cit., pp. 298-301.

state level, namely that the fifty-fifty matching fund provision was on a state basis which could be used in various proportions on the local level. He indicated that some states have changed local matching conditions in an effort to assist poor districts. However, Sufrin quickly pointed out that the states generally have not provided for this variable matching because of internal administrative difficulties or because of other policy considerations.²⁷

A teacher opinion poll was conducted by the National Education Association Research Division in which a cross-section of the classroom teachers of the nation were polled relative to what they would have liked to see happen to the Title III program. Separate categories were formulated for science and mathematics equipment on the one hand and foreign language equipment on the other. The distribution of responses for science and mathematics equipment in the form of percentages follows: increase funds, 39.7 per cent; continue at the present level, 42.4 per cent; decrease funds, 3.1 per cent; stop program, 5.9 per cent; and undecided, 8.9 per cent. The distribution for foreign language equipment purchases showed some variance and was reported in the following manner: increase funds, 32.5 per cent; continue at present level, 40.4 per cent; decrease funds, 4.7 per cent; stop program, 7.4 per cent; and undecided, 15.0 per

²⁷Ibid., p. 306.

cent. This nationwide cross-section sample of the profession involved in classroom teaching provided some interesting insights.²⁸

The Nations Schools in 1960 carried a significant article relevant to the National Defense Education Act. The report was of the follow-up variety and dealt specifically with the implementation of Public Law 85-864 in forty-five local school districts. The data presented was based upon questionnaire results from twenty-four districts which served American cities of 300,000 or more and twenty-one districts serving smaller cities in the State of Illinois. At the time of writing the report showed that requests for funds tended to be heaviest under Title III in the area of equipment, and supporting subsequent allocations represented a much greater percentage of the total requests for equipment than for assistance toward minor remodeling, guidance and testing, or improvement of vocational education available under other titles within the accessibility of the entire National Defense Education Act.²⁹

The second phase of the article referred to in the preceding paragraph dealt with an expression of board of

²⁸"National Defense Education Act," NEA Journal, LII (January, 1963), p. 69.

²⁹Roald F. Campbell, and Stephen F. Henckley, "Accept N.D.E.A. Money -- But with Doubts and Reservations," The Nations Schools LXIV (October, 1960), pp. 80-81.

education attitudes of the forty-five selected districts toward the National Defense Education Act and opinions of superintendents of these same districts concerning likes and dislikes about the Act. The board attitudes were expressed by the superintendents. Ten superintendents reported their boards to be firm supporters of the National Defense Education Act. Almost one-half or twenty-one superintendents reported that their boards were participating with reservation. Nine superintendents reported no position either for or against had been expressed by their boards of education with respect to aid under the Act. Only two of the superintendents stated that their boards had rejected all National Defense Education Act programs as a result of strong opposition to federal aid to education. The three remaining respondents offered unique reactions in that they reported a definite split or disagreement on the part of their boards of education that would be subject to change from year to year. On the other hand, the reports of the likes and dislikes of the superintendents toward the Act were of the open-ended variety and subsequently more than one item was obviously mentioned in each category. In the area of likes seventeen specified federal support or money, twenty-one thought the expansion of critical areas to be valuable, and sixteen revealed stimulation and motivation of staffs. On the negative side of the picture thirty-six of the superintendents mentioned the red tape, regulations, and

delays, sixteen specified program imbalance resulting from special aid, eight disliked the changing interpretations and definitions, and five revealed that the aid was negligible to districts with good programs.³⁰

An interesting series of articles authored by Elaine Exton appeared in The School Board Journal shortly after the National Defense Education Act became law. Two of the articles entitled "Controversies Cloud Administration of Defense Education Law" and "Administration of Defense Education Law still Controversial" dealt with early administrative problems on the national level. Within the former article Exton discussed the Office of Education branch called the Aid to State and Local School Systems Branch which was designated as the office to handle the affairs of Title III and other phases of the Act. Exton also considered the change of character of the United States Office of Education from a research and service orientated agency to an operational agency from the viewpoint of dispersement of federal funds.³¹ Within the latter article Exton attempted to discover the real intent of Congress in passing the National Defense Education Act. In a specific sense this article related to this project only to the extent that it concerned the issue

³⁰Ibid., p. 83.

³¹Elaine Exton, "Controversies Cloud Administration of Defense Education Law," The American School Board Journal CXXXVIII (January, 1959), pp. 40-41.

of federal aid to education and the broad administrative difficulties inherent in the organizational superstructure necessitated by the Act.³²

The third article in the previously mentioned series related specifically to the eligibility of local public schools for participation under Title III based upon the necessity of the state educational agency to submit an approved state plan. It was pointed out that the state plan has provided the legal basis for determining the propriety of state and local expenditures for which federal participation has been requested. Related were four basic elements of the state plan as proposed in the form of regulations by the Office of Education. These included:

1. The programs of the state for acquiring equipment suitable for use in providing education in the critical areas in public elementary and secondary schools, and for minor remodeling incidentally necessary to the use of such equipment.
2. The present supervisory and related services of the state agency.
3. The program for expansion and improvement of supervisory and related services in the critical subject fields.
4. A description of the administration of the state plan.³³

This article reiterated the importance of the state plan

³²Elaine Exton, "Administration of Defense Education Law still Controversial," The American School Board Journal CXXXVIII (June, 1959), pp. 46-47.

³³Elaine Exton, "School Participation in Implementing Title III," The American School Board Journal CXXXVIII (February, 1959), p. 35.

considered earlier in this project.

On the local level Exton presented a plan of attack for local educational agencies in outline form that was developed so that local districts could support any request for federal reimbursement for part of the purchase price of authorized equipment and materials on the basis of adequate records. The following outline showed what the Council of Chief State School Officers thought should be included in the area of typical information.

1. Nature of Program
 - a) Scope and sequence in elementary and secondary schools
 - b) Degree of development or status
 - c) Plans for development and enrichment
2. Staff Personnel
 - a) Teacher competencies
 - b) Supervisory services
3. Pupil Personnel
 - a) Enrollment of total school
 - b) Enrollment in each of the academic areas affected
4. Inventory
 - a) Space and related facilities
 - b) Equipment
 - c) Materials
5. Community Resources
 - a) Facilities available for support of the local educational program
 - b) Specialized personnel³⁴

An article which showed some parallels to the intra-state study of the author was formulated by Bruce Miller,

³⁴Standards for Materials and Equipment for the Improvement of Instruction in Science, Mathematics, and Modern Foreign Languages, Report by the Council of Chief State School Officers, 1958, cited by Elaine Exton, "School Part in Implementing Title III," The American School Board Journal CXXXVIII (February, 1959), p. 36.

Superintendent of Schools of Riverside, California, with the aid of his administrative assistant Donald Taylor. The procedure consisted of sending questionnaires late in 1961 to a random sampling of superintendents across the United States, and a total of 345 or sixty-three per cent of the sample responded. A total of 331 or ninety per cent of the respondents in the study were superintendents of districts that had received funds under the National Defense Education Act. This specific group was asked to assess the effects of these funds upon the programs of the district. The results were that over fifty-six per cent reported an appreciable effect, and forty-two per cent indicated a slight effect. Also, one superintendent reported a negative effect, three said there was no effect, and one did not venture an opinion.³⁵

Several questions in the same study were directed toward all respondents relevant to accomplishments and projections with reference to the National Defense Education Act. In response to whether or not the Act had accomplished its basic purposes, eighty-three per cent answered in the affirmative. Also, nearly seventy-two per cent of the respondents thought that the National Defense Education Act had caused significant improvement in American public education. From a projective standpoint the group was asked

³⁵Bruce Miller, and Donald N. Taylor, "What Superintendents Think of NDEA," School Management VI (May, 1962), p. 87.

whether the Act should be continued, expanded, replaced, or discontinued. About twelve per cent thought it should be continued in the present form, and thirteen per cent thought it should be discontinued altogether. The remainder who expressed an opinion, sixty-eight and one-half per cent of the total number of respondents, expressed the opinion that the National Defense Education Act should be either expanded or replaced by general federal support. When these same superintendents who favored expansion were asked to enumerate subject matter areas, English and social studies received the most votes. This information caused the authors to conclude that maintenance of the status quo was not the best solution for the National Defense Education Act. Although a large majority of respondents felt the basic purposes had been accomplished and significant influence on education had been shown, the majority of reporting superintendents believed that it was time for a change through expansion or in the form of general federal support.³⁶

J. Graham Sullivan produced an article of the progress report variety on the National Defense Education Act. He was primarily concerned with the improvement of the quality of instruction based upon not only methods and content, but also materials and laboratory facilities needed as exemplified by PSSC physics, SMSG mathematics, and ALM

³⁶ibid., pp. 88-89.

modern foreign languages. However, within the introductory segment of the article, Sullivan reported on a questionnaire forwarded by The Nations Schools to a sampling of school administrators throughout the country. In this study nine per cent of the respondents stipulated that they would completely discontinue National Defense Education Act legislation. The survey also showed that fifty-five per cent of the respondents would substitute for the National Defense Education Act a broad purpose or general federal support.³⁷

A study of Title III of the National Defense Education Act participation in the Illinois public high schools was performed in 1963 with 240 communities reporting via a questionnaire. In the study schools were classified by location as rural (population under 2,500), suburban (over 2,500 but not in one of the next two categories), urban (located on the periphery of a large metropolitan center), and Chicago (large metropolitan center). Significant gaps in the percentage of participation were not found in the area of science. However, differences were significant in the areas of mathematics and modern foreign languages. The Chicago schools reported participation totals of one hundred per cent in science, ninety-six per cent in mathematics, and eighty-three per cent in languages. The suburban schools

³⁷J. Graham Sullivan, "What NDEA Has Done and Can Do," The Nations Schools LXVIII (July, 1961), p. 45.

showed eighty per cent of participation in science, fifty-five per cent in mathematics, and ninety per cent in languages. Urban schools participated to the extent of seventy-six per cent in science, fifty-one per cent in mathematics, and sixty-five per cent in languages. Finally, the rural schools reported participation of sixty-eight per cent in science, twenty-six per cent in mathematics, and twenty-four per cent in languages. Additionally, the schools in the study were classified according to three levels of socioeconomic status based upon the occupational groups most representative in the high school community. After the application of weighting techniques, the 240 communities were rank ordered into SES I (high), seventy-eight cases; SES II (middle), ninety-one cases; and SES III (low), seventy-one cases. Upon this basis as well little variation was found in the area of science, and large percentage of participation differentiation in the areas of mathematics and modern foreign languages. The percentage of participation by subject area in the order of SES I, SES II, and SES III were seventy-four per cent, seventy-six per cent, and seventy-five per cent in science; fifty per cent, fifty-three per cent, and twenty-eight per cent in mathematics; and sixty per cent, fifty-four per cent, and thirty per cent in modern foreign languages. From the viewpoint of participation the authors concluded that the nature of the impact was broad since extensive use was made of equipment

and remodeling funds, with the biggest difference between socioeconomic levels occurring in the expected area, modern foreign languages.³⁸

Another significant portion of the Illinois study centered around course content changes attributable to the use of Title III assistance in procuring equipment or remodeling. Utilizing the same categorical outline presented in the preceding paragraph, the changes in course content by location were reported in percentages in the following manner. Course content changes in science prevailed in fifty-two per cent of the Chicago schools, in mathematics also fifty-two per cent reported changes, and in languages forty-one per cent indicated changes in course content. The suburban schools showed course content changes at the rate of fifty per cent in science, thirty per cent in mathematics, and seventy per cent in languages. The urban schools revealed course content changes at the rate of fifty-one per cent in science, thirty-nine per cent in mathematics, and thirty-seven per cent in languages. Finally, the rural schools reported course content changes in thirty-three per cent of the schools in science, twenty-one per cent of the schools in mathematics, and thirteen per cent of the schools in languages. When classified according to socioeconomic status,

³⁸Ronald F. Campbell, and Robert A. Bunnell, "Differential Impact of National Programs on Secondary Schools," The School Review LXXI (Winter, 1963), pp. 465-471.

the communities in SES I showed course content changes of forty-two per cent in science, thirty-three per cent in mathematics, and thirty-six per cent in languages. SES II communities indicated course content changes at the rate of fifty per cent in science, thirty-eight per cent in mathematics, and thirty-one per cent in languages. Within the area of SES III communities course content changes were shown at the rate of twenty-seven per cent in science, eighteen per cent in mathematics, and fourteen per cent in languages. The conclusion reached was that clearly, urban and suburban schools of higher socioeconomic status did more to change the content of science and mathematics courses than did rural schools and schools of lower socioeconomic status.³⁹

³⁹Ibid.

CHAPTER III

PRESENTATION OF DATA

For presentation purposes the data secured in this study has been segmented into four portions. These segments, devised on the basis of related areas, consisted of participation, expenditures, curriculum, and evaluative judgments. As previously noted, the principal data source for the areas of participation and expenditures was the Department of Public Instruction of the State of Iowa. The principal data source for the areas of curriculum and evaluative judgments was a questionnaire directed to local superintendents of schools who represented local school districts which had participated under Title III of the National Defense Education Act during the 1964-65 school year.

I. PARTICIPATION

The participation portion of this chapter was divided into various portions. The premier segment was utilized to present the total participation picture on the state level. The remaining segments consisted of presentations based upon district type used by the Department of Public Instruction. Considered within these segments were the individual project approvals according to critical area and grade level on one hand and state-wide participation comparisons on the other. Necessitated interpretations followed each presentation.

State. A total of 406 different school districts in the State of Iowa submitted approved equipment projects for the 1964-65 school year. Only two districts submitted projects which were not approved under the regular portion of the distribution. One of the projects was re-submitted under the supplemental distribution provision of the Act in January and was subsequently approved. Many school districts submitted plans in several of the critical areas and on different grade levels. This situation produced a total of 1,403 approved equipment projects under Title III. In the area of science 703 or 50.1 per cent of the approved projects were categorized. According to grade level this amounted to 227 elementary, 119 junior high, 266 senior high, and 91 combination junior-senior high projects. In the area of mathematics the 362 or 25.7 per cent of the projects were distributed with 111 on the elementary level, 50 on the junior high level, 149 on the senior high level, and 52 on the combination junior-senior high level. A total of 155 or 11.1 per cent of the approved equipment projects were in the area of modern foreign languages. When exhibited according to grade level, there were 12 elementary projects, 17 junior high projects, 101 senior high projects, and 25 combination junior-senior high projects. The new areas made eligible in January of 1965 showed the following distributions. In the area of geography 38 or 2.7 per cent of the total approved projects were found. According to grade level the division

showed 24 elementary, 7 junior high, 3 senior high, and 4 combination junior-senior high projects. The critical area of history produced 52 or 3.7 per cent of the approved projects. Considered in the light of grade level, 13 were elementary, 9 were junior high, 21 were senior high, and 9 were combination junior-senior high. The 42 reading projects approved consisted of 3.0 per cent of the total. The grade level distribution showed 29 elementary projects, 9 junior high projects, 2 senior high projects, and 2 combination junior-senior high projects. The area of civics showed 11 or 0.8 per cent of the projects approved. According to grade level 3 projects were elementary, 4 were senior high, and 4 were combination junior-senior high. A final area, English, claimed 40 approved projects. This was 2.9 per cent of the total approved projects in the area of equipment. When considered with reference to grade level, there were 6 elementary, 6 junior high, 18 senior high, and 10 combination junior-senior high approved projects. Table I, page 48, presented this distributed information.

The data under discussion showed a degree of diversity between the number of approved projects according to subject matter area with science almost doubling math, and math in turn doubling the area of foreign languages. Reflected also was the fact that the critical areas of civics, geography, history, reading, and English were added after more than one-half of the 1964-65 school year had passed

as evidenced by the low degree of participation in each of these areas. However, such an arrangement was expected in a transitional year.

TABLE I

DISTRIBUTION OF THE APPROVED EQUIPMENT PROJECTS UNDER
TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT
IN IOWA DURING THE 1964-65 SCHOOL YEAR

Area	Elementary	Junior High	Senior High	Combination	Total	Per cent
Science	227	119	266	91	703	50.1
Mathematics	111	50	149	52	362	25.7
For. Language	12	17	101	25	155	11.1
Geography	24	7	3	4	38	2.7
History	13	9	21	9	52	3.7
Reading	29	9	2	2	42	3.0
Civics	3	-	4	4	11	0.8
English	6	6	18	10	40	2.9
Totals	425	217	564	197	1,403	

In the process of searching for some type of comparative device with which to make comparisons of the Title III equipment projects in the State of Iowa during the 1964-65 school year, the author secured some valid national totals presented in the Report on the National Defense Education Act of 1963. This publication presented in capsule form the total number of projects approved throughout the nation for the five-year period from fiscal years 1959-63. Contained were four categories, three of which were utilized. The

fourth, a combination of science, mathematics, and modern foreign languages, was not applicable to the State of Iowa. The combination arrangement in Iowa, according to the state plan, embodied various grade levels in one critical area. Also, since the data presented by the publication appeared previous to January of 1965, the areas of history, civics, geography, reading, and English were eliminated for comparison purposes. The national publication showed 113,477 approved science projects, 39,796 approved mathematics projects, and 26,995 approved foreign language projects.¹ Converted to percentages for the three cases, these totals showed 62.9 per cent for science, 22.1 per cent for mathematics, and 15.0 per cent for modern foreign languages. In the State of Iowa during the 1964-65 school year, the 703 approved science projects composed 57.6 per cent. The 362 approved mathematics projects proved to compose 29.7 per cent. The 155 approved projects in the area of modern foreign languages realized 12.7 per cent. Figures 1 and 2, page 50, illustrated the preceding data.

On the basis of the national and state comparisons the author concluded that the variances in percentages were very slight. Slightly more projects in the areas of science and modern foreign languages on a percentage basis prevailed

¹Report on the National Defense Education Act of 1963,
op. cit., p. 17.

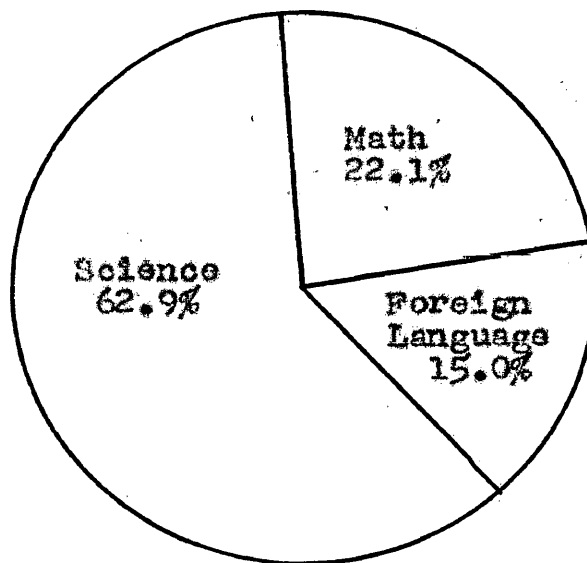


Figure 1. Percentage distribution of approved projects for the acquisition of equipment and minor remodeling under Title III of the National Defense Education Act for fiscal years 1959-63.

*Report on the National Defense Education Act of 1963,

Ibid.

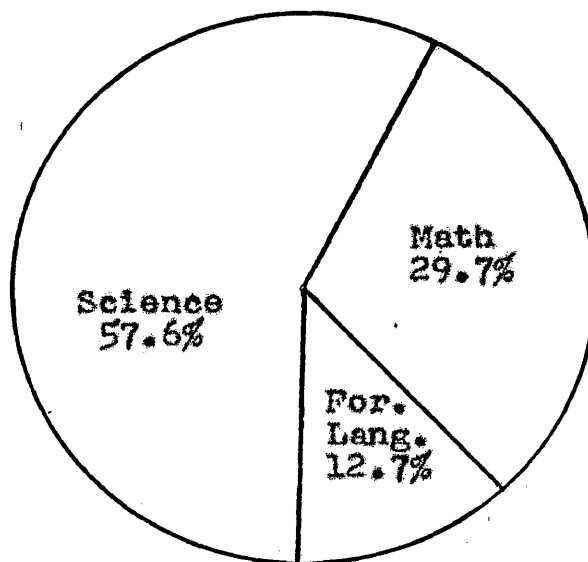


Figure 2. Percentage distribution of approved Title III equipment and minor remodeling projects in the State of Iowa in the areas of science, mathematics, and modern foreign languages under the National Defense Education Act for the 1964-65 school year.

in the previous years on the national level, and slightly more projects on a percentage basis were assigned to mathematics in the State of Iowa during 1964-65 when compared to the national totals for the preceding five fiscal years.

A final significant item of information relevant to the entire State from the point of view of participation was that only one approved project for remodeling under Title III was awarded. The specific project, a grant in the area of science on the combination junior-senior high level, was part of a project involving the acquisition of equipment in the same subject matter area for the same grade level. Therefore, throughout the course of this study the area of minor remodeling was considered to be insignificant due to one isolated example, which was attached to an equipment grant.

County units. In an attempt to analyze the extent of participation of ninety-nine county units in the State of Iowa during the 1964-65 school year under Title III, the author first determined the total number of approved projects submitted by the county units. The 139 approved projects were then segmented into critical areas according to grade level. This distribution of approved projects, shown in Table II, page 55, followed. In the area of science the 71 approved projects consisted of 29 elementary, 3 junior high, 13 senior high, and 26 combination junior-senior high

grants. The 31 approved projects in the area of math were composed of 13 on the elementary level, 6 on the senior high level, and 12 on the combination junior-senior high level. The 3 approved projects in the area of modern foreign languages showed 1 elementary project and 2 junior-senior high combination projects. The area of geography on the county level showed 5 elementary, 1 junior high, and 1 junior-senior high combination or a total of 7 approved projects. Approved projects in history numbered 9 composed of 4 elementary, 2 senior high, and 3 combination junior-senior high grants. The area of reading also exhibited 7 approved projects consisting of 6 on the elementary level and 1 on the combination junior-senior high level. The 6 approved county projects in the area of civics were composed of 2 elementary projects and 4 combination junior-senior high projects. Finally, the area of approved English projects entailed 1 elementary and 4 combination junior-senior high projects for a total of 5. When considered according to grade level totals, the data showed 61 approved elementary projects, 4 approved junior high projects, 21 approved senior high projects, and 53 approved combination junior-senior high projects.

The data of the preceding paragraph revealed, as expected, considerable activity in the area of science. In fact, over 50 per cent of the approved projects on the county level were within this area. Somewhat unexpected, however,

was the low degree of participation in the area of foreign languages with only 3 of the 139 approved county projects in this area. Nevertheless, the situation realistically seemed feasible when considered in view of the general lack of foreign language teaching in the rural schools. Additionally, the governing philosophy toward other schools in a given county could have been that if a school system offered foreign language instruction, it could secure the necessary materials and equipment on an individual basis. This explanation was based, in part, as a result of an interview with Dr. Edwin Coen, Crawford County Superintendent of Schools, who indicated two functional utilizations of Title III funds on the county level as being (1) provisions of materials and equipment to county-operated rural elementary schools, and (2) provision of specialized materials and equipment to all school systems in the county on a rental basis thereby performing the function of a materials center.² A visitation with Mr. M. B. Levengood, County Superintendent of Ida and Cherokee Counties, presented the author with a similar conception of the scope of the educational programs on the county level in the State of Iowa. These ideas were additionally exemplified when the number of approved projects were analyzed according to grade level. With 61 of

²Statement by Dr. Edwin Coen, personal interview, Denison, Iowa, September 22, 1965.

the 139 approved projects categorized in the area of elementary, the first outlined function was depicted. Additionally, with 53 of the 139 approved projects categorized in the area of combination junior-senior high, the second of the two functional utilizations was exhibited.

A second approach to participation on the county unit level was to examine by area the county units which received Title III funds during the 1964-65 school year. A total of 52 of the 99 county units or 55.5 per cent of them submitted an approved project in at least one subject matter area. A list of the participating and non-participating counties was included in the Appendix. However, in order to clarify the state-wide picture and to determine areas of concentration from the viewpoint of county participation, the author selected as the divisional instrument the Area Education Districts established by the Department of Public Instruction.³ Each Area Education District consisted of a geographical arrangement based upon county lines. The arrangement has been used for several years in order to maintain a degree of personal contact between the state and local levels in the form of area meetings. The ensuing paragraphs show the extent of participation within the sixteen Area Education Districts. Figure 3, page 59, diagrammatically depicted the

³Department of Public Instruction, "Assignment of Superintendents by Area Education Districts," (Des Moines: State of Iowa, 1965), pp. 1-18. (Mimeographed.)

the essential information which was tabularly expressed in Table III, page 58.

TABLE II

DISTRIBUTION OF THE APPROVED COUNTY PROJECTS BY AREA AND GRADE LEVEL UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT DURING THE 1964-65 SCHOOL YEAR

Area	Elementary	Junior High	Senior High	Combination	Total
Science	29	3	13	26	71
Math	13	-	6	12	31
Foreign Language	1	-	-	2	3
Geography	5	1	-	1	7
History	4	-	2	3	9
Reading	6	-	-	1	7
Civics	2	-	-	4	6
English	1	-	-	4	5
Totals	61	4	21	53	139

Districts I, II, III, and IV were located in the northern two tiers of counties across the State of Iowa. In District I, located in the extreme northeast corner of the State, were 6 counties with 1 participating under Title III. Within District II, bordering District I on the left, were situated 7 counties, but none of them submitted approved projects. District III, located adjacent to District II, contained 5 counties and 3 of them submitted approved projects. Within District IV, composing the northwest corner

of the State of Iowa, contained 11 counties and 7 of them participated under Title III. When stated on a percentage basis of participation, District I exhibited 16.7 per cent, District III produced 60.0 per cent, and District IV was represented with 63.6 per cent.

Districts V, VI, VII, VIII, IX, X, XI, and XII were situated in the central portion of the State of Iowa. District V, occupying two tiers of counties in north central Iowa, was composed of 6 counties 5 of which received Title III funds for a percentage of participation of 83.3 per cent. District VI, located in the center of the State, contained 4 counties and 2 of them were participants for 50.0 per cent. District VII was located northeast of District VI and 1 of the 5 county units was the recipient of a reimbursement for a participation percentage of 20.0 per cent. District VIII, occupying the northern half of the central six most eastern counties along the Mississippi River, had none of the 3 counties submitting an approved Title III project. District IX, occupying the southern half of the central six most eastern counties along the Mississippi River, was represented by 2 of the 3 counties submitting approved projects for a participation percentage of 66.7 per cent. District X was located in the central portion of the State one tier of counties west of the eastern boundary of the State, the Mississippi River. A total of 4 of the 6 counties found in this area participated for 66.7 per cent. District XI was

composed of the 8 counties surrounding the capital of Iowa, Des Moines. It was found that 7 of the county units in this geographical area had submitted approved Title III projects for 87.5 per cent of participation. District XII was found in the south central portion of the State one tier of counties east of the western boundary, the Missouri River. A total of 4 of the 6 counties in this area were participants during the 1964-65 school year for a participation percentage of 66.7 per cent.

Districts XIII, XIV, XV, and XVI composed the southern portion of the State of Iowa. District XIII, located along the western boundary of the State, was composed of 7 county units of which 4 or 57.1 per cent of them received Title III funds. District XIV, composed of the southern two tiers of counties in the southwest part of the State, exhibited 9 county units. A total of 4 or 44.4 per cent of these county units from this geographic area submitted approved projects. District XV, located along the southern three tiers of counties in the southeast part of the State, also contained 9 county units, but 7 of them were participants producing a participation percentage of 77.8 per cent. The final numerically arranged area, District XVI, was located in the extreme southeast corner of the State. It contained 4 county units and 1 of them was a participant for a participation percentage of 25.0 per cent.

In reviewing the data enumerated in the preceding

paragraphs, the author was unable to discern any pattern or section of the State composed of several Area Education Districts which showed an extremely high or low degree of participation. However, a great deal of variation was shown when individual districts were compared.

TABLE III

PARTICIPATION DISTRIBUTION OF THE 99 COUNTY UNITS UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR ORGANIZED INTO AREA EDUCATION DISTRICTS

District	County Units	Yes	No	Per Cent
District I	6	1	5	16.7
District II	7	-	7	-
District III	5	3	2	60.0
District IV	11	7	4	63.6
District V	6	5	1	83.3
District VI	4	2	2	50.0
District VII	5	1	4	20.0
District VIII	3	-	3	-
District IX	3	2	1	66.7
District X	6	4	2	66.7
District XI	8	7	1	87.5
District XII	6	4	2	66.7
District XIII	7	4	3	57.1
District XIV	9	4	5	44.4
District XV	9	7	2	77.8
District XVI	4	1	3	25.0

Four-year high school districts. The four-year high school districts, so designated by the Department of Public Instruction on the basis of providing four complete years of

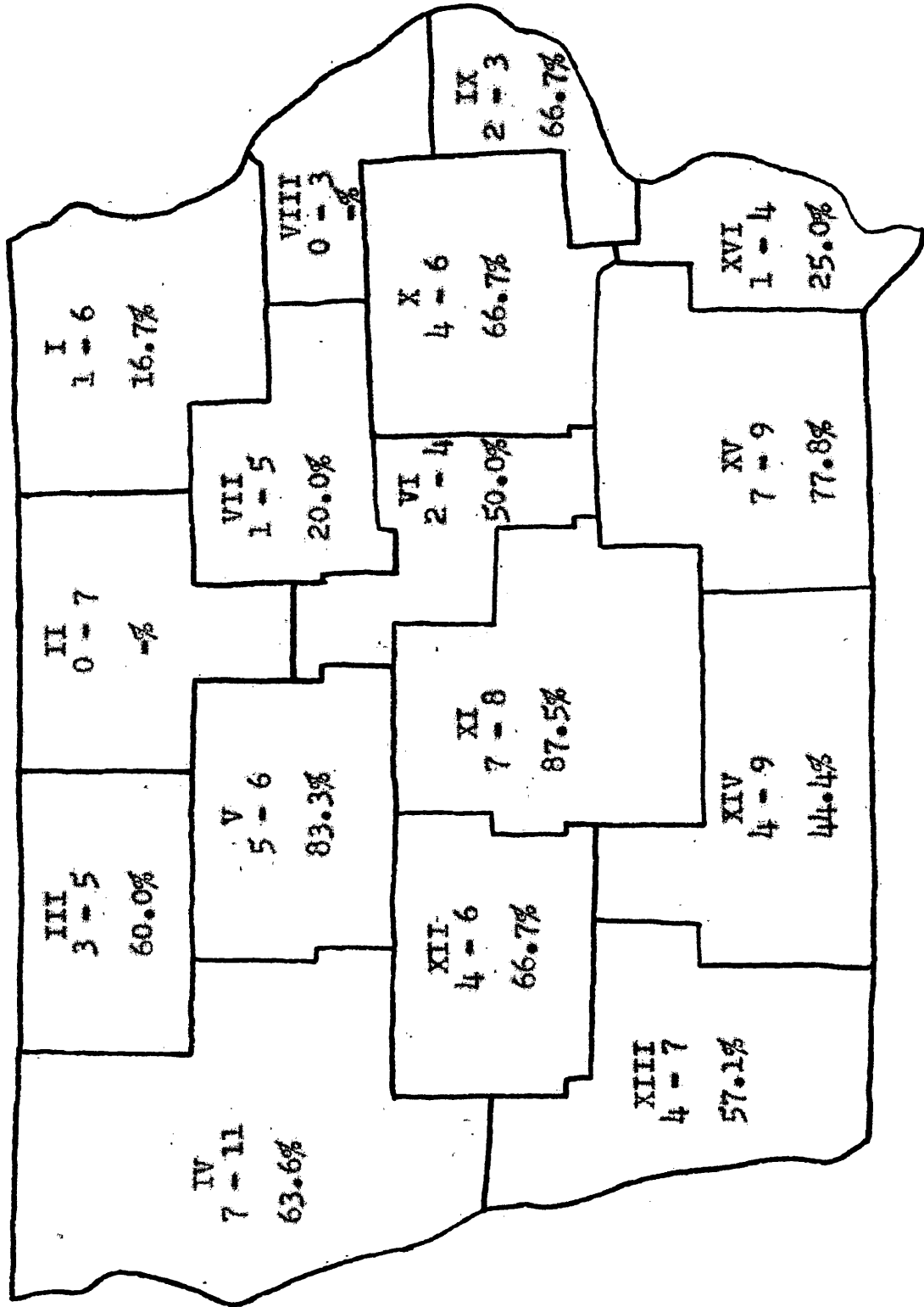


Figure 3. Fractional percentage representation of participating county units under Title III of the National Defense Education Act during the 1964-65 school year according to Area Education Districts.

high school training, comprised the largest of the categorical segmentation of school districts within the State of Iowa from the point of view of number of districts and number of approved projects under Title III of the National Defense Education Act for the 1964-65 school year. The participation analysis of this type of district followed the same organizational pattern as established on the county unit level.

The author first determined the total number of approved projects submitted in all the critical subject matter areas. The approved projects were then segmented according to subject matter area and grade level for this type of school district. Table IV, page 64, revealed the disbursement of projects enumerated in the remaining portion of this paragraph. It was found that a total of 1,224 approved projects were submitted by the four-year high school districts. In the area of science the 611 approved projects consisted of 190 elementary, 108 junior high, 252 senior high, and 61 combination junior-senior high reimbursements. The 318 projects in the area of math were composed of 93 on the elementary level, 47 on the junior high level, 142 on the senior high level, and 36 on the combination junior-senior high level. The 150 approved projects in the area of modern foreign languages showed 10 elementary projects, 17 junior high projects, 101 senior high projects, and 22 junior-senior high combination projects. The area of geography indicated

18 elementary, 6 junior high, 3 senior high, and 3 junior-senior high combination or a total of 30 approved projects. Approved projects in history numbered 42 composed of 8 elementary, 9 junior high, 19 senior high, and 6 combination junior-senior high reimbursements. The area of reading exhibited 33 approved projects consisting of 22 on the elementary level, 9 on the junior high level, and 2 on the senior high level. The 5 approved projects to four-year high school districts in the area of civics were composed of 1 elementary project and 4 senior high projects. Finally, the area of English projects entailed 5 elementary, 6 junior high, 18 senior high, and 6 combination junior-senior high projects for a total of 35. When considered according to grade level totals, the data showed 347 approved elementary projects, 202 approved junior high projects, 541 approved senior high projects, and 134 approved combination junior-senior high projects.

The participation on the part of four-year high school districts represented the greatest number of project reimbursements under Title III. This was primarily attributable to the fact that more districts of this type existed during the 1964-65 school year. However, a similar ratio relationship among science, mathematics, and modern foreign languages existed concerning participation of four-year high school districts and county units. The approved mathematics

projects again more than doubled those approved in foreign languages. By the same token the number of approved science projects nearly doubled those in mathematics. However, a variation with county unit participation was evidenced in view of grade level emphasis. The four-year high school districts participated to a much greater extent in the areas of junior and senior high. The difference was attributable to the contrast of four-year high school districts making provisions on all levels and county units emphasizing the elementary and combination junior-senior high levels. Also, the 541 approved projects on the senior high level by four-year high school districts was noteworthy in contrast to the 347 elementary and 202 junior high projects wherein were to be found the highest enrollment totals.

Several additional comments concerning the participation of four-year high school districts involved individual critical subject matter areas. In the area of modern foreign languages the 101 senior high, 17 junior high, and 22 combination junior-senior high approved projects reflected the prevalence of teaching this subject matter area on these levels as contrasted with the 10 FLES (foreign language in the elementary schools) approved projects. The data also revealed parallels in critical subject matter areas. A total of 18 of the 30 approved geography projects were confined to the elementary level, and 34 of the 42 approved

history projects were categorized on the junior and senior high levels. Reflected was the differentiation of terminology in the general field of the social studies. Also, a total of 22 of the 33 approved reading projects were designated as elementary, and by contrast 30 of the 35 approved English projects were categorized on the levels of junior and senior high. This situation reflected specific emphasis upon elementary reading which, on the junior and senior high levels, was considerably reduced. Partial explanation was shown by the proportionately increased number of approved English projects on the junior and senior high school levels. With reference to numbers, the small number of approved projects in the area of civics, 5, was partially attributable to the division of social studies into the specific critical subject matter fields of history, geography, and civics.

In general, the participation of the four-year high school districts reflected the fact that the areas of history, geography, reading, civics, and English were added in January of the school year under consideration, a time when local purchases were governed by available surplus dollars.

Reflecting, an important limitation upon drawing conclusions within subject matter areas and grade levels was the accuracy with which distinctions were made. The degree of significance rested entirely upon the reporting accuracy of the individuals submitting the application forms and administering the funds once received. It was for that reason

that slight irregularities from the expected pattern did not warrant specific discussion. An effort was made to identify the major trends that the data revealed.

TABLE IV

DISTRIBUTION OF THE APPROVED PROJECTS BY AREA AND GRADE LEVEL TO FOUR-YEAR HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT FOR THE 1964-65 SCHOOL YEAR

Area	Elementary	Junior High	Senior High	Combination	Total
Science	190	108	252	61	611
Mathematics	93	47	142	36	318
For. Language	10	17	101	22	150
Geography	18	6	3	3	30
History	8	9	19	6	42
Reading	22	9	2	-	33
Civics	1	-	4	-	5
English	5	6	18	6	35
Totals	347	202	541	134	1224

The second approach to participation on the part of four-year high school districts was to examine by area the four-year high school districts which received Title III funds during the 1964-65 school year. A total of 335 of the 459 districts of this type participated. Mathematical computation revealed that 73 per cent of the four-year high school districts submitted approved projects. A list of the participating and non-participating four-year high school

districts was included in the Appendix.

Following the pattern established when presenting the data relevant to county units, the author proceeded to determine areas of concentration within the State through the use of the same Area Education Districts geographically outlined in the presentation of county unit participation. However, since the Area Education Districts were established on the basis of county lines and some four-year high school districts crossed divisional lines, the four-year high school districts which were involved were considered to be located in the county and subsequent Area Education District in which the high school attendance center was located. The ensuing paragraphs show the nature and extent of participation within each of the Area Education Districts. This material was graphically represented in Table V, page 69, and Figure 4, page 70.

Districts I, II, III, and IV spanned the two northern tiers of counties of the State of Iowa. District I contained 20 four-year high school districts. A total of 13 or 65 per cent of these schools submitted approved projects. District II showed 23 of the 29 four-year high school districts as participants. This degree of participation produced a percentage of 79.3 per cent. District III also contained 29 four-year high school districts. With 20 of the districts submitting approved projects, 69 per cent of them participated. District IV comprised the largest geographic

area and for certain purposes, such as travel to area meeting sites, the area was divided into Sections A, B, and C. However, for comparative purposes District IV was considered an entity. The largest number of four-year high school districts, 59, was found to be situated in this area, but the number of participating districts, 36, was not the largest. The percentage of participation, 61.0 per cent, was the lowest of the Area Education Districts with reference to the four-year high school districts for the 1964-65 school year.

Districts V through XII occupied the central portion of the State. District V was composed of 30 four-year high school districts and 20 of these districts or 66.7 per cent submitted approved projects under Title III. District VI contained 26 four-year high school districts. A total of 19 or 73.1 per cent of them participated in the program. There were 29 four-year high school districts located in District VII. It was found that 23 of them or 79.3 per cent had submitted approved projects. District VIII presented the most unusual situation from the point of view of participation under Title III. Although consisting of only 11 four-year high school districts, 100 per cent of them participated. District IX, the geographic counterpart of District VIII, contained 18 four-year high school districts. It was found that 11 or 61.1 per cent of the districts within this area had submitted approved projects. District X was composed of 38 four-year high school districts. A total of 29 or 76.3

per cent of the districts participated. Within District XI were located the greatest number of participating four-year high school districts. With a total of 48 districts and 39 of them participating, a participation percentage of 81.3 per cent was the result. District XII contained 27 four-year high school districts. The districts submitting projects numbered 18 for 66.7 per cent of participation.

The remaining four districts spanned the southern boundary of the State of Iowa. District XIII was composed of 32 four-year high school districts, and 25 of them submitted approved projects for 78.1 per cent participation. District XIV showed 19 of 24 districts participating for 79.2 per cent. District XV also contained 24 four-year high school districts. Similar to District XIV, 19 of the districts participated for 79.2 per cent. Finally, District XVI was composed of 15 four-year high school districts. Since 10 of the school districts submitted approved projects, a participation percentage of 66.7 per cent was the result.

A view of the participation on the part of the four-year high school districts by Area Education District showed one area of concentration, namely District VIII with a participation percentage of 100 per cent. Possible explanation for the situation, if due to chance phenomenon, would be found in the fact that District VIII contained the fewest four-year high school districts. Aside from the 100 per

cent participation in District VIII, the range of the 15 remaining districts was from 61.0 per cent to 81.3 per cent. This small degree of variation exhibited a measure of stability when contrasted with the wide range of participation percentages exhibited by the county units. The contrast, however, did not present a complete picture because of the number of units involved. With smaller basal numbers on the part of the county units, the possibilities for variation were increased.

A final approach to participation of four-year high school districts under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 school year was to formulate a large school-small school comparison. The comparison was drawn in view of the idea that the larger school systems benefit to a greater degree from federal programs such as the National Defense Education Act.

The first approach utilized was to rank order by enrollment the 459 four-year high school districts operating during the 1964-65 school year. The enrollment figures were secured from the general annual reports filed with the Department of Public Instruction based on enrollments at the beginning of the 1964-65 school year.⁴ The author next notated each school with a participating or non-participating label. With this accomplished arbitrary intervals were

⁴Data on Iowa Schools, op. cit., pp. 14-22.

established. Intervals of 100 pupils were utilized up to 1,000 pupils at which time intervals of 500 were utilized up to 2,500 pupils with the final interval open-ended. This

TABLE V

PARTICIPATION DISTRIBUTION OF THE 459 FOUR-YEAR HIGH SCHOOL DISTRICTS UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR DIVIDED BY AREA EDUCATION DISTRICTS

Districts	Four-year High School Districts	Yes	No	Per Cent
District I	20	13	7	65.0
District II	29	23	6	79.3
District III	29	20	9	69.0
District IV	59	36	23	61.0
District V	30	20	10	66.7
District VI	26	19	7	73.1
District VII	29	23	6	79.3
District VIII	11	11	-	100.0
District IX	18	11	7	61.1
District X	38	29	9	76.3
District XI	48	39	9	81.3
District XII	27	18	9	66.7
District XIII	32	25	7	78.1
District XIV	24	19	5	79.2
District XV	24	19	5	79.2
District XVI	15	10	5	66.7

arrangement was necessitated in view of the extreme range of from a low enrollment total of 222 to a high enrollment total of 45,436 and because of the highly positively skewed distribution. The paragraphs which follow summarize the findings as illustrated by Table VI, page 73.

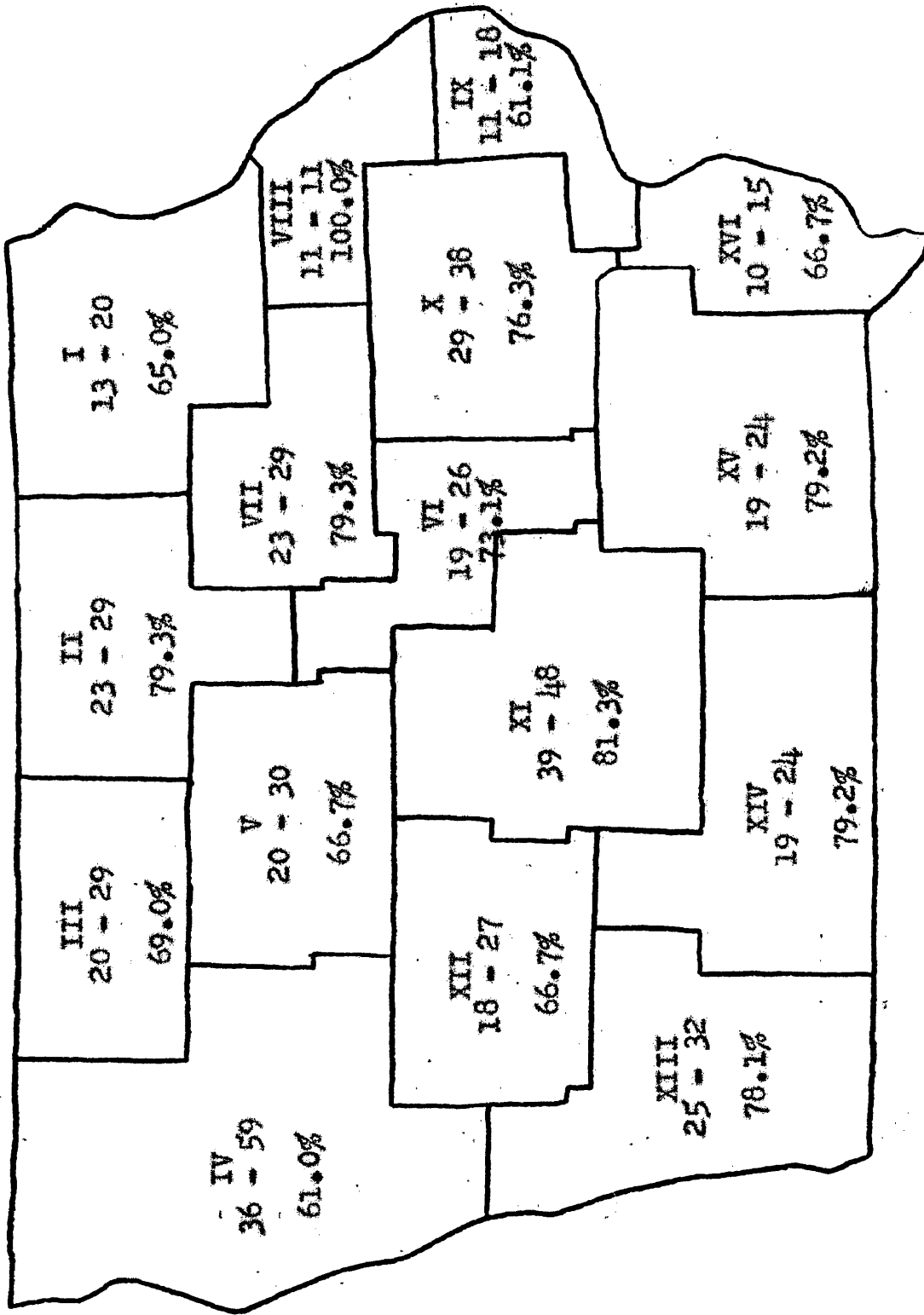


Figure 4. Fractional percentage representation of participating four-year high school districts under Title III of the National Defense Education Act during the 1964-65 school year according to Area Education Districts.

There were 20 four-year high school districts which showed enrollment figures of 200-299 students. It was found that 13 of these 20 districts or 65 per cent of them were recipients of federal reimbursements under Title III. In the interval of 300-399 students, 32 of the 48 districts were participants resulting in a participation of 67.5 per cent. A total of 35 of the 56 districts in the interval of 400-499 pupils participated. This resulted in a participation percentage of 62.5 per cent. There were 58 four-year high school districts which showed enrollment figures of 500-599 students. It was found that 37 of these 58 districts or 64.9 per cent of them received federal reimbursements. The interval of 600-699 showed 34 of 54 districts as participants. This reflected a percentage of participation of 63.0 per cent. A total of 27 of the 35 districts in the interval of 700-799 students participated for 77.1 per cent. The interval of 800-899 pupils was represented by 26 districts which participated. When considered in view of the total of 32 districts, it was found that 82.2 per cent of the districts participated. There were 20 four-year high school districts which showed enrollment figures of 900-999 pupils. It was found that 18 of these 20 districts or 90.0 per cent of them received reimbursements. In the interval of 1000-1499 students, 42 of the 55 districts were participants resulting in a participation of 76.4 per cent. A total of 25 of the 32 districts in the interval of 1500-1999 pupils

participated. This resulted in a participation percentage of 78.1 per cent. There were 17 four-year high school districts which showed enrollment figures of 2000-2499 students. It was found that 16 of these 17 districts or 94.1 per cent of them received federal reimbursements. The final interval of enrollments of 2500 and over showed 32 districts in this category. There were 30 of these 32 districts receiving federal reimbursements for 93.8 per cent participation.

In general this data showed that the larger four-year high school districts existing in the State of Iowa during the 1964-65 school year participated to a greater extent under Title III of the National Defense Education Act than did the smaller districts. With some exceptions, a gradual rise in percentage of participation could be detected as the interval size of the districts was increased.

Operating non-high school districts. Within the State of Iowa during the 1964-65 school year were a total of 202 operating non-high school districts. The school districts of this nature operated either an elementary school, a junior high school, or both an elementary and a junior high school. Districts of this nature along with the non-operating non-high school districts, which numbered 436 during the 1964-65 school year, have been decreasing with various school reorganizations throughout the State.

As far as the National Defense Education Act was

concerned, 11 of the 202 operating non-high school districts participated under Title III for a degree of participation of 5 per cent. The participating schools consisted of five schools offering less than a four-year high school program

TABLE VI

PARTICIPATION OF FOUR-YEAR HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT DURING THE 1964-65 SCHOOL YEAR AS CLASSIFIED ACCORDING TO ENROLLMENT TOTALS

Enrollment Intervals	Number of Districts	Participating Districts	Per Cent
200-299	20	13	65.0
300-399	48	32	67.5
400-499	56	35	62.5
500-599	58	37	64.9
600-699	54	34	63.0
700-799	35	27	77.1
800-899	32	26	82.2
900-999	20	18	90.0
1000-1499	55	42	76.4
1500-1999	32	25	78.1
2000-2499	17	16	94.1
2500 & over	32	30	93.8

and an elementary program. These schools were Buffalo Independent, Harris Community, LeClaire Township, Palo Consolidated, and Walcott Community. The remaining six, offering only elementary programs, were Badger Township, Blue Grass Community, Carter Lake Independent, Liberty Consolidated, Rockford Township, and Rowley Consolidated. In an attempt

to show the location of the operating non-high school districts in the State of Iowa and the Area Education Districts in which the participating districts were located, Figure 5, page 75, was constructed.

Operating non-high school districts received 23 federal reimbursements composed of 15 payments on the elementary level and 8 grants on the junior high level. As reflected in Table VII, page 76, the operating non-high school districts submitted a total of 14 approved projects in the area of science composed of 8 elementary projects and 6 junior high projects. In the area of mathematics the operating non-high school districts as a composite group showed federal reimbursements for a total of 6 projects 4 of which were elementary and 2 of which were on the junior high level. No approved projects were submitted by this grouping of schools in the areas of modern foreign languages, civics, or English. In the critical areas of geography, history, and reading representation was shown by 1 elementary approved project in each of these areas.

Special school districts. There were 5 school systems operated through public control indirectly which participated in the Title III portion of the National Defense Education Act during the 1964-65 school year. Included in this grouping were laboratory schools operated by a public college and a public university, a home for dependent and

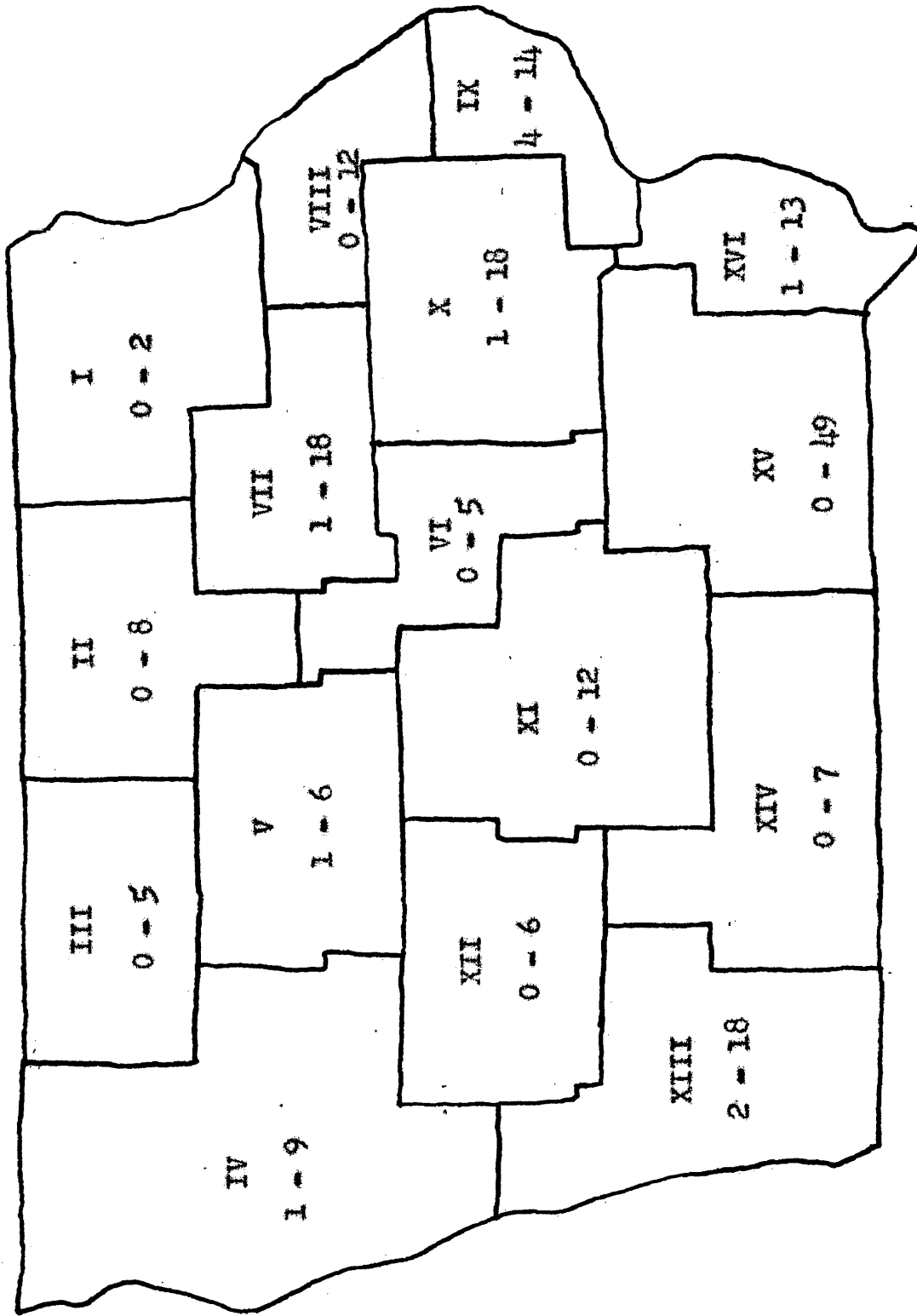


Figure 5. Representation of location by Area Education District of 11 operating non-high school districts participating under Title III of the National Defense Education Act during the 1964-65 school year in context with the existing 202 operating non-high school districts in the state of Iowa.

neglected children, a juvenile home, and a correctional institution. The sentences which follow locate and describe these institutions.

TABLE VII

DISTRIBUTION OF THE APPROVED PROJECTS BY AREA AND GRADE LEVEL TO OPERATING NON-HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT FOR THE 1964-65 SCHOOL YEAR

Area	Elementary	Junior High	Total
Science	8	6	14
Mathematics	4	2	6
Foreign Language	-	-	-
Geography	1	-	1
History	1	-	1
Reading	1	-	1
Civics	-	-	-
English	-	-	-
Totals	15	8	23

The Malcolm Price Laboratory School, located on the campus of State College of Iowa in Cedar Falls, operated an elementary and combination junior-senior high school and served as the laboratory school for teacher training purposes. The State University of Iowa High School, more commonly termed University High, was located on the campus of the University of Iowa in Iowa City. This school system had a similar structure to that of the Malcolm Price Laboratory

School and served a similar purpose. The Iowa Annie Wittmeyer Home, located in Davenport, was a home for dependent and neglected children. Pupils on the elementary and junior high levels were served by this institution. The State Juvenile Home, presently named the Herbert Hoover Home, was located in Toledo and provided a combination junior-senior high school to meet the particular educational needs of the student body. Finally, a correctional institution, the Iowa Training School for Boys, participated under Title III at the junior and senior high levels. This institution, located at Eldora, provided educational experiences required by the State through eighth grade or age 16 along with optional offerings through the completion of a high school education. These school systems, although not having received huge amounts of federal reimbursements in monetary terms, represented school systems made eligible in the state plan of Iowa after the enactment of Public Law 88-210 which extended and changed the National Defense Education Act in 1963 with reference to eligibility under Title III.

The 5 special school districts submitted a total of 17 approved projects. As reflected in Table VIII, page 78, the distribution showed 2 elementary grants, 3 junior high grants, 2 senior high grants, and 10 combination junior-senior high grants. In the area of science a total of 7 approved projects consisted of 2 junior high, 1 senior high, and 4 combination junior-senior high federal reimbursements.

The critical area of mathematics was represented by 1 elementary project, 1 junior high project, 1 senior high project, and 4 combination junior-senior high projects. This produced a similar total of 7. The 2 foreign language projects consisted of 1 elementary and 1 combination junior-senior high project. A final federally reimbursed project was a combination junior-senior high payment in the area of reading. The 5 special school districts did not submit approved projects in the areas of geography, history, civics, or English during the 1964-65 school year.

TABLE VIII

DISTRIBUTION OF THE APPROVED PROJECTS BY AREA AND GRADE LEVEL TO THE 5 SPECIAL SCHOOL DISTRICTS IN THE STATE OF IOWA UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT FOR THE 1964-65 SCHOOL YEAR

Area	Elementary	Junior High	Senior High	Combination	Total
Science	-	2	1	4	7
Mathematics	1	1	1	4	7
Foreign Lang.	1	-	-	1	2
Geography	-	-	-	-	-
History	-	-	-	-	-
Reading	-	-	-	1	1
Civics	-	-	-	-	-
English	-	-	-	-	-
Totals	2	3	2	10	17

II. EXPENDITURES

From the viewpoint of total federal reimbursements under Title III of the National Defense Education Act in the State of Iowa, the 1964-65 school year reimbursements showed an increase over the preceding year, but a rank order placement of third when considered in comparison with the individual yearly reimbursements since the inception of the Act. The reimbursements for 1958-59 totaled \$126,320.64. The year of 1959-60 showed a considerable increase to \$517,510.61. This amount was in turn doubled the following year to a sum of \$1,510,587.35. The 1961-62 yearly total exhibited a decrease from the previous year to \$1,307,657.79. The 1962-63 year followed the downward trend to \$910,369.86. In the year 1963-64 a slight increase was noted with reimbursements totaling \$1,056,808.73. The yearly total with which this study was concerned showed a continued upswing with federal reimbursements under Title III totaling \$1,177,200.33. A survey of these totals, secured from the files of the Department of Public Instruction, showed relative similarity after the first two school years of operation. However, the purpose was not to formulate yearly comparisons, but to make an analysis of the 1964-65 school year. The remainder of this section has been devoted to this task, divided into several segments. The county units and individual school systems were separated in view of scope and purpose.

Subject matter areas. In the area of science, the largest category from the point of view of participation and subsequently federal reimbursements, the 71 approved projects on the county level resulted in a total federal reimbursement of \$66,313.20 or an average of \$933.99 per project. The reported total number of pupils involved in these projects was 315,720. Therefore, on a per pupil basis, the reimbursement per pupil was \$.21. The individual school systems, composed of the four-year high school districts, the operating non-high school districts, and the special school districts, received federal reimbursements totaling \$741,801.29 in the area of science. Spread over 632 projects, the average project reimbursement in this area was \$1,177.22. The reported number of pupils involved in these projects numbered 364,765 which produced an average per pupil reimbursement of \$2.03.

In the area of mathematics the county unit reimbursements totaled \$7,922.08 or an average of \$255.56 for the 31 approved projects. It was reported that 96,589 pupils were involved in these projects resulting in an average per pupil reimbursement of \$.08. The individual school systems showed reimbursements totaling \$171,202.90 which, when viewed from the perspective of the 331 approved projects, resulted in an average project reimbursement of \$517.23. The reported number of pupils involved in these projects was 252,355 for an average per pupil reimbursement of \$.68.

In the area of modern foreign languages the county unit federal reimbursements totaled \$183.83. Since only 3 projects were submitted and approved, the average project reimbursement was \$61.27. The 3 projects, however, involved 31,255 pupils which in turn showed an average per pupil federal reimbursement of \$.006. The individual school systems in the area of modern foreign languages received \$119,516.01 in reimbursements. Spread over 152 approved projects, the total reimbursement produced an average of \$786.29. Involved in these projects were 89,808 pupils producing an average per pupil reimbursement of \$1.33.

On the county level in the area of geography the federal reimbursements totaled \$2,402.25 composed of 7 approved projects for an average of \$347.18 per project. The reported number of pupils involved in these projects was a sum of 18,652 showing an average per pupil reimbursement of \$.13. The individual school systems in the area of geography received reimbursements totaling \$10,244.78. Spread over 31 approved projects, the average project reimbursement reached \$330.48. Considered in view of reported enrollment totals, 32,420 pupils were involved producing an average per pupil reimbursement of \$.32.

The subject matter area of history on the county level showed a total reimbursement of \$3,300.35. With 9 approved projects in the area the average project reimbursement was \$366.71. Reports showed 30,586 pupils involved for

an average per pupil reimbursement of \$.11. Individual systems in the area of history received reimbursements totaling \$16,125.75. Since a total of 43 approved projects were submitted, an average project reimbursement of \$375.02 was the result. These approved projects reportedly involved 21,210 pupils producing an average per pupil reimbursement of \$.76.

County units received \$690.30 for 7 approved projects or an average reimbursement of \$98.61 in the area of reading. County units reported that 17,232 pupils were involved which produced an average per pupil reimbursement of \$.04. The individual school systems, on the other hand, received a total of \$23,587.28 for 35 approved reading projects or an average reimbursement of \$702.49. A reported 43,415 pupils were involved for an average per pupil reimbursement of \$.54.

In the area of English reimbursements to county units totaled \$643.74. Considered in the light of the 5 approved projects, the average project reimbursement was \$128.73. It was reported that a total of 16,173 pupils were involved in the projects for an average per pupil reimbursement of \$.04. The individual school systems in the area of English showed 35 approved projects for a total of \$11,813.83 or an average reimbursement of \$337.54 for each project. Considered in terms of enrollment, it was reported that 15,326 pupils were involved in the projects which produced an average per pupil reimbursement of \$.77.

Finally, in the area of civics county units submitted

a total of 5 approved projects resulting in a reimbursement of \$988.25 or an average of \$197.65 for each project. These projects involved 18,756 pupils producing an average per pupil reimbursement of \$.01. The individual school systems in the area of civics submitted only 6 approved projects for a total reimbursement of \$464.49. Considered in view of average project reimbursements, this total reflected an average of \$77.41 per project. Involved in these projects were a reported total of 3,782 pupils producing an average per pupil reimbursement of \$.12.

The data presented in the preceding paragraphs, depicted in Tables IX and X, pages 84 and 85, reflected the necessity of division into two separate categories of the participating school districts. County units, acting in a supplemental arrangement, quite naturally involved proportionately more pupils per amount of expenditure as exemplified in the per pupil reimbursement averages. Throughout the presentation the average per pupil reimbursement totals for the individual school systems exceeded those of the county units.

As expected as a result of extent of participation, the area of science involved the greatest number of dollar reimbursements on both the county and individual school system levels. However, with the most pupils also involved in the category of science on both levels, the per pupil reimbursement still remained the highest in this academic area.

Throughout the preceding presentation the area of science evidenced the largest totals within each category considered.

TABLE IX

FEDERAL REIMBURSEMENTS TO COUNTY UNITS ACCORDING TO
SUBJECT MATTER AREAS UNDER TITLE III OF THE NA-
TIONAL DEFENSE EDUCATION ACT IN THE STATE
OF IOWA FOR THE 1964-65 SCHOOL YEAR

Area	Pro- jects	Total Reim- burse- ment	Average Reim- burse- ment	Project Enroll- ment	Per Pupil Reim- burse- ment
Science	71	\$66313.20	\$933.99	315720	\$.21
Math	31	7922.08	255.56	96589	.08
For. Lang.	3	183.83	61.27	31255	.006
Geography	7	2402.25	347.18	18652	.13
History	9	3300.35	366.71	30586	.11
Reading	7	690.30	98.61	17232	.04
English	5	643.74	128.73	16173	.04
Civics	5	988.25	197.65	18756	.01

Two specific unexpected situations were considered to be worthy of note. In the area of modern foreign languages the average per pupil reimbursement on the county level of six tenths of one cent offered an extreme contrast compared to the average per pupil reimbursement on the individual school level of \$1.33. The difference was explainable by the fact that county units did not operate specific language programs. Also, only in the area of civics did the county reimbursements exceed those of individual school units.

Although the number of county projects exceeded the individual school projects by one, an additional \$323.76 was received. The author could not ascertain any particular reason for the situation.

TABLE X

FEDERAL REIMBURSEMENTS TO INDIVIDUAL SCHOOL DISTRICTS
ACCORDING TO SUBJECT MATTER AREAS UNDER TITLE III OF
THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE
OF IOWA DURING THE 1964-65 SCHOOL YEAR

Area	Pro- jects	Total Reim- burse- ment	Average Reim- burse- ment	Project Enroll- ment	Per Pupil Reim- burse- ment
Science	632	\$741801.29	\$1177.22	364765	\$2.03
Math	331	171202.90	517.23	254765	.68
For. Lang.	152	119516.01	786.29	89808	1.33
Geography	31	10244.78	330.48	32420	.32
History	43	16125.75	375.02	21210	.76
Reading	35	23587.28	702.49	43415	.54
English	35	11813.83	337.54	15326	.77
Civics	6	464.49	77.41	3782	.12

The total amount of federal reimbursements awarded in the State of Iowa to school districts under Title III of the National Defense Education Act for the 1964-65 school year was comprised of two sections. A reimbursement sum of \$809,764.88 was awarded to school districts prior to the modification of the Act on the national level in January of 1965. Reimbursements awarded after that time became known

as supplemental payments encompassing the areas of history, geography, civics, reading, and English in addition to science, mathematics, and modern foreign languages. The total amount of supplementary reimbursements was \$367,435.45. The addition of the regular and supplemental sections produced a grand total of \$1,177,200.33 for the 1964-65 school year.

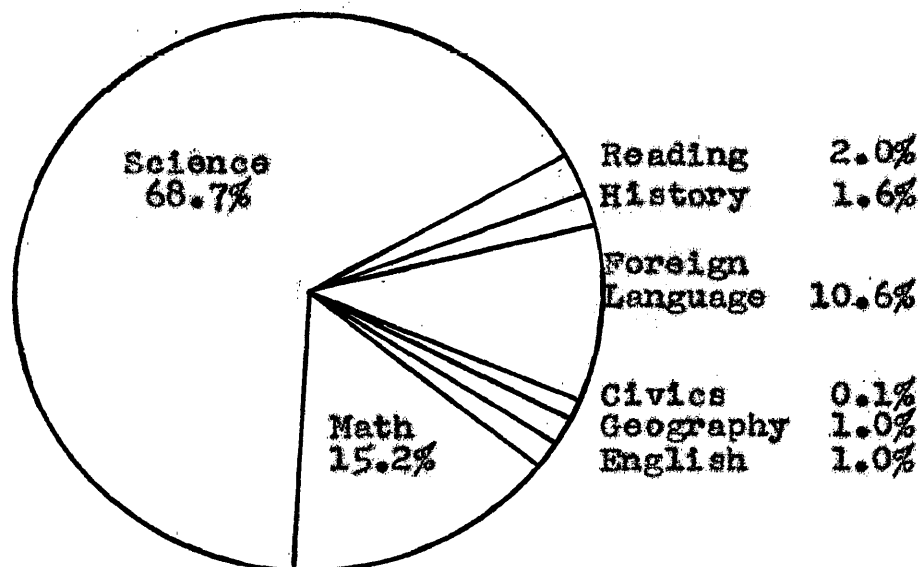
Division of the grand total was made into individual subject matter areas as reflected in Figure 6, page 88. In the critical subject area of science the regular reimbursements were \$594,082.97 and the supplemental reimbursements totaled \$214,031.52. These categories indicated a total reimbursement in the area of science of \$808,114.49. In the critical subject area of mathematics the regular reimbursements showed \$112,700.25 and the supplemental reimbursements were \$66,424.73. Therefore, the total reimbursement in the area of mathematics was \$179,124.98. A final subject matter area represented by both categories was modern foreign language. Under the regular portion of the Act \$102,981.66 was reimbursed, and under the supplemental portion \$16,718.18 was reimbursed. These categories indicated a total reimbursement of \$119,699.84. The remaining areas, all found under the supplemental portion of reimbursements, revealed the following totals. The area of geography was represented by reimbursements totaling \$12,647.03. The subject matter area of history showed a sum of \$19,426.10 in reimbursements. The area of reading was exemplified with \$24,277.58. The

critical area of English showed the reimbursements totaling \$12,457.57. Finally, the area of civics was represented with \$1,452.74 in reimbursements. These reimbursement sums reflected well the fact that the new areas had been added in January of 1965 previous to which \$809,774.88 had been already assigned in the areas of science, mathematics, and modern foreign languages. In terms of percentage of the total federal reimbursements under Title III of the Act, the individual subject matter area totals were: science, 68.7 per cent; mathematics, 15.2 per cent; modern foreign languages, 10.6 per cent; geography, 1.0 per cent; history, 1.6 per cent; reading, 2.0 per cent; English, 1.0 per cent; and civics, 0.1 per cent.

Grade levels. Another approach to expenditure analysis was to consider the federal reimbursements discussed in the preceding section according to grade level distinctions established in the state plan for Iowa under Title III. The classification levels included elementary, junior high, senior high, and combination junior-senior high. The paragraphs which follow depicted reimbursements according to these levels as exemplified in Table XI, page 93.

County units on the elementary level submitted a sum of 61 approved projects resulting in receipt of \$27,636.25 or an average reimbursement per project of \$453.05. With a total of 199,004 elementary pupils involved in these projects, a per pupil reimbursement of \$.14 was the result. On

the junior high level the 4 approved projects on the county unit level resulted in a reimbursement of \$1,929.75 for an average project reimbursement of \$482.44. It was reported



Percentage of Total Title III Reimbursements

Figure 6. Representation of the percentage of federal reimbursements according to subject matter areas under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 school year based upon the distributed total of \$1,177,200.33.

that a total of 6,136 pupils were involved for a per pupil reimbursement of \$.31. The 21 approved projects on the senior high level submitted by county units resulted in a reimbursement total of \$11,391.78 or an average of \$542.47 for each project. Involved in these projects were a reported 119,191 pupils producing a reimbursement of \$.10 on a per pupil basis. On the combination junior-senior high level

a total of 53 approved projects produced a reimbursement total of \$41,486.22 for an average per project reimbursement of \$783.14. With a reported 220,605 pupils involved in these projects a reimbursement average of \$.19 per pupil resulted.

A consideration of the individual school systems revealed 364 approved elementary projects resulting in a reimbursement of \$214,997.78 for an average of \$590.38 for each project. With a reported 401,424 pupils involved in these projects an average reimbursement per pupil of \$.54 was computed. On the junior high level there were 213 approved projects submitted by individual school systems. These projects resulted in a reimbursement total of \$227,026.40 for an average of \$1,065.85 for each approved project. These projects involved 137,427 pupils for an average per pupil reimbursement of \$1.65. The individual school systems on the senior high level submitted 543 approved projects producing a federal reimbursement total of \$527,148.44 or an average of \$970.81 for each project. These projects on the senior high level involved 230,625 pupils which produced a per pupil reimbursement of \$2.29. On the combination junior-senior high level the individual school systems submitted 144 approved projects involving a total federal reimbursement of \$125,583.71 or an average of \$872.11 per project. These projects involved a reported 36,023 pupils producing a per pupil reimbursement of \$3.49.

A view of the totals on the county level showed that the 139 approved projects resulted in federal reimbursements totaling \$82,444.00 or an average project reimbursement of \$593.12. The individual school system totals showed 1,264 approved projects which resulted in reimbursements totaling \$1,094,756.33 producing an average project reimbursement of \$866.10. When the two levels of districts were combined, a total of 1,403 approved projects were submitted involving a reimbursement total of \$1,177,200.33 which showed an average reimbursement of \$839.06 for each of the projects.

Relative to the enumerated immediately preceding data, several deductions were evident. First, as expected in view of the cost of needed equipment, on the elementary level the average project size was lower in terms of dollars than on any other level. This situation, coupled with the fact that more pupils were involved, reflected the low per pupil reimbursement on the elementary level as opposed to the higher levels of education. Secondly, there was considerable variation in terms of per pupil reimbursements between county units and individual school systems. Also, the average project size in terms of dollars for individual school systems averaged \$245.94 more than the county unit projects. The primary reason for this existing situation rested in the area of purpose. Individual school systems faced the responsibility of providing the basic accessories in terms of materials and equipment necessary for adequate instruction

in the critical subject matter areas. County units, on the other hand, operated in a supplementary situation. As materials reference centers, county units provided equipment and materials to supplement instruction. Another reason for the resulting lower per pupil reimbursements to county units was that county units reported pupil totals within the entire county involving several school districts, whereas the individual school systems reported the specific number of pupils involved in the particular project. Thirdly, it was interesting to note that the average project size in terms of dollars on the junior high level was greater than the average size project reimbursement on the senior high level as far as individual school systems were concerned. The author had expected, in view of the cost of materials and equipment for more advanced courses offered on the senior high level, that the average project reimbursement for the senior high level would exceed that of the junior high level as was the situation from the viewpoint of per pupil reimbursements. Fourthly, the highest per pupil reimbursement average of \$3.49 on the combination junior-senior high level for individual school systems was affected undoubtedly by the smaller number of pupils involved in the projects. Since the smaller school systems in terms of enrollment tended to categorize projects in the combination junior-senior high category and since certain basic equipment purchases were necessitated through offering certain subject matter, the

difference was at least partially accountable to these situations. Finally, the average per pupil federal reimbursement under Title III of the National Defense Education Act throughout the State of Iowa for 1964-65 could not be computed from the data because of duplication in the reporting of enrollment totals. However, based on the enrollment total of 620,431 as of September 14, 1964, indicated in the publication Data on Iowa Schools, such a deduction could result.⁵ The total federal reimbursement of \$1,177,200.33 reflected an average per pupil reimbursement of \$1.90 for each pupil enrolled during September of the 1964-65 school year. However, since critical subject matter area enrollments were not available and since enrollments were computed on a grade-by-grade basis in the State of Iowa as opposed to elementary, junior high, senior high, and combination junior-senior high, a more specific breakdown of this generalized enrollment total could not be formulated.

Comparisons. Within the area of expenditures the author utilized two comparative techniques to aid in the analysis of the federal reimbursements to Iowa school systems under Title III of the National Defense Education Act during the 1964-65 school year.

On the national level the author again turned to the Report on the National Defense Education Act: Fiscal Year

⁵Data on Iowa Schools, op. cit., p. 6.

1963. Discovered in this publication were some trends which were established on the basis of the first five fiscal years

TABLE XI

DISTRIBUTION OF FEDERAL REIMBURSEMENTS TO IOWA SCHOOL DISTRICTS ACCORDING TO GRADE LEVEL UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT FOR THE 1964-65 SCHOOL YEAR

Grade Level	Pro-jects	Federal Reim-burse-ment	Average Project Reim-burse-ment	Enroll-ment	Per Pupil Reim-burse-ment
County Units					
Elementary	61	\$ 27636.25	\$ 453.05	199004	\$.14
Jr. High	4	1929.75	482.44	6136	.31
Sr. High	21	11391.78	542.47	119191	.10
Combination	53	41486.22	783.14	220605	.19
Totals	139	\$ 82444.00	\$ 593.12		
Individual School Districts					
Elementary	364	\$ 211997.78	\$ 590.38	401424	\$.54
Jr. High	213	227026.40	1065.85	137427	1.65
Sr. High	543	527148.44	970.81	230625	2.29
Combination	144	125583.71	872.11	36023	3.49
Totals	1264	\$1094756.33	\$ 866.10		
Grand Total	1403	\$1177200.33	\$ 839.06		

of the operation of the Act from 1959-63. However, since these trends were established before the addition of civics, geography, history, reading, and English to the list of the

critical subject matter areas, the author could formulate the comparison utilizing only the areas of science, mathematics, and modern foreign languages. Figures 7 and 8, page 95, reflected the comparison drawn.

The federal publication revealed that during the fiscal years 1959-63 the estimated total cost in the area of science was \$316.4 Million or 73.7 per cent of the total estimated cost of \$429.1 Million. In the area of mathematics the estimated cost was \$36.8 Million or 8.6 per cent of the total cost. Finally, in the area of modern foreign languages the cost was estimated to be \$75.9 Million or 17.7 per cent of the total cost.⁶

In the State of Iowa during the 1964-65 school year the federal reimbursements in the areas of science, mathematics, and foreign languages totaled \$1,106,939.31 of the total amount distributed in all of the critical subject matter areas totaling \$1,177,200.33. In the area of science the federal reimbursement total was \$808,114.49. This total represented 73.0 per cent of the reimbursements to the areas under consideration. The area of mathematics showed federal reimbursements totaling \$179,124.98 which was 16.2 per cent of the \$1,106,939.31 reimbursed to these three areas. The third area, modern foreign languages, totaled reimbursements

⁶Report on the National Defense Education Act: Fiscal Year 1963, op. cit., pp. 18-21.

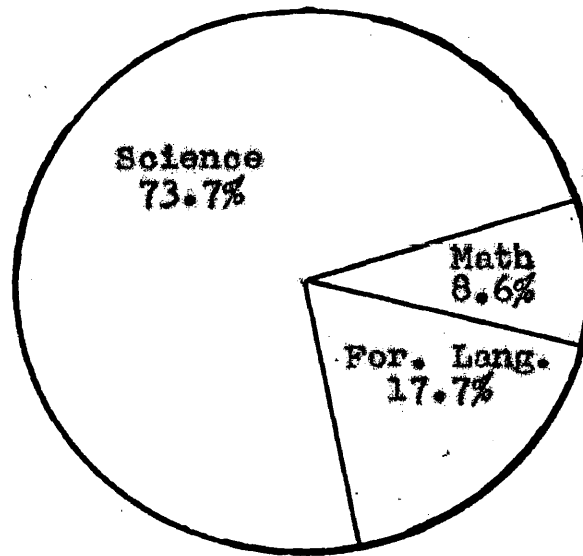


Figure 7. Estimated total cost and percentage distribution of approved projects under Title III of the National Defense Education Act for the fiscal years 1959-63. Report on the National Defense Education Act of 1963. Ibid., p. 21.

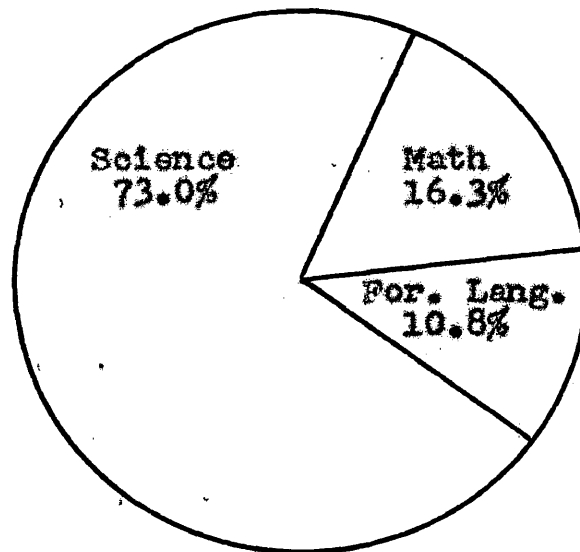


Figure 8. Total federal reimbursements and percentage distribution of approved projects under Title III of the National Defense Education Act in the areas of science, mathematics, and modern foreign languages in the State of Iowa during the 1964-65 school year.

of \$119,699.84 or 10.8 per cent of the total reimbursements for these three areas.

The comparison of the percentage distributions showed that the area of science was represented by almost the same percentage for all practical purposes. However, the areas of mathematics and modern foreign languages were almost reversed as far as the percentages of total expenditures were concerned.

A second comparison formulated was of the intrastate variety. Exposed through reading and discourse to the conception that the larger school systems benefited to a larger extent from federal programs such as the National Defense Education Act, the author, operating on the premise that this was true, endeavored to find if this situation existed in the State of Iowa under Title III of the National Defense Education Act during the 1964-65 school year.

To secure a measure of monetary benefits received by the larger and the smaller schools, the author placed in rank order by enrollment the 335 four-year high school districts that were participants during the year studied. The enrollment totals were based upon the general annual reports to the Department of Public Instruction in which enrollments were reported under the headings of elementary and high school.⁷ The next procedure was to determine the number of

⁷Data on Iowa Schools, op. cit., pp. 14-22.

schools falling below the first quartile and the schools falling above the third quartile. In so doing the author had located the highest and lowest quarters from the point of view of enrollment. In determining the first quartile point, it was found that four-year high school districts with an enrollment up to and including 518 composed the lowest quarter of 84 school districts. In establishing the third quartile point, it was found to be at an enrollment total of 1,274 students. The highest quarter consisted of the 84 four-year high school districts with pupil populations of 1,274 or more.

It was also necessary to determine the amount of federal reimbursement each of the school districts within the highest and lowest quarters received through approved submitted projects. This data was shown in Table XII, page 98.

The formulated tabulations showed that the 84 school districts in the highest quarter from the point of view of school enrollment had a total pupil population of 347,649. The total amount of federal reimbursements received by these school districts was \$620,298.78. Computed on a per pupil basis, these totals showed an average federal reimbursement of \$1.78. On the other hand, the 84 school districts within the lowest quarter of all participating schools possessed a total of 32,863 pupils. The federal reimbursements received by these same schools was \$95,774.91. These totals produced an average federal reimbursement of \$2.91 per student. It

was evident, therefore, that although the districts within the highest quarter of participating schools received considerably more money than districts within the lowest quarter on a lump sum basis, the important fact was that, on a per pupil basis, the schools in the lowest quarter received federal reimbursements of \$1.13 more per pupil enrolled than did the schools ranking within the highest quarter.

TABLE XII

FEDERAL REIMBURSEMENTS TO FOUR-YEAR HIGH SCHOOL DISTRICTS
RECEIVING FEDERAL REIMBURSEMENTS UNDER TITLE III OF
THE NATIONAL DEFENSE EDUCATION ACT DURING THE
1964-65 SCHOOL YEAR CLASSIFIED ACCORDING
TO RANK ORDER ENROLLMENT QUARTERS

Quarters	Enrollment Levels	Total Enrollments	Total Federal Reimbursements	Per Pupil Reimbursement
Highest	1274 & over	347649	\$620298.78	\$ 1.78
Lowest	518 & under	32863	95774.91	2.91

Materials vs. equipment. A last expenditure analysis technique utilized was to formulate a questionnaire item for local school district superintendents of participating local school systems to indicate in percentage terms the division of the federal reimbursement received under Title III of the National Defense Education Act in the State of Iowa during

the 1964-65 school year into the areas of (1) materials and (2) equipment as outlined by definition in the National Defense Education Act: Title III Guidelines enumerated in the definitions provided earlier in the introductory section of this field project.

The formulation of the first questionnaire item, designed to secure the necessary information from the superintendents of four-year high school districts and special school systems, necessitated certain explanatory remarks. In order to establish a basis for the question the author secured from the filed records of the Department of Public Instruction for the State of Iowa the distributions of federal reimbursements to individual school units under the regular and supplementary phases of Title III of the National Defense Education Act for the 1964-65 school year. After having secured these distributed amounts, 1,224 approved projects to four-year high school districts and 17 approved projects to special school districts, it was found that some duplications existed. Many of the school systems which had received reimbursements early in the school year under the regular phase of the Act submitted additional projects for the same critical subject matter area and grade level when the supplemental funds were made available in January, 1965. Therefore, through computational processes the total amount received by the 335 participating four-year high school districts and 5 participating special school districts based

upon subject matter area and grade level was determined. In this manner the original 1,241 approved projects for four-year high school districts and special school districts was reduced to 1,081 totaled federal reimbursements rendered to individual school systems as differentiated by subject area and grade level.

The 340 administrators receiving the questionnaire were informed in a prefatory section of the total amount of federal reimbursement that records on file in the Department of Public Instruction showed that the district they represented had received under Title III for the 1964-65 school year. Specific totals were provided according to critical subject matter areas and grade levels for which reimbursements were received. In response to the provided prefatory reimbursement totals these administrators were asked to determine the per cent of the money spent for (1) materials and (2) equipment. Since only one remodeling project was approved in the State of Iowa during the 1964-65 school year, the author did not list this area as a separated category. Instead, a notated questionnaire was sent to the Lewis Central Community Schools, the recipient of the remodeling reimbursement in the area of science on the level of combination junior-senior high.

A total of 318 of the 340 questionnaires or 93.5 per cent of them were returned. However, one administrator, representing the Cedar Rapids Community Schools, indicated

that it was not possible to make a division such as was demanded by the first questionnaire item. This school system received federal reimbursements in science, mathematics, and modern foreign languages on the levels of elementary, junior high, and senior high. As a result, percentages were not reported for 9 of the 1,081 totaled reimbursements. In addition, the 22 school districts represented by administrators who did not return the questionnaire after follow-up letters received a total of 61 totaled reimbursements for which categorical percentages were not secured. However, in spite of the 70 unreported totaled reimbursements, 1,011 of the possible 1,081 reimbursement totals were reported for 93.5 per cent. The paragraphs which follow discussed the reported percentages depicted in Table XIII, pages 113-116.

In the area of science reported percentages were provided by administrators for 473 reimbursement totals. A total of 58 elementary projects, 31 junior high projects, 86 senior high projects, and 25 combination junior-senior high projects were categorized with the reimbursements being totally expended for the purchase of equipment. On the other hand, 11 elementary projects, 5 junior high projects, 16 senior high projects, and 5 combination junior-senior high projects were reported to be totally devoted to the purchase of materials. It was reported in the category of 5 per cent expenditure for materials and 95 per cent for equipment that 2 elementary projects, 4 junior high projects, 5 senior high

projects, and 1 combination junior-senior high project were classified. A reversal of the percentages showed 1 senior high project so categorized. The 10 per cent expenditure for materials and 90 per cent for equipment category was represented with 6 elementary, 7 junior high, 20 senior high, and 7 combination junior-senior high reports. The opposite percentage category produced 3 elementary representatives and 1 senior high representative. The science category of 15 per cent expenditure for materials and 85 per cent for equipment showed 2 elementary, 2 junior high, 4 senior high, and 1 combination junior-senior high report. A direct reversal of the percentages resulted in 1 report of the elementary variety. It was reported in the category of 20 per cent expenditure for materials and 80 per cent for equipment that 8 elementary, 8 junior high, 13 senior high, and 2 combination junior-senior high projects were included. The reversal of the percentages produced 2 junior high, 1 senior high, and 2 combination junior-senior high reports. It was found that 10 elementary, 2 junior high, 6 senior high, and 2 combination junior-senior high totaled federal reimbursements in the area of science showed a division of expenditures into 25 per cent for materials and 75 per cent for equipment. An expenditure of 75 per cent for materials and 25 per cent for equipment was reported for 14 science projects consisting of 5 elementary, 2 junior high, 6 senior high, and 1 combination junior-senior high. A percentage

division of 30 per cent for materials and 70 per cent for equipment was reported for 5 elementary, 3 junior high, and 7 senior high projects. An expenditure of 70 per cent for materials and 30 per cent for equipment was reported for 6 elementary, 3 junior high, and 2 senior high reimbursements. The category of 35 per cent expenditure for materials and 65 per cent for equipment and its opposite counterpart were scantily represented in the science area. The former showed 2 senior high reports and 1 combination junior-senior high report; whereas the latter was represented by 2 elementary reports and 1 junior high report. The category of 40 per cent expenditure for materials and 60 per cent for equipment as well as the category showing the reversal were well represented. The former category showed the following reported projects: 7 elementary, 4 junior high, 8 senior high, and 2 combination junior-senior high; the latter showed the following reported projects: 4 elementary, 3 junior high, 9 senior high, and 1 combination junior-senior high. The expenditure report of 45 per cent for materials and 55 per cent for equipment was represented by 1 senior high project. The counterpart of that category, 55 per cent for materials and 45 per cent for equipment, showed no representatives. Finally, the category showing the equal division of the expenditures between materials and equipment was represented by 15 elementary, 5 junior high, 6 senior high, and 2 combination junior-senior high projects. When considered from

the point of view of totals, the administrators reported percentages for 145 elementary, 82 junior high, 194 senior high, and 52 combination junior-senior high federal reimbursements.

In the area of mathematics 275 federal reimbursement percentages were reported comprised of 79 elementary, 42 junior high, 121 senior high, and 33 combination junior-senior high project reimbursements. It was reported that in the category of 100 per cent expenditure for equipment 20 elementary reimbursements, 11 junior high reimbursements, 55 senior high reimbursements, and 15 combination junior-senior high reimbursements. In the opposing area of 100 per cent expenditure for materials were found 22 elementary projects, 5 junior high projects, 17 senior high projects, and 4 combination junior-senior high projects. The category of 5 per cent expenditure for materials and 95 per cent for equipment contained 1 junior high project and 1 senior high project. There were no projects in the category which reversed the order of percentages. In the area of 10 per cent expenditure for materials and 90 per cent for equipment were reported the following number of projects: 3 elementary, 3 junior high, 9 senior high, and 1 combination junior-senior high. The category of 90 per cent expenditure for materials and 10 per cent for equipment showed the following reported projects: 2 elementary, 1 junior high, 1 senior high, and 1 combination junior-senior high. Percentages of 15 per cent

for materials and 85 per cent for equipment were indicated for 2 junior high, 2 senior high, and 2 combination junior-senior high projects. A reversal of the percentages for the two areas showed 1 elementary project and 2 senior high projects. Administrators reported that 4 elementary, 5 junior high, and 9 senior high projects were distributed with 20 per cent of the expenditure for materials and 80 per cent for equipment. A reversal of the percentages found 4 elementary projects and 1 senior high project reported. The mathematics category of 25 per cent expenditure for materials and 75 per cent for equipment included 2 junior high projects, 2 senior high projects, and 1 combination junior-senior high project. A direct switch of the percentages revealed 2 elementary, 2 junior high, 4 senior high, and 3 combination junior-senior high projects. It was found that 3 elementary, 2 junior high, 7 senior high, and 1 combination junior-senior high project expenditures were categorized as 30 per cent for materials and 70 per cent for equipment. In the area of 70 per cent for materials and 30 per cent for equipment were a reported 3 elementary projects and 1 senior high project. Only 1 senior high project was in the category of 35 per cent for materials and 65 per cent for equipment. Additionally, a reversal of the percentages revealed a category with no reported projects. An expenditure of 40 per cent for materials and 60 per cent for equipment was reported for 9 mathematics projects composed of 2

elementary, 2 junior high, 2 senior high, and 3 combination junior-senior high federal reimbursements. On the other hand, a percentage division of 60 per cent for materials and 40 per cent for equipment was reported for 2 elementary and 2 senior high projects. Only 1 elementary mathematics project was reportedly in the 45 per cent for materials and 55 per cent for equipment category. Also, a direct reversal of the percentages revealed no reported projects. A final category, the equal division of expenditures into the areas of materials and equipment showed 10 elementary, 6 junior high, 5 senior high, and 2 combination junior-senior high projects reported.

In the remaining areas because of the relatively low number of reported projects, the author utilized a somewhat different presentation of data commencing with modern foreign languages.

Reports of federal reimbursement projects were secured for 132 approved projects in the area of foreign languages. On the elementary level the reports on the 11 projects showed that 4 of them expended all of the funds for the purchase of equipment and 2 of them expended all of the federally reimbursed funds for materials. The remaining 5 projects reportedly fell into the following categories: 1 showed 15 per cent for materials and 85 per cent for equipment, 1 reported 40 per cent expended for materials and 60 per cent for equipment, 1 indicated 45 per cent expended for

materials and 55 per cent for equipment, 1 revealed an expenditure of 60 per cent for materials and 40 per cent for equipment, and a final project showed 75 per cent expended for materials and 25 per cent for equipment. On the junior high level the submitted reports on 14 projects showed that 6 of them were totally expended for equipment and 3 of them were totally spent for the purchase of materials. The remaining 5 projects, all singularly represented showed 1 at the 15 per cent expenditure for materials level, 1 at the 25 per cent expenditure for materials level, 1 at the 30 per cent expenditure level for materials, 1 at the 90 per cent expenditure level for materials, and 1 at the level of even distribution between materials and equipment. On the senior high level the 89 reported projects contained 36 of which reported 100 per cent expenditure for equipment and 20 of which reported 100 per cent expenditure for materials. The remaining projects were distributed as follows: 5 per cent for materials and 95 per cent for equipment, 4 projects; 10 per cent for materials and 90 per cent for equipment, 7 projects; 15 per cent for materials and 85 per cent for equipment, 1 project; 20 per cent for materials and 80 per cent for equipment, 3 projects; 25 per cent for materials and 75 per cent for equipment, 6 projects; 30 per cent for materials and 70 per cent for equipment, 4 projects; 50 per cent for both materials and equipment, 4 projects; 60 per cent for materials and 40 per cent for equipment, 2 projects; and

80 per cent for materials and 20 per cent for equipment, 2 projects. Finally, on the combination junior-senior high level the 18 totaled reported reimbursements showed reports of 8 completely expended for equipment and 4 entirely expended for materials. The remaining 6 reimbursements showed the following percentages: 25 per cent for materials and 75 per cent for equipment, 1 project; 45 per cent for materials and 55 per cent for equipment, 1 project; 50 per cent for both categories, 2 projects; 75 per cent for materials and 25 per cent for equipment, 1 project; and 90 per cent for materials and 10 per cent for equipment, 1 project.

In the critical area of history a total of 40 reports were received. On the elementary level 8 of the 10 reports showed a reimbursement expenditure of 100 per cent for materials. The remaining 2 projects showed a 20 per cent for materials and 80 per cent for equipment division and a 95 per cent for materials and 5 per cent for equipment division. The reported 9 junior high federal reimbursements indicated 2 projects totally expended for equipment and 5 projects totally expended for materials. The other 2 projects showed a percentage relationship of 20 per cent for materials and 80 per cent for equipment and 30 per cent for materials and 70 per cent for equipment. On the senior high level the 14 reported projects revealed 4 reimbursements totally expended for materials and 4 reimbursements totally expended for the purchase of equipment. The remaining 6

reported projects showed the following percentage divisions: 20 per cent for materials and 80 per cent for equipment, 2 projects; 30 per cent for materials and 70 per cent for equipment, 1 project; 70 per cent for materials and 30 per cent for equipment, 1 project; 85 per cent for materials and 15 per cent for equipment, 1 project; and 90 per cent for materials and 10 per cent for equipment, 1 project. On the combination junior-senior high level 5 of the 7 reported projects indicated 100 per cent expenditure for materials. The 2 other project reports revealed percentage divisions of 20 per cent for materials and 80 per cent for equipment and 75 per cent for materials and 25 per cent for equipment.

A view of the subject matter area of civics revealed 5 projects reported. The 1 project on the elementary level showed a percentage division of 20 per cent for materials and 80 per cent for equipment for the reimbursed funds. The 4 reported projects on the senior high level were all categorized with 100 per cent expenditure for materials.

The critical area of reading showed a total of 34 reported expenditure divisions. The proportionately large number on the elementary level, 21, reflected 3 reports which indicated 100 per cent expenditure for the area of equipment. Also, 8 of these reports showed 100 per cent expenditure for materials. The remaining 10 reports showed the following percentage divisions of the federally reimbursed funds: 2 reports showed 20 per cent for materials

and 80 per cent for equipment, 2 reports showed 25 per cent for materials and 75 per cent for equipment, 2 respondents indicated an even division of funds for materials and equipment, 2 reporters notated 90 per cent for materials and 10 per cent for equipment, 1 administrator revealed 80 per cent for materials and 20 per cent for equipment, and 1 reporter indicated 95 per cent for materials and 5 per cent for the purchase of equipment. The 9 reports submitted for the junior high level were composed of 5 indications of 100 per cent expenditure for materials. The remaining 4 reports listed singly the following ratio relationships: 20 per cent materials and 80 per cent equipment, 25 per cent materials and 75 per cent equipment, 95 per cent materials and 5 per cent equipment, and an even 50 per cent division between equipment and materials. The 3 reports on the senior high level all showed 100 per cent expenditure of the funds for materials. On the combination junior-senior high level the 1 reported reimbursement showed an expenditure of 35 per cent for materials and 65 per cent for equipment.

There were 28 reports returned in the critical area of English. The 5 elementary level projects were distributed with 4 showing 100 per cent expenditure for materials and 1 indicating a 20 per cent expenditure for materials and 80 per cent expenditure for equipment. The 5 reports received pertaining to the junior high level showed 2 of them reporting 100 per cent expenditure for materials. The 3

remaining reporters indicated individually the following ratios: 5 per cent for materials and 95 per cent for equipment, 20 per cent for materials and 80 per cent for equipment, and an even 50 per cent split for the outlined areas. On the senior high level 8 of the 14 reimbursements reported showed 100 per cent expenditure for materials. The other 6 reports dictated the following divisional distribution: 2 reporters indicated 10 per cent for materials and 90 per cent for equipment, 2 administrators reported 20 per cent for materials and 80 per cent for equipment, 1 respondent revealed a 50 per cent split between the areas, and 1 reporter indicated a 90 per cent expenditure for materials and 10 per cent for equipment. The reports of 4 combination junior-senior high level reimbursements revealed 2 indications of 100 per cent expenditure for the purchase of materials. Another of the reports indicated 60 per cent expended for materials and 40 per cent for equipment. A final report showed an 80 per cent expenditure for materials and 20 per cent for equipment purchases.

A final area for which reports were attained was geography with indications of 24 project percentage expenditure totals. On the elementary level 12 reports were submitted. It was found that 2 reporters indicated 100 per cent expenditure for equipment. Another 6 administrators reported 100 per cent expenditure for materials. The other 4 singular reports showed the following percentages: 15 per

cent for materials and 85 per cent for equipment purchases, 20 per cent for materials and 80 per cent for equipment, 75 per cent for materials and 25 per cent for equipment, and an even 50 per cent division. The 5 reporters on the junior high level indicated the following divisions: 3 revealed 100 per cent expenditure for materials, 1 notated 100 per cent expenditure for equipment, and 1 showed 40 per cent expenditure for materials and 60 per cent expenditure for equipment. On the senior high level 3 reports were secured. Categorically, 2 administrative reporters indicated 100 per cent expenditure for materials. On the opposite side of the ledger, 1 reporter notated a 100 per cent expenditure for equipment. On the combination junior-senior high level the 4 reported federal reimbursements were singularly composed of the following reported divisions: 25 per cent for materials and 75 per cent for equipment, 90 per cent for materials and 10 per cent for equipment purchases, 100 per cent for materials, and 100 per cent for equipment.

The author immediately realized the deception inherent in interpretation of the reported percentages of expenditures. However, in view of the psychological gains secured in terms of proportionate response to the questionnaire item, the author translated the reported percentage divisions to the original dollar units. In this manner firmer conviction could be expressed relative to divisions taking into account the variability of size in terms of

TABLE XIII

DISTRIBUTION OF QUESTIONNAIRE RESPONSES BY 317 SCHOOL ADMINISTRATORS WITH REFERENCE TO PERCENTAGE OF EXPENDITURES OF FEDERAL REIMBURSEMENTS FOR (1) MATERIALS AND (2) EQUIPMENT UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR

Percentage 1. 2.	Science			Mathematics			
	Ele.	J.H.	S.H.	Ele.	J.H.	S.H.	Com.
0 - 100	58	31	86	20	11	55	15
5 - 95	2	4	5	3	1	1	1
10 - 90	6	7	20	4	3	9	2
15 - 85	2	8	4	4	2	2	1
20 - 80	8	2	13	3	5	9	1
25 - 75	10	3	6	3	2	7	1
30 - 70	5	4	7	2	2	2	3
35 - 65	7	4	2	2	2	1	2
40 - 60	15	5	8	1	6	5	2
45 - 55	15	5	6	10	2	2	2
50 - 50	4	3	9	2	2	1	2
55 - 45	2	1	2	3	2	4	3
60 - 40	6	3	6	2	2	1	1
65 - 35	5	2	1	4	1	2	1
70 - 30	6	2	1	1	1	1	1
75 - 25	5	2	1	2	1	1	1
80 - 20	1	1	1	2	1	1	1
85 - 15	3	1	1	1	1	1	1
90 - 10	1	1	1	1	1	1	1
95 - 5	1	5	1	22	5	17	4
100 - 0	11	5	16	5	5	17	4
Totals	145	82	194	79	42	121	33

TABLE XIII (Continued)

Percentage 1. 0	Foreign Languages		History		Com.
	Ele.	S.H.	J.H.	S.H.	
5	4	36	2	4	-
10	-	4	-	-	-
15	1	7	-	-	-
20	1	1	1	2	1
25	-	3	1	1	-
30	-	6	1	1	-
35	-	4	-	-	-
40	1	-	-	-	-
45	1	-	-	-	-
50	-	4	-	-	-
55	-	2	-	-	-
60	1	-	-	-	-
65	-	-	-	-	-
70	1	-	-	1	1
75	-	2	-	-	-
80	-	-	-	1	-
85	-	-	-	1	-
90	-	-	-	1	-
95	-	-	-	-	-
100	2	20	5	4	5
Totals	11	89	9	14	7

TABLE XIII (Continued)

Percentage 1.	Civics		Reading		Com.
	Ele.	J.H.	Ele.	J.H.	
0	-	-	3	-	-
5	-	-	-	-	-
10	-	-	-	-	-
15	-	-	-	-	-
20	1	-	2	1	-
25	-	-	2	1	-
30	-	-	-	-	-
35	-	-	-	-	1
40	-	-	-	-	-
45	-	-	2	1	-
50	-	-	-	-	-
55	-	-	-	-	-
60	-	-	-	-	-
65	-	-	-	-	-
70	-	-	-	-	-
75	-	-	1	-	-
80	-	-	2	-	-
85	-	-	1	-	-
90	-	-	2	1	-
95	-	-	1	5	-
100	-	4	8	3	-
Totals	1	4	21	9	1

TABLE XIII (Continued)

Percentage 1. 2.	English		Geography	
	Elo.	J.H. S.H. Com.	Elo.	J.H. S.H. Com.
0 - 100	-	-	2	1
5 - 95	-	-	-	-
10 - 90	1	-	-	1
15 - 85	-	2	1	-
20 - 80	1	2	1	-
25 - 75	-	-	-	1
30 - 70	-	-	-	-
35 - 65	-	-	-	-
40 - 60	-	-	-	-
45 - 55	-	1	1	-
50 - 50	-	-	-	-
55 - 45	-	-	-	-
60 - 40	-	-	-	-
65 - 35	-	-	-	-
70 - 30	-	-	1	-
75 - 25	-	-	-	-
80 - 20	-	-	-	-
85 - 15	-	-	-	-
90 - 10	-	1	-	1
95 - 5	-	-	-	-
100 - 0	4	8	6	1
Totals	5	14	12	3
		4	5	4

dollars of the individual federal reimbursements for the approved projects.

Pertaining to the considerations in the following paragraphs, several preparatory statements of explanation were necessitated. The total reimbursements to individual school districts according to subject matter area reported in Table X, page 85, and total reimbursements to individual school districts according to grade level reported in Table XI, page 93, did not reflect the entire amounts for which reporting possibilities existed. The questionnaire was not forwarded to representatives of the 11 operating non-high school districts in view of the problems of (1) securing specific locations and addresses of the districts, (2) facing the reality that some of the districts discontinued operation after the 1964-65 school year, and (3) securing the names of superintendents providing the position existed. These districts submitted 23 approved projects distributed in the areas of science, mathematics, geography, history, and reading on the elementary and junior high levels as reflected in Table VII, page 76. As a result, the federal reimbursements for these approved projects plus the 70 reimbursements issued to the 22 school districts whose representatives did not return the questionnaire and the Cedar Rapids School District whose representative reported that such a division between materials and equipment purchases could not be made subtracted from the reported totals as

expressed in Tables X and XI checked with the reimbursement totals reported in Table XIV, page 129, dealing with the scope of the questionnaire responses. Additionally, Table XV, pages 130-132, showed the division of the reported reimbursements according to (1) materials and (2) equipment expenditures with reference to subject matter areas and grade levels. The information provided by these tables was simultaneously discussed in the following paragraphs.

In the area of science reports were secured for reimbursements totaling \$673,575.68. Combined with \$5,937.43 received by the operating non-high school districts and \$62,288.18 received by local school districts not returning the questionnaire, the total science reimbursement to the individual school districts of \$741,801.29 was matched. In terms of percentages, the reported reimbursements in the area of science represented 90.8 per cent of the total federal reimbursements to individual school districts in the area of science under Title III for the 1964-65 school year. The reporting superintendents indicated that \$196,523.30 or 29.2 per cent of the expenditures in the area of science was used for purchase of materials. The remaining amount of \$477,052.38 or 70.8 per cent was reportedly expended for the purchase of equipment. The division of the science reports according to grade level showed \$133,882.93 of the federal science reimbursement total reported on the elementary level. This elementary total was reportedly divided

into \$46,334.80 or 34.6 per cent for materials and \$87,548.13 or 65.4 per cent for equipment. On the junior high level reports were secured for a total of \$133,750.68 composed of \$59,436.08 or 44.4 per cent for materials and \$74,314.60 or 55.6 per cent for equipment. On the senior high level reports were offered for a total of \$319,094.18 divided into \$75,885.19 or 23.8 per cent for materials and \$243,208.99 or 76.2 per cent for equipment. Finally, on the combination junior-senior high level reports were issued for \$86,847.89 showing a total of \$14,867.23 or 17.1 per cent for materials and a total of \$71,980.66 or 82.9 per cent for equipment.

In the critical area of mathematics reimbursements were reported for \$160,684.18 of the \$171,202.90 reimbursed to individual school systems for 93.9 per cent of the total. Reports were not received for an additional \$8,473.97 issued to four-year high school districts or for the \$2,044.75 issued to the operating non-high school districts. Reports of the \$160,684.18 reimbursed for mathematics indicated an expenditure of \$53,746.01 or 33.5 per cent for the purchase of materials and \$106,938.17 or 66.5 per cent for equipment purchases. When reported reimbursements were considered from the viewpoint of grade level, a total of \$33,684.42 was reported on the elementary level. A division of this sum showed a reported \$19,814.78 or 58.8 per cent expended for the purchase of materials and \$13,869.64 or 41.2 per cent expended for equipment purchases. On the junior high level

in the area of mathematics reports were returned for a total of \$21,452.13. This amount was composed of a reported expenditure of \$12,319.67 or 57.4 per cent toward the purchase of materials and \$9,132.46 or 42.6 per cent devoted to the purchase of equipment. On the senior high level the reported total of \$87,116.26 was composed of \$18,121.99 or 20.8 per cent for materials purchases and \$68,994.27 or 79.2 per cent for the purchase of equipment. Lastly, a total of \$18,431.37 was reported on the combination junior-senior high level comprised of \$3,489.57 or 18.9 per cent for the purchase of materials and \$14,941.80 or 81.1 per cent expended for the purchase of equipment.

In the subject matter area of modern foreign languages federal reimbursements were not reported for a total of \$5,140.93. This indicated that \$114,375.08 of the total amount of \$119,516.01 or 95.7 per cent of the reimbursements to individual school systems were reported for the purposes of this study. In terms of grade levels reports were secured for reimbursements totaling \$2,779.40 on the elementary level. Reporters indicated that 39.6 per cent or \$1,101.02 was expended for the purchase of materials and 60.4 per cent or \$1,678.38 was utilized for equipment purchases. On the junior high level reimbursements amounting to \$38,988.16 were reported on the questionnaire returns. This sum was composed of a reported expenditure totaling \$13,155.08 or 33.7 per cent for the purchase of materials

and \$25,833.08 or 66.3 per cent for equipment purchases. Reported reimbursement expenditures on the senior high level totaled \$66,769.61 which was composed of \$9,392.08 or 14.1 per cent for the purchase of materials and \$57,377.53 or 85.9 per cent devoted to equipment purchases. On the combination junior-senior high level the reported total of \$5,837.91 reflected \$2,108.37 or 36.1 per cent for the purchase of materials and \$3,729.54 or 63.9 per cent for the purchase of equipment. A combination of grade levels in the area of modern foreign languages indicated \$25,756.55 or 22.5 per cent for materials and \$88,618.53 or 77.5 per cent for equipment.

In the area of geography reported reimbursements totaled \$8,633.40 of the \$10,244.78 reimbursed to individual school districts for a reported percentage of 84.3 per cent. Four-year high school districts did not report reimbursements totaling \$1,555.66 and an operating non-high school district received \$55.72. On the basis of grade level reports were received on the elementary level for a total of \$5,077.83. This sum was comprised of a reported \$2,466.97 or 48.6 per cent expenditure for materials and \$2,610.86 or 51.4 per cent expenditure for equipment. A view of the junior high level revealed a reported \$1,181.51 composed of \$1,053.79 or 89.2 per cent for the purchase of materials and \$127.72 or 10.8 per cent for equipment purchases. On the senior high level a reported \$225.07 or 78.8 per cent

was expended for materials purchases and \$60.60 or 21.2 per cent for equipment purchases producing a total of \$285.67. On the combination junior-senior high level the reported geography reimbursements totaled \$2,088.39. This total was derived from a reported \$189.95 or 9.1 per cent for the purchase of materials and \$1,898.44 or 90.9 per cent for equipment purchases. When viewed as a segmental block, the area of geography showed the reported total of \$3,935.78 or 45.6 per cent expenditure for materials and \$4,697.62 or 54.4 per cent for equipment.

In the critical area of history a total of \$16,125.75 was reimbursed to individual school districts. Reports were received for \$14,491.97 or 89.9 per cent of the total. In view of school district type reports were not secured for a total of \$1,596.25 from four-year high school districts and \$37.53 reimbursed to an operating non-high school district. Considered in the light of divisional totals, \$10,706.73 or 73.9 per cent was expended for the purchase of materials and \$3,785.24 or 26.1 per cent was utilized for equipment purchases. More specifically, on the elementary level reports were secured for \$2,586.82 in expenditures. This sum was composed of \$2,327.86 expended for materials and \$258.96 spent for equipment. These figures represented 89.1 per cent and 10.9 per cent respectively. On the junior high level the reported reimbursements totaled \$2,021.76 derived from \$1,701.84 or 84.2 per cent utilized for materials

and \$319.92 or 15.8 per cent spent for equipment. It was found that a reported total of \$7,294.41 in federal reimbursements for history were indicated on the senior high level. This sum was comprised of \$4,302.80 or 59.0 per cent for the purchase of materials and \$2,991.61 or 41.0 per cent of the expenditure for the purchase of equipment. Finally, on the combination junior-senior high level a reported total of \$2,588.98 was discovered through the questionnaire. This total was composed of \$2,374.23 or 91.7 per cent of the reported expenditure for materials and \$214.75 or 8.3 per cent for equipment.

In the critical subject matter area of reading a total of \$22,785.59 or 96.9 per cent of the reimbursement total of \$23,587.28 awarded to individual school districts was reported in the questionnaire responses. Classified according to school district type, reports totaling \$723.76 were not secured from four-year high school districts, and a project resulting in a reimbursement of \$77.93 to an operating non-high school district was not included in the questionnaire coverage. On the basis of a division between expenditure for equipment and for materials, a total of \$14,805.67 or 65.0 per cent was declared spent for materials with \$7,979.92 or 35.0 per cent for equipment. Relative to grade level, a total of \$14,341.20 was reported on the elementary level. This sum was composed of \$7,290.90 or 50.8 per cent reportedly expended for the purchase of materials

and \$7,050.30 or 49.2 per cent utilized for the purchase of equipment. On the junior high level the reported total of \$7,204.31 was comprised of \$6,577.56 or 91.3 per cent devoted to the purchase of materials and \$626.75 or 8.7 per cent for equipment purchases. The senior high level revealed a 100 per cent expenditure of the reported total of \$774.18 for the purchase of materials. On the combination junior-senior high level the reported reimbursement total of \$465.90 was composed of \$163.03 or 35.0 per cent of expenditure for materials and \$302.87 or 65.0 per cent of expenditure for the purchase of equipment.

The area of English was represented with reported expenditures totaling \$10,703.38 of the \$11,813.83 reimbursed to individual school systems in this critical area. Therefore, reports were secured for 90.6 per cent of the total reimbursements. A total of \$1,110.45 in reimbursements was not reported by four-year high school districts. When divisions for materials and equipment were formulated, this area showed a reported \$7,218.94 or 67.4 per cent expended for the purchase of materials and \$3,484.44 or 32.6 per cent expended for equipment purchases. After grade level divisions had been distinguished, the elementary level showed a reported total of \$1,753.46. This sum was comprised of \$1,169.96 or 66.7 per cent used for materials and \$583.50 or 33.3 per cent for equipment. The junior high level showed \$850.05 reported composed of \$384.56 or

45.2 per cent for the purchase of materials and \$465.49 or 54.8 per cent for equipment purchases. On the senior high level expenditures of \$4,061.64 were reported. This total was comprised of \$2,571.41 or 63.3 per cent reportedly expended for materials and \$1,490.23 or 36.7 per cent indicated as expended for equipment purchases. The combination junior-senior high level showed a reported total of \$4,038.23 expended with \$3,093.01 or 76.6 per cent devoted to the purchase of materials and \$945.22 or 23.4 per cent utilized for equipment purchases.

In the area of civics the total amount of federal reimbursements in this area to individual school systems of \$464.49 were reported. Considered in terms of divisional totals, \$385.38 or 83.0 per cent was expended for the purchase of materials and \$79.11 or 17.0 per cent was used to purchase equipment. In terms of grade level the expenditure of \$98.87 on the elementary level showed \$19.76 or 20.0 per cent spent for materials and \$79.11 or 80.0 per cent for equipment. Finally, on the senior high level all of the reported expenditure of \$365.62 was utilized for the purchase of materials.

Utilization of combinations formulated from specific references issued in the preceding paragraphs revealed that reported reimbursements totaled \$1,005,713.77. A total of \$80,889.20 in federal reimbursements were not reported by four-year high school districts. An additional \$8,153.36

in reimbursements to operating non-high school districts was not reached by the questionnaire. Therefore, in consideration of the total reimbursement to individual school systems of \$1,094,756.33, reports were received for 91.9 per cent of the reimbursements under discussion. In terms of materials and equipment expenditures a total of \$313,078.36 or 31.1 per cent was reportedly expended for the purchase of materials and \$692,635.41 or 68.9 per cent was spent for equipment purchases. Considered in terms of grade levels, administrative reports were secured for \$194,204.93 of the grand total of \$214,997.78 reimbursed to individual school districts for this level. Causing the reported percentage of 90.3 per cent were \$15,300.80 for which questionnaire reports were not received from four-year high school districts and \$5,492.05 reimbursed to operating non-high school districts to which questionnaires were not sent. In terms of expenditures reported for materials or equipment, it was found that \$80,526.05 or 41.5 per cent was reportedly spent for the purchase of materials and \$113,678.88 or 58.5 per cent was devoted to equipment purchases. The junior high level showed reported reimbursements of \$205,448.60. When combined with the \$18,916.49 not reported by four-year high school districts and \$2,661.31 reimbursed to operating non-high school districts, the reimbursement total to individual school districts of \$227,026.40 was achieved. Therefore, on the junior high level reports were secured for 90.5 per cent

of the federal reimbursements. With reference to divisional totals, it was found that \$94,628.58 or 46.1 per cent was spent for the purchase of materials and \$110,820.02 or 53.9 per cent was expended for equipment purchases. The senior high level reimbursements to individual school districts was \$527,148.44. Reports were secured for \$485,761.57 or 92.1 per cent of the total with \$41,386.87 not reported by the four-year high school districts. Additionally, the reports showed \$111,638.34 or 23.0 per cent of expenditure devoted to the purchase of materials and \$374,123.23 or 77.0 per cent of the expenditures devoted to equipment purchases. The final level, combination junior-senior high, reflected \$5,285.04 not reported by four-year high school districts. Therefore, reports were secured for \$120,298.67 or 95.8 per cent of the reimbursement total of \$125,583.71 awarded to individual school systems on this level. The reports of expenditures showed \$26,285.39 or 21.9 per cent utilized for the purchase of materials and \$94,013.28 or 78.1 per cent spent for equipment purchases.

Since reports were secured for 91.9 per cent of the federal reimbursements issued to individual school districts under Title III of the National Defense Education Act in the State of Iowa during the 1964-65 school year, several indicative evaluations of the data were considered to be valid. One striking figure was the \$62,288.18 in reimbursements not reported by the four-year high school districts. At

first glance this total appeared definitely out of proportion. However, in view of the proportionately large amount of reimbursements issued for the critical areas of science coupled with the fact that a number of districts whose representatives did not return the questionnaire received reimbursements only in the area of science, the unreported total for the area of science was considered to be realistic as expressed in terms of the percentage of reimbursements reported, 90.8 per cent, which was slightly lower than the composite rate of 91.9 per cent. Also, the high percentage of reported expenditures in the area of civics, 100 per cent, was attributable to the comparatively few projects submitted and approved in this critical subject matter area.

The most significant revelation of this set of data involved the relationship of reported expenditures according to the categories of materials and equipment. Speaking in terms of subject matter areas, the well established areas of science, mathematics, and modern foreign languages showed expenditure totals for equipment more than doubling the percentages expended for the purchase of materials. On the other hand, reimbursement expenditure percentages for the critical subject matter areas added in January of the year under consideration, with the exceptions of geography and reading, showed an opposite relationship with expenditures for materials more than doubling equipment expenditures. The area of reading also approached a similar relationship,

TABLE XIV

DISTRIBUTION OF QUESTIONNAIRE RESPONSES BY 317 SCHOOL ADMINISTRATORS COMPARING TOTAL REIMBURSEMENTS BY CRITICAL SUBJECT AREA AND GRADE LEVEL WITH REPORTED AND NOT REPORTED EXPENDITURES UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR

Area Level	Total Reimburse- ment	Reported Reimburse- ment	Not Reported H.S. Dis- tricts	Non-H.S. Districts	Percent Reported
Area:					
Science	\$ 741801.29	\$ 673575.68	\$62288.18	\$5937.43	90.8
Mathematics	171202.90	160684.18	8473.97	2044.75	93.9
For. Language	119516.01	114375.08	5140.93	-	95.7
Geography	10244.78	8633.40	1555.66	55.72	84.3
History	16125.75	14491.97	1596.25	37.53	89.9
Reading	23587.28	22785.59	723.76	77.93	96.9
English	11813.83	10703.38	1110.45	-	90.6
Civics	464.49	464.49	-	-	100.0
Totals (Av.)	\$1094756.33	\$1005713.77	\$80889.20	\$8153.36	91.9
Grade Level:					
Elementary	\$ 214997.78	\$ 194204.93	\$15300.80	\$5492.05	90.3
Junior High	227026.40	205448.60	18916.49	2661.31	90.5
Senior High	527148.44	485761.57	41386.87	-	92.1
Combination	125583.71	120298.67	5285.04	-	95.8
Totals (Av.)	\$1094756.33	\$1005713.77	\$80889.20	\$8153.36	91.9

TABLE XV

DISTRIBUTION OF QUESTIONNAIRE RESPONSES BY 317 ADMINISTRATORS WITH PERCENTAGE RESPONSES TRANSLATED INTO DOLLARS RELATIVE TO EXPENDITURES OF REIMBURSEMENTS FOR (1) MATERIALS AND (2) EQUIPMENT UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR

Area Level	Reported Reimbursement	Divisional Totals		Percentages	
		1	2	1	2
Science					
Ele.	\$133882.93	\$ 46334.80	\$ 87548.13	34.6	65.4
J.H.	133750.68	59436.08	74314.60	44.4	55.6
S.H.	319094.18	75885.19	243208.99	23.8	76.2
Com.	86847.89	14867.23	71980.66	17.1	82.9
Subtotals	\$673575.68	\$ 196523.30	\$ 477052.38	29.2	70.8
Mathematics					
Ele.	\$ 33684.42	\$ 19814.78	\$ 13869.64	58.8	41.2
J.H.	21452.13	12319.67	9132.46	57.4	42.6
S.H.	87116.26	18121.99	68994.27	20.8	79.2
Com.	18431.37	3489.57	14941.80	18.9	81.1
Subtotals	\$160684.18	\$ 53746.01	\$ 106938.17	33.5	66.5
Foreign Language					
Ele.	\$ 2779.40	\$ 1101.02	\$ 1678.38	39.6	60.4
J.H.	38988.16	13155.08	25833.08	33.7	66.3
S.H.	66769.61	9392.08	57377.53	14.1	85.9
Com.	5837.91	2108.37	3729.54	36.1	63.9
Subtotals	\$114375.08	\$ 25756.55	\$ 88618.53	22.5	77.5

TABLE XV (Continued)

Area	Reported Reimbursement	Divisional Totals		Percentages	
		1	2	1	2
Story					
Ele.	\$ 2586.82	\$ 2327.86	\$ 258.96	89.1	10.9
J.H.	2021.76	1701.84	319.92	84.2	15.8
S.H.	7294.41	4302.80	2991.61	59.0	41.0
Com.	2588.98	2374.23	214.75	91.7	8.3
Subtotals	\$ 14491.97	\$ 10706.73	\$ 3785.24	73.9	26.1
Devices					
Ele.	\$ 98.87	\$ 19.76	\$ 79.11	20.0	80.0
J.H.	-	-	-	-	-
S.H.	365.62	365.62	-	100.0	-
Com.	-	-	-	-	-
Subtotals	\$ 464.49	\$ 385.38	\$ 79.11	83.0	17.0
Reading					
Ele.	\$ 14341.20	\$ 7290.90	\$ 7050.30	50.8	49.2
J.H.	7204.31	6577.56	626.75	91.3	8.7
S.H.	774.18	774.18	-	100.0	-
Com.	465.90	163.03	302.87	35.0	65.0
Subtotals	\$ 22785.59	\$ 14805.67	\$ 7979.92	65.0	35.0

TABLE XV (Continued)

Area Level	Reported Reimbursement	Divisional Totals		Percentages	
		1	2	1	2
English					
Ele.	\$ 1753.46	\$ 1169.96	\$ 583.50	66.7	33.3
J.H.	850.05	384.56	465.49	45.2	54.8
S.H.	4061.64	2571.41	1490.23	63.3	36.7
Com.	4038.23	3093.01	945.22	76.6	23.4
Subtotals	\$ 10703.38	\$ 7218.94	\$ 3484.44	67.4	32.6
Geography					
Ele.	\$ 5077.83	\$ 2466.97	\$ 2610.86	48.6	51.4
J.H.	1181.51	1053.79	127.72	89.2	10.8
S.H.	285.67	225.07	60.60	78.8	21.2
Com.	2088.39	189.95	1898.44	9.1	90.9
Subtotals	\$ 8633.40	\$ 3935.78	\$ 4697.62	45.6	54.4
Grand Totals	\$ 1005713.77	\$ 313078.36	\$ 692635.41	31.1	68.9
Ill Areas					
Ele.	\$ 194204.93	\$ 80526.05	\$ 113678.88	41.5	58.5
J.H.	205448.60	94628.58	110820.02	46.1	53.9
S.H.	485761.57	111638.34	374123.23	23.0	77.0
Com.	120298.67	26285.39	94013.28	21.9	78.1
Grand Totals	\$ 1005713.77	\$ 313078.36	\$ 692635.41	31.1	68.9

but the area of geography exhibited a 45.6 per cent -- 54.4 per cent relationship showing the larger percentage utilized for equipment purchases. Partial explanation for the closer to even split of expenditures for materials and equipment in these areas was the heavier incidence of funds shown on the elementary and junior high levels. All of the other areas exhibited considerably more expenditures devoted to the senior high and combination junior-senior high levels. A closer inspection of the grade level relationships clarified the preceding statements. When all the reported expenditures were considered, the elementary and junior high expenditure reports much more closely resembled an even division between materials purchases and equipment purchases than did the senior high and combination junior-senior high levels. These varying relationships produced a ratio of 31.1 per cent expenditure over-all for materials and 68.9 per cent expenditure for equipment. This more than double relationship in favor of equipment purchases was primarily the result of the following two summarizing statements:

(1) Although the critical areas of history, reading, civics, and English exhibited considerably more expenditures for the purchase of materials than for equipment, the established areas of science, mathematics, and modern foreign languages exhibited voluminously greater amounts expended for equipment purchases. (2) Although the reported expenditure reports on the elementary and junior high levels approached an

even division of expenditures between materials and equipment with slighter emphasis upon equipment purchases, the considerably greater emphasis upon equipment purchases on the junior high and combination junior-senior high levels, enhanced with a larger reimbursement total, produced the final relationship ratio of 31.1 per cent reportedly spent for materials and 68.9 per cent reportedly utilized for the purchase of equipment.

III. CURRICULUM

An attempt to determine the effects of federal reimbursements in the State of Iowa under Title III of the National Defense Education Act during the 1964-65 school year upon the curriculums of the involved school districts maintaining secondary schools was formulated on the basis of several questionnaire items. The questionnaire was sent to the superintendents of schools of the four-year high school districts and the administrators of the special school systems who represented local school districts which had received federal reimbursements under Title III during the year under consideration. Items 2 and 3 of the questionnaire asked these administrators to indicate their opinions through checking provided measures of progress or regression as a result of the receipt of federal reimbursements. A total of 340 questionnaires were sent and 318 or 93.5 per cent of them were returned. All of the questionnaires which

were returned showed responses to these questionnaire items. A discussion of the results of these responses was rendered in the ensuing paragraphs.

Questionnaire Item 2 asked the administrators to consider the following question: "What effect did these NDEA funds (enumerated in Questionnaire Item 1) have toward stimulating curricular improvements in the areas for which reimbursement was received?" In response the administrators were asked to check one of the following areas: appreciable increase, slight increase, no change, slight decrease, or appreciable decrease. Several respondents indicated in footnote fashion that they considered this item difficult to answer as a result of having changed schools between the year under consideration and the 1965-66 school year during which time an evaluation was requested. However, all of the respondents managed to reach a decision on the questionnaire item. Two respondents indicated their decision through the utilization of two check marks. These administrators represented school districts which had received federal reimbursements on both the elementary and secondary levels. The two respondents identically indicated the effect of the funds as exhibiting appreciable increase in stimulating curriculum improvements on the elementary level and showing a slight increase in stimulating improvements on the senior high level. Therefore, in the enumeration of the findings, exhibited in Table XVI, page 137, and presented in the

following paragraph, the number of responses was increased to 320.

Concerning the stimulation of curriculum improvements in the critical subject matter areas, it was found that 166 of the 320 or 51.9 per cent of the evaluative responses were categorized in the area of exhibited appreciable increase. Another 141 responses or 44.1 per cent of the total reported a slight increase in stimulating curriculum improvements in one or more of the critical areas for which reimbursements were received. It was reported by 11 or 3.4 per cent of the respondents that no change had been evidenced as a result of the receipt of the reimbursements. Finally, 1 respondent noted a slight decrease toward stimulating curriculum improvements and 1 respondent indicated an appreciable decrease resulting in .3 per cent of the responses categorized in each of these judgment areas.

The author had anticipated that none of the administrators would have indicated a decrease in stimulating the curriculum improvements in the areas for which funds were received. In view of the fact that 96 per cent of the responses, an expected high percentage, indicated the effect of increasing the stimulation for curriculum improvement in the areas for which reimbursement was made, the author more carefully analyzed the comments provided by the deviating 4 per cent of responses. The respondent evidencing a slight decrease relative to the effect of the reimbursed funds

toward stimulating curriculum improvements provided some insight to his response when he stated, "The whole idea is wrong. We need to do a little planning ourselves. If it is

TABLE XVI

DISTRIBUTION OF 320 QUESTIONNAIRE RESPONSES BY SCHOOL ADMINISTRATORS RELATIVE TO THE EFFECT OF RECEIPT OF FUNDS UNDER THE NATIONAL DEFENSE EDUCATION ACT TOWARD STIMULATING CURRICULAR IMPROVEMENTS IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR

Provided Responses	Number Indicating	Per Cent
Appreciable increase	166	51.9
Slight increase	141	44.1
No change	11	3.4
Slight decrease	1	.3
Appreciable decrease	<u>1</u>	.3
	320	

good for my department, it should be good for all." The respondent who indicated an appreciable decrease in the effect hinted that possibly the school district represented by him as an administrator possessed some impractical and unused equipment when he declared, "NDEA funds encourage overspending for equipment not essential." Also, in viewing the responses of the 11 administrators indicating no change toward stimulating curriculum improvements as a result of the

receipt of reimbursements, the author noted that three of the respondents footnoted their responses to the question posed. The footnotes reflected that these individuals all considered it to be really too early to know as one respondent specifically mentioned the receipt of equipment late in the year and another expressed the fact that none of the equipment or materials were in use at the time of the receipt of the questionnaire in November of 1965 because the school buildings were not completed. Finally, one respondent who indicated a slight increase in the effect toward stimulating curricular improvements in the reimbursed area of science was not really sure and amended his check mark with the comment, "We hope!"

A second curricular consideration was explored with the utilization of Questionnaire Item 3. In the formulation of the item the author was interested in attempting to determine the effect caused through the expenditure of local matching dollars to meet the federal reimbursements relevant to funds made available for the other curriculum areas. The administrators of four-year high school districts and the special school systems which had received federal reimbursements for the critical subject matter areas were asked to measure the extent to which the local matching provision affected available funds for other equally important curriculum areas according to the following categories: appreciable increase, slight increase, no change, slight

decrease, or appreciable decrease. The distribution of the 318 responses was enumerated in the ensuing paragraph and reflected in Table XVII, page 140.

The accumulation of the various responses showed that all of the 318 administrators returning questionnaires responded to the following question: "Since your district has used local matching funds in order to receive this reimbursement, in what manner do you think this has affected funds available for other equally important areas of the curriculum?" A total of 34 or 10.7 per cent of the respondents considered that the expenditure of funds to match the federal reimbursements in the critical subject matter areas resulted in an appreciable increase in funds made available for other curriculum areas. A group of 99 or 31.1 per cent of the responding administrators thought that a slight increase in funds available for the other subject areas had resulted. The largest category, consisting of 166 respondents or 52.2 per cent of the responding administrators, felt that the funds used in matching federal reimbursements had produced no change in the funds made available for other curriculum areas. A total of 19 or 6.0 per cent of the respondents reported that they thought the utilization of local funds for matching purposes had caused a slight decrease in the funds made available for other areas of the curriculum. None of the administrators indicated that they felt the use of local matching funds had affected available

funds for other curriculum areas to the extent of producing an appreciable decrease.

TABLE XVII

DISTRIBUTION OF 318 QUESTIONNAIRE RESPONSES BY SCHOOL ADMINISTRATORS RELATIVE TO THE EFFECT OF MATCHING FUNDS UPON MONEY MADE AVAILABLE FOR OTHER CURRICULUM AREAS AS A RESULT OF PARTICIPATION UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT IN THE STATE OF IOWA DURING THE 1964-65 SCHOOL YEAR

Provided Responses	Number Indicating	Per Cent
Appreciable increase	34	10.7
Slight increase	99	31.1
No change	166	52.2
Slight decrease	19	6.0
Appreciable decrease	-	-
	<u>318</u>	

Anticipatory judgment on the part of the author dictated that respondents would balance the increase and the decrease sides of the ledger with a large group reporting no change in response to the previously enumerated Questionnaire Item 3. However, as indicated by the distribution, 41.8 per cent of the responding administrators notated increases in the available funds for other curriculum areas as opposed to the 6.0 per cent who indicated decreases. In

addition, all of the reported decreases were of the slight variety, whereas about one-third of the reported increases were of the appreciable type. These situations indicated to the author that the presence of federal reimbursement money in the critical subject matter areas for matching purposes stimulated boards of education to expend additional money for other curriculum areas according to the reporting administrators of school districts on the local level involved in Title III activities in the State of Iowa during the 1964-65 school year.

IV. EVALUATIVE JUDGMENTS

Within the category of evaluative judgments the author attempted to secure opinions of the administrators representing participating high school districts under Title III of the National Defense Education Act in the State of Iowa for the 1964-65 school year with reference to both desirable and undesirable situations produced by the Act. Also, opinions were secured concerning the change in the stature of the Act implemented in January of 1965 and the future possibilities for the Act. Because of the open-endedness of several of the questions, the author on several occasions received much more than he attempted to elicit and, quite naturally, the opposite extreme also prevailed. Generally, though, the elicited commentary produced many excellent ideas.

One approach to an evaluation of Title III of the National Defense Education Act utilized was to secure opinions of the expansion which took place changing the scope of the Act to include the areas of history, geography, reading, civics, and English implemented in January, 1965. Specifically, 340 administrators were asked to consider the following question: "What is your reaction to the expansion of NDEA to include history, civics, geography, reading, and English?" All of the 318 administrators returning the questionnaire responded by checking one of the following categories: very desirable, desirable, no opinion, undesirable, or very undesirable. The distribution of the results of this questionnaire item, visibly expressed in Table XVIII, page 144, were enumerated in the following paragraph.

Of the responding 318 administrators it was found that 185 or 58.2 per cent of them expressed the opinion that the change in the scope of the National Defense Education Act to include the selected areas enumerated in the question was very desirable. Another 114 or 35.8 per cent of those who responded thought the broadening of areas under Title III was desirable, being somewhat less emphatic in their convictions. The word reading was circled by a respondent in this group to indicate that he considered the addition of this area to be desirable. A total of 9 or 2.8 per cent of the responding administrators viewed the addition as undesirable. An additional 6 or 1.9 per cent of the respondents

labeled the expansion as very undesirable. Administrators offering no opinion numbered 4 which comprised 1.3 per cent of the respondents.

The author had anticipated that the previously enumerated questionnaire item would have generally produced a favorable reaction among local school superintendents in the State of Iowa. However, the percentage of favorable responses, 94.0 per cent, was beyond expectations. Again, it was assumed that the individuals formulating the deviating responses were in some way reflective of a general formulated attitude toward the National Defense Education Act or federal aid to education. As a result, the other questionnaire items were examined to determine the extent to which this was true. Of the 6 administrators who considered the addition of the new subject matter areas to be very undesirable, 2 of them did not offer specific reasoning for the response in the other questionnaire items. However, the remaining 4 respondents in this category in no uncertain terms indicated that they were not in favor of this federal program and subsequently found no advantageous aspects with respect to the Act. Additionally, all of the 9 administrators who considered the expansion of Title III to include the new areas to be undesirable reflected that they were not in favor of the Act. Divisionally speaking, 5 of the respondents could not find any advantageous aspect in favor of the Act; whereas the remaining 4 administrators indicated

that the National Defense Education Act as a relief measure had served its purpose and as a permanent program was undesirable.

TABLE XVIII

DISTRIBUTED RESPONSES OF 318 ADMINISTRATORS OF HIGH SCHOOL PARTICIPATING DISTRICTS UNDER TITLE III IN THE STATE OF IOWA IN REACTION TO THE EXPANSION OF THE NATIONAL DEFENSE EDUCATION ACT IMPLEMENTED IN JANUARY OF 1965

Categorical Responses	Number	Per Cent
Very desirable	185	58.2
Desirable	114	35.8
Undesirable	9	2.8
Very undesirable	6	1.9
No opinion	4	1.3

Through the utilization of Questionnaire Item 6 the author sought to secure a reaction of some type concerning the future possibilities for Title III of the National Defense Education Act. Therefore, the question was so formulated that some type of response would be evoked. Included was the idea that no response to the question possessed a meaning. The hypothetical problem presented to the 340 previously designated administrators stated: "If you believe that in the future NDEA, Title III, should be altered, list

the areas other than those now covered in the order of priority that you think should be included." The 318 returned questionnaires produced a variety of responses which necessitated the establishment of eight categories. The results were expressed in Table XIX, page 147.

A total of 111 or 34.9 per cent of the 318 responding administrators did not recommend any change in the structure of Title III of the National Defense Education Act. It was found that 27 of these administrators specifically mentioned the fact that the Act was satisfactory as presently established, and 84 of these respondents offered no commentary. The change advocated by 52 or 16.6 per cent of the administrators was to dismiss the policy of categorical aid for specific subject matter areas in favor of general federal aid for all instructional areas to be utilized on the local level according to existing needs. More specifically, 2 of these 52 administrators indicated that all "academic" areas should be included. Reporting another viewpoint were 10 or 3.1 per cent of the administrators advocating the discontinuance of the National Defense Education Act. Specifically, 4 of these respondents advocated that the Act should be discontinued in all fields, and 6 of them expressed the idea that the Act was no longer needed due to the impact of other programs of the federal government, namely the widespread impact of Title I of the Elementary and Secondary Education Act of 1965. Specific subject matter areas of

expansion were enumerated by 31.8 per cent of the responding administrators. These 101 responses along with the 15 or 4.7 per cent of the administrators who offered recommendations outside the realm of specific subject matter areas were awarded specialized treatment in the ensuing section. A suggestion offered by a single respondent, producing a percentage of .3 per cent, was to consolidate the areas involved. Instead of enumerating history, civics, and geography, the respondent suggested the social studies category. A peculiar type of response was offered by 25 or 7.9 per cent of the 318 respondents. In all cases these respondents suggested subject matter areas already under the jurisdiction of Title III of the Act enumerated in the preceding questionnaire item. The well-established areas of science, mathematics, and modern foreign languages were not enumerated, but at least a couple of the newly orientated areas were mentioned by each of the respondents in this grouping. Particularly disturbing was the fact that a couple of these same responding administrators indicated recently innovated subject matter areas for which reimbursements were received by the school systems they represented. The author would prefer to believe that these responses were a result of poor reading practices, but then some of these may have been representatives of a category of individuals not abreast with changes which took place within the structure of the Act. Finally, 3 or 1.0 per cent of the respondents stated

that they had no opinion regarding the proposed problemat-
ical situation.

TABLE XIX

DISTRIBUTION OF 318 QUESTIONNAIRE RESPONSES FROM ADMINIS-
TRATORS OF FOUR-YEAR HIGH SCHOOL DISTRICTS IN IOWA
RELATIVE TO FUTURE ALTERATIONS OF TITLE III OF
THE NATIONAL DEFENSE EDUCATION ACT

Suggestions	Number	Per Cent
No change in program	111	34.9
Change to general aid	52	16.3
Discontinue operation	10	3.1
Subject matter additions	101	31.8
Other additions	15	4.7
Consolidate areas	1	.3
Subject areas already covered	25	7.9
No opinion	3	1.0

Closer scrutinization was devoted to the 101 adminis-
trators offering specific subject matter suggestions and the
15 administrators providing suggestions outside the realm of
specific subject matter areas. The distribution of these
responses, based upon priority established in the question-
naire item, were presented in Table XX, page 151, and dis-
cussed in the following paragraphs devoted to subject matter
considerations and the other areas of assistance. In view
of the fact that five blanks were provided in the question-
naire item, a total of five of the responding administrators
completed all the spaces. However, only 80 of these school

administrators provided a second suggestion, 44 of the respondents supplied three suggestions, and 19 of them listed four areas.

The most popular subject matter area suggested by those administrators providing specific suggestions was shop or industrial arts. This area was mentioned a total of 61 times. It represented the first choice of 35 of the respondents offering suggestions, served as the second choice for 21 of them, was selected 9 times as a third choice, and was indicated as the fourth choice by 1 from the group. The area of business education proved to be the next most popular suggested area. This subject matter area was indicated as the first choice of 20 of the administrators. In addition, 18 of the respondents noted commercial or business education courses for the second choice. Business education was listed as a third choice by 4 respondents, as a fourth area by 2 respondents, and as a fifth choice by 1 responding administrator. Comprehensively, this showed a mention of this specific area 45 times. Another vocational area, home economics, was designated 12 times. The distribution of choices showed 1 administrator indicated the area as his first choice, 6 respondents placed the area as their second choice, 2 administrators labeled the area as their third choice, and 3 responding administrators specified this area as their fourth choice. A fourth vocationally related area specified was agriculture. This area was designated by 2

respondents with 1 indicating it as his first choice and another designating it as his third choice. A total of 17 of the responding administrators lumped the preceding areas somewhat with the term vocational education. This term was used by 11 respondents as representing their first choice, 4 respondents as their second choice, and 2 respondents as their third area of choice.

Another generalized area mentioned by this grouping of respondents was humanities. Specifically mentioning this area were 3 respondents with 2 of them indicating it as a first choice and 1 considering it as a second choice. It was found that two areas within the general area of humanities, art and music, received considerable mention. The area of art showed 14 first choices, 10 second choices, 8 third choices, 3 fourth choices, and 1 fifth choice for a total of 36 times mentioned. The area of music, showing somewhat less popularity, was represented by 1 first choice, 5 second choices, 6 third choices, 3 fourth choices, and 1 fifth choice for a total of 16 times mentioned.

The areas of health and physical education were specified 7 and 40 times respectively. The distribution of the choices from first to fourth for health numerically represented were 3, 1, 2, and 1. Likewise, the area of physical education was numerically represented with a sequence of 13, 13, 8, and 6.

The two final subject matter areas mentioned were

economics and driver education. The questionnaire results showed 2 responding administrators indicating economics as their first choice. The area of driver education was listed but once, representing the fifth choice of one responding administrator.

The 15 administrators providing suggestions outside the realm of specific subject matter areas indicated 6 areas to be considered in future expansion plans of the Act. The suggestion of general library support was mentioned a total of 8 times, 7 times serving as the first choice and once mentioned as a fifth choice. A total of 4 of these 15 administrators thought consideration should be given to the areas of administration and supervision. It was revealed that 3 respondents indicated this general area as a first choice and 1 respondent listed it as a third choice. The general area of construction was suggested by 2 of the respondents, serving as a first and a third choice. It was suggested as a first choice that audio visual be considered as a separate area. The suggestion was made as the second choice of a respondent to include cafeterial support under the Act. Finally, an administrator indicated the suggestion of providing monetary support for summer in-service training programs for teachers under the National Defense Education Act as his only choice.

Another of the evaluative judgments sought hovered around the situation of fluctuating prices of purchasable

items with funds made available through Title III of the National Defense Education Act in the State of Iowa. The 318

TABLE XX

DISTRIBUTION OF QUESTIONNAIRE RESPONSES OF 116 ADMINISTRATORS OF FOUR-YEAR HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA SUGGESTING ALTERATIONS IN THE NATIONAL DEFENSE EDUCATION ACT ACCORDING TO AREA AND CHOICE

Suggestions	Choices					Total
	1	2	3	4	5	
Subjects						
Ind. Arts	35	21	9	1	-	61
Business Ed.	20	18	4	2	1	45
Home Ec.	1	6	2	3	-	12
Agriculture	1	-	1	-	-	2
Vocational Ed.	11	4	2	-	-	17
Humanities	2	1	-	-	-	3
Art	14	10	8	3	1	36
Music	1	5	6	3	1	16
Health	3	1	2	1	-	7
Physical Ed.	13	13	8	6	-	40
Economics	2	-	-	-	-	2
Driver Ed.	-	-	-	-	1	1
Other						
Library	7	-	-	-	1	8
Administration	3	-	1	-	-	4
Construction	1	-	1	-	-	2
Audio-visual	1	-	-	-	-	1
Cafeteria	-	1	-	-	-	1
In-service	1	-	-	-	-	1
Totals	<u>116</u>	<u>80</u>	<u>44</u>	<u>19</u>	<u>5</u>	

previously defined respondents to the questionnaire provided their conjectures in the light of the following question:

"Relative to the prices of items purchased, how do you feel

that these prices have been affected by the presence of NDEA funds aside from the normal inflationary increase?" The provided possibilities for responses included: appreciable increase, slight increase, no change, slight decrease, and appreciable decrease. The results of the responses, shown in the following paragraph, were expressed in Table XXI, page 154.

It was discovered that 67 or 21.1 per cent of the responding administrators made the decision that an appreciable increase in prices of items aside from normal inflationary rise resulted. Another 157 or 49.4 per cent thought that they had detected a slight increase. On the opposite side of the ledger only 1 respondent, representing .3 per cent of the total, indicated that he considered a slight decrease in prices had resulted, and none of the responding administrators detected an appreciable decrease having taken place. Rounding out the responses, 93 or 29.2 per cent of the respondents witnessed no change taking place with regard to the proposed question.

Several interesting postscripts were provided as a result of stimulation inspired by the questionnaire item. It was found that 2 of the respondents indicating no change underlined the words 'normal inflationary increase' and commented, "I doubt if one knows." This was obvious in view of the purely opinionated nature of the question. Another of the respondents indicated that materials had been bought

which were not available before. Another administrator providing a side comment added some insight when he expressed the reality that in his system, one of the larger ones in Iowa from the viewpoint of enrollment, the purchases were made on a bid basis in which no change was evidenced. All of the remaining commentary was supplied by respondents who indicated the category of appreciable increase. It was mentioned by a respondent that he thought the prices of books showed an appreciable increase. Another administrator said, "In fact, some items are almost double the cost of retail in our area." Still another respondent indicated, "The salesmen are able to say 'the government is paying one-half of it.'" A final commenting respondent placed several check marks in the blank space before appreciable increase as if to emphasize this particular response.

Two final related evaluative judgment situations proposed by the questionnaire centered around statements of likes and dislikes pertaining to Title III of the National Defense Education Act. Presupposed was the consideration that the expressions rendered were applicable to the manner in which the Act was administered in the State of Iowa. The 340 questionnaires sent to administrators of schools maintaining four-year high schools and participating under Title III during the 1964-65 school year in the State of Iowa requested the statement of the most advantageous and most disadvantageous aspects of Title III according to personal

experiences. The following paragraphs were devoted to a consideration of the variety of responses rendered by the administrators.

TABLE XXI

DISTRIBUTION OF RESPONSES OF 318 ADMINISTRATORS OF FOUR-YEAR HIGH SCHOOL DISTRICTS IN IOWA RELATIVE TO PRICE CHANGES ASIDE FROM INFLATIONARY RISE OF ITEMS PURCHASED UNDER TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT

Responses	Number Indicating	Per Cent
Appreciable increase	67	21.1
Slight increase	157	49.4
No change	93	29.2
Slight decrease	1	0.3
Appreciable decrease	-	-

In response to the question, "What do you like best or consider to be the most advantageous aspect relative to NDEA, Title III?", it was found that 33 of the 318 respondents or 10.3 per cent failed to provide a response or indicated no comment. When considered in view of the 340 questionnaires originally dispersed, a percentage of response to this questionnaire item showed 83.8 per cent. Additionally, 12 administrators returning the questionnaire indicated in no uncertain terms that there existed nothing advantageous

worthy of note. Considered in view of positive responses an 80.3 per cent return was achieved. The following discussion considering monetary, curriculum, administrative, and other factors related the data expressed in Table XXII, page 160.

The data supplied by the positively responding administrators showed 174 or 54.7 per cent of them issuing responses related specifically to the monetary reimbursements. A total of 42 of the positively responding administrators indicated the most advantageous aspect as being the additional funds secured. A few representative responses included: "Extra money solves many problems," "Money is always needed," "The financial assistance provided by paying from another pocket," and "It breaks the 'just get by' barrier." Several areas of responses were closely tied to the monetary approach. A grouping of 16 respondents found the idea of matching funds to be the most desirable aspect. Supplementing this idea were indications of the importance of complementary local and federal effort, specifically indicated by several to be the best way for federal aid participation. Another category of responses linked to the monetary viewpoint centered around district costs. It was found that 11 of the positive respondents specifically labeled the most advantageous aspect of the Act as being the lowering of district costs to provide needed items. Considered from another viewpoint, these respondents felt that

local dollars had been stretched. Along similar lines, 2 of the respondents thought that some relief brought to the property tax was an advantageous aspect of the Act.

A broad area branching from the realistic monetary approach provided the category for 38 of the responses provided. Stated in various ways with the use of descriptive words such as awakening, stimulus, encouragement, and incentive, this group of administrators related the importance of federal dollars spent for education dispersed according to the philosophy that the best way to stimulate is through the pocketbook. Since this stimulation has been successful, these administrators considered it to be the most advantageous aspect of the Act.

Another realistically orientated monetary approach suggested by 35 of the responding administrators concerned the enabling process. In effect, each of these respondents pointed to the fact that as a result of the National Defense Education Act the school system they represented had been able to purchase needed materials and equipment that could not have been afforded and with which they would have previously had to do without.

A final monetary related situation, formulated from a purely political administrative viewpoint, involved the most interesting responses of 30 administrators. These respondents specifically indicated the most advantageous aspect of the Act as being the manner in which boards of education

have been influenced. The "better program - half price" motivating device, according to this group of administrators, has made it easier to convince boards of education to purchase needed items. In other words it has provided a path upon which less resistance would be met in securing approvals. A couple of choice comments provided in this area were: "The board of education feels they are getting something for nothing," and "It is easy to get board approval when they are told that Santa pays one-half."

The area of curriculum comprised 87 or 27.4 per cent of the positive responses concerning the most advantageous aspects of the Act. In the area of curriculum advancement generally 20 respondents considered the most advantageous aspect of Title III to be the provision of more materials and equipment for the improvement of instruction. More specifically, 21 administrators noted the help provided for certain areas in the form of materials and equipment, the critical areas in which change would have progressed much more slowly. A respondent in this category indicated, "It has really been like a shot in the arm." Rather than confinement to the critical areas, a group of 28 of the responding administrators noted the improvement brought about in all areas of instruction. They stipulated that since specific areas have been singled out or emphasized by the Act, school districts have taken a serious look at other curriculum areas and have made subsequent improvements in

these areas. Another curricular grouping of 7 respondents considered the most desirable aspect of the Act to involve the speed with which instructional changes could be made. Several of these administrators pointed out the acquiring of needed materials and equipment at twice the normal pace. An additional set of curricular suggestions consisted of 7 responses which noted better updated teaching as the most desirable aspect of the Act. One of the respondents reflected this idea when he stated, "Our teaching effectiveness has been increased by at least 30 per cent." A final group of 4 responding administrators considered the most advantageous aspect of the Act to be the broadening or expansion of the Act to include more subject matter areas under the heading of critical subjects.

Several administrators provided indications that the most desirable aspect of the National Defense Education Act was found in the area of the administration of it. A total of 8 respondents specifically stated the ease of application and the shortness and simplicity of the forms used. These responses were considered somewhat paradoxical in the eyes of the author when viewed in the perspective of the large number of persons indicating the opposite idea in response to the companion question calling for dislikes. Additionally, 2 administrators pointed out the relative simplicity of administering the provisions of the Act locally bringing to 10 or 3.2 per cent of the responses indicating aspects of

administration as the most advantageous.

Completing the responses provided were 2 unrelated reports comprising the other category showing .6 per cent of the returned questionnaires. One of these reporters thought that the best aspect of the Act was that it was generally applicable to all children. A final respondent issued a shocking statement when he said that the most desirable aspect of Title III was that it "gives a lot of retired school people a job."

In the case of the final evaluative judgment which was requested by the questionnaire, it was found that the administrators in many cases provided more than was established in the bargain. Although the questionnaire called for a listing of the most disadvantageous aspect of Title III of the National Defense Education Act, more than a single disadvantageous aspect was submitted in many cases. In contrast to the companion questionnaire item calling for a positive response, the multiplicity provided in the negative responses was attributed to the process of human nature. Therefore, the indications submitted by the 318 returned questionnaires from the previously outlined administrators were viewed from a different approach than utilized in the consideration of the preceding companion question. The responses to the question: "What do you dislike most or consider to be the most disadvantageous aspect relative to NDEA, Title III?" were categorized numerically according to

TABLE XXII

DISTRIBUTION OF LISTING OF MOST ADVANTAGEOUS ASPECT OF
TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT BY
318 ADMINISTRATORS OF PARTICIPATING FOUR-YEAR
HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA

Categorized Responses	Total	Number	Per Cent
Funds	174		54.7
Money		42	
Matching funds		16	
Lower cost to district		11	
Relief to property tax		2	
Awakening, stimulation		38	
Otherwise do without		35	
Influence on board		30	
Curriculum	87		27.4
More materials		20	
Help in selected areas		21	
Improvement of all areas		28	
Speeds up improvements		7	
Inclusion of more areas		4	
Teacher effectiveness help		7	
Administration	10		3.2
Ease of application		8	
Simple to administer		2	
Others	2		.6
Applicable to all		1	
Job opportunities		1	
Nothing advantageous	12		3.8
No response or comment	<u>33</u>		10.3
Total	318		

the responses offered as differentiated from the categorization of administrators utilized in the positive considerations. The result of this approach was the presence of 320 negative responses from 273 responding administrators due to the fact that 11 of the questionnaire respondents found nothing disadvantageous concerning the Act and an additional 34 returned questionnaires not bearing a response of any kind in answer to the question. A discussion of the results followed and was reflected in Table XXIII, page 166.

A total of 39 of the responding administrators specified only the generalized term red-tape as the most disadvantageous aspect of the National Defense Education Act. Another 30 of the respondents mentioned this term in conjunction with another disadvantage. Since Webster has defined red-tape as, "Scrupulous adherence to prescribed routine, especially when the result is delay or inaction," this response covered a multitude of sins. One of the administrators specified the generalized term when he enumerated the red-tape as consisting of, "Voluminous justification, intricate record keeping, and slow refunding process." From this category of 69 or 21.6 per cent of the responses came a rather shocking comment. In explanation of his stand an administrator indicated, "I feel they must think we're all crooks! Generally speaking we try to do the best we can for education in our schools -- we are not a bunch of chislers as sometimes you think they feel by the nonsense they ask

us to go through!"

The other comments with reference to disadvantageous aspects were less inclusive in nature. The most voluminous grouping of responses entailed the application and accounting procedures involved. This area was mentioned a total of 113 times which resulted in 35.3 per cent of the suggested dislikes of the Act. A breakdown of this category revealed the generalized mention of paper work 50 times. One administrator indicated, "We earn every cent we get." Another thought the paper work involved in Iowa seemed to be exaggerated compared with other states. Still another reporter indicated the excessive amount of paper work dealing with "trivialities." On the opposite side of the fence, a respondent who indicated excessive paper work as a disadvantageous aspect retaliated by saying, "Although this is minor." Another explained the paper work situation as, "Necessary, but irksome." Dissatisfaction over the application forms was expressed 54 times. In various manners this dislike was expressed in terms of the required detail, the multiplicity of forms needed, and the time and energy required detracting from instruction and supervision. A representative from this group indicated the necessity of securing a full-time co-ordinator to perform all the work. However, in spite of the application forms, a respondent noted the realization that these forms were necessary, and another stated that the forms have been simplifying in a

gradual manner. Finally, in this area 9 remaining reports indicated dissatisfaction with the required bookkeeping and accounting procedures.

Another grouping of disadvantageous responses numbering 49 or 15.3 per cent were related to the delays caused through the administration of the Act. All of these reports expressed dissatisfaction with the waiting out period of the Department of Public Instruction from the time the request was submitted until approval was secured. Several of the respondents were also dissatisfied with the long wait for the reimbursement money after the approval of purchases had been made. Additionally, a handful of the respondents were distressed by the fact that planning had been impaired due to the fact that materials and equipment had not been secured until near the end of the first semester of the school year.

Several of the responding administrators labeled as a disadvantageous aspect of the Act the inconsistencies in the administration on the part of the Department of Public Instruction. A total of 11 or 3.5 per cent of the reports were in this category. It was found that 7 reports showed the specific red-lining of individual items in an inconsistent manner by the people who checked the requests at the Department of Public Instruction to be considered as the most disadvantageous aspect of Title III. Also, 4 reports were secured which considered the most disadvantageous

aspect to be the communications with reference to deadlines. A respondent in this category, who noted that he used to work in the Department of Public Instruction, listed his dislike as, "The inconsistent state deadlines and arbitrary regulations by uninformed personnel."

Another grouping of responses enumerating dislikes of the Act centered around the area of control. It was found that 47 or 14.7 per cent of the responses were of this variety. Described in various terms, a grouping of 30 responses considered the greatest dislike to be the federal encroachment into education with intervention and regulations approached through the utilization of the dollar sign. The other segment of 17 responses indicated the results of the element of control in the form of distortion of the curriculum resulting from the earmarking of funds for preferred subject matter areas.

A segment of 19 or 5.9 per cent of the responses enumerating disadvantageous aspects of the Act showed concern over the area of purchases. Since the specific prices of items were to be listed on the application form, 5 of the responses noted as a disadvantageous aspect the changes in prices taking place before the actual purchases were to be made. The other 14 responses listed the disadvantageous aspect of wasteful purchasing stimulated by the Act. Various indicated were the processes of unnecessary purchases in view of full utilization and excess buying.

A grouping of 9 or 2.8 per cent of the responses were directed toward the matching provision of the Act as the most undesirable aspect. A total of 4 of these respondents specifically stated that the matching feature simply was undesirable. The remaining 5 respondents thought the major disadvantage to be the failure to meet the 50 per cent provision for matching in Iowa due to lack of funds. For the 1965-66 school year these administrators indicated a cut back to 43 per cent of the approved expenditures.

The final 3 responses or .9 per cent did not seem to fit any of the previously established categories. One dislike noted by an administrator was the failure to make the allocations on the basis of need. Another reporter disliked the presence of the possibility that a school system may be cut out from participation. A final respondent disliked the method of distribution saying, "One has to shut his eyes when he signs the application."

It was at this point that the author brought himself to utilize the following expression used by a questionnaire respondent when answering the question calling for the enumeration of a disadvantageous aspect of Title III of the Act, "I'm happy."

TABLE XXIII

DISTRIBUTION OF SUGGESTED DISADVANTAGEOUS ASPECTS OF
TITLE III OF THE NATIONAL DEFENSE EDUCATION ACT
OFFERED BY 273 ADMINISTRATORS OF FOUR-YEAR
HIGH SCHOOL DISTRICTS IN THE STATE OF IOWA

Categorical Responses	Total	Number	Per Cent
Red-tape	69		21.6
Application and accounting	113		35.3
Paper work		50	
Forms		54	
Bookkeeping		9	
Delays	49		15.3
Administrative inconsistency	11		3.5
Item analysis		7	
Established deadlines		4	
Control	47		14.7
Federal control		30	
Curriculum imbalance		17	
Purchases	19		5.9
Prices of items change		5	
Waste		14	
Matching funds	9		2.8
Idea of matching		4	
Failure to meet provision		5	
Other	<u>3</u>		.9
Total	320		

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

Stimulated by general interest exhibited toward federal programs of assistance to education, the purpose of this field project was to determine the effects of the National Defense Education Act Title III reimbursements to Iowa public schools for the 1964-65 school year. This analysis was performed through the use of publications, personal interviews, a fact-finding survey in the Department of Public Instruction, and a questionnaire forwarded to superintendents of local participating four-year high school districts of which 318 of 340 questionnaires, or 93.5 per cent of them, were returned. A summary of the findings, chronologically arranged, ensued.

Participation. There were 1,403 projects approved for 406 different school districts in Iowa under Title III for the 1964-65 school year. A grade level classification showed 227 elementary, 119 junior high, 266 senior high, and 91 combination junior-senior high projects. A subject area division revealed 703 science, 362 mathematics, 155 modern foreign language, 38 geography, 52 history, 42 reading, 11 civics, and 40 English projects.

Comparative percentage figures in terms of number of approved projects on the national level during the fiscal years 1959-63 and the State of Iowa for the 1964-65 school year were used. The relationships of national percentages to the State percentages were: science, 62.9 per cent to 57.6 per cent; mathematics, 22.1 per cent to 29.7 per cent; and modern foreign languages, 15.0 per cent to 12.7 per cent.

A total of 52 of the 99 county units, or 55.5 per cent of them, submitted approved projects. Approved projects on the county level numbered 139 of which 71 were in the area of science and 31 were devoted to mathematics. Grade level reference showed emphasis upon the elementary level with 61 projects and the combination junior-senior high level with 53 projects.

The degree of county unit participation showed a great deal of variation when segmented according to Area Education Districts established by the Department of Public Instruction. District XI surrounding the State capital, Des Moines, reflected the highest degree of participation with 87.5 per cent. Two districts, II and VIII, had no participating units.

Four-year high school districts submitted 1,224 projects which were approved. A total of 335 of the 459 districts of this type, or 73 per cent, participated. The subject matter area of science nearly doubled all the other areas combined with 611 projects. Grade level emphasis

was on the senior high level with 541 projects.

A division of four-year high school districts into Area Education Districts showed a range of participation from 61.0 per cent to 100.0 per cent with the district with the largest number of this type of school exhibiting the lowest percentage. Additionally, the district with the fewest schools showed the highest degree of participation. No particular section of the State showed any considerable deviation.

A comparison of participation by enrollment of four-year high school districts showed those districts with an enrollment of less than 700 participating in the 60 to 70 per cent range, whereas districts enrolling 2,000 pupils and over participated at the rate of over 90 per cent.

Operating non-high school districts submitted 23 approved projects. With 11 of the 202 districts of this type participating, a percentage of participation of 5 per cent resulted. The area of science was emphasized with 14 projects. Grade level differentiation showed 15 elementary and 8 junior high projects.

A total of 5 special school districts, indirectly under state control, submitted 17 approved projects. The areas of science and mathematics were emphasized by these districts with 7 projects each. Grade level consideration showed emphasis on the combination junior-senior high level with 10 projects in this category.

Expenditures. Reimbursements totaling \$1,177,200.33 were distributed during the 1964-65 school year in Iowa under Title III of the National Defense Education Act. This figure represented a rank order placement of third in number of dollars distributed, the total being surpassed during the 1960-61 and 1961-62 school years.

Based upon project enrollment reports, average per pupil reimbursements were computed according to subject matter areas and grade levels for the county units on one hand and the individual school systems on the other. The county units showed the highest per pupil reimbursement of \$.21 in the area of science followed by geography with \$.13 and history with \$.11. Individual school systems also showed the largest average per pupil reimbursement in the area of science with \$2.03 followed by \$1.33 per pupil enrolled in modern foreign languages. The lowest per pupil reimbursements for individual school systems were in the areas of civics with \$.12 and geography with \$.32. When considered on a grade level basis, the county units showed a high average per pupil reimbursement of \$.31 on the junior high level and a low average per pupil reimbursement of \$.10 on the senior high level. Individual school systems were represented with a high average per pupil reimbursement of \$3.49 on the combination junior-senior high level and a low average per pupil reimbursement of \$.54 on the elementary level.

A percentage comparison of expenditures for the areas of science, mathematics, and modern foreign languages between the national figures for fiscal years 1959-63 and the Iowa figures for the 1964-65 school year showed the following relationships respectively: science, 73.0 per cent to 73.7 per cent; mathematics, 16.2 per cent to 8.6 per cent; and modern foreign languages, 10.8 per cent to 17.7 per cent.

An intrastate comparison drawn from the lowest and highest quarters of participating four-year high school districts showed that the smaller districts in enrollment received an average per pupil reimbursement of \$2.91 as compared to the districts with the larger enrollments which received an average per pupil reimbursement of \$1.78.

Questionnaire Item 1, asking administrators of participating four-year high school districts to formulate a division of expenditures between materials and equipment, showed a questionnaire return of 91.9 per cent of the total reimbursements to these four-year high school districts for the 1964-65 school year. In total perspective it was reported that 31.1 per cent of the reimbursements were spent for the purchase of materials and 68.9 per cent for the purchase of equipment. When individual subject matter areas were considered, modern foreign languages showed the highest per cent of expenditure for equipment with 77.5 per cent, and the area of civics showed the lowest per pupil expenditure for this area with 17.0 per cent. In the areas of history,

civics, reading, and English the reported expenditures for materials exceeded that reportedly expended for equipment. A grade level division showed the following relationships between expenditures for materials and equipment respectively: elementary, 41.5 per cent to 58.5 per cent; junior high, 46.1 per cent to 53.9 per cent; senior high, 23.0 per cent to 77.0 per cent; and combination junior-senior high, 21.9 per cent to 68.9 per cent.

Curriculum. Questionnaire Item 2, requesting administrators of four-year high school districts to assess the effect of the receipt of funds through Title III toward stimulating curricular improvements in the areas for which reimbursement was received, showed 96.0 per cent of the responding administrators indicating an increase. A grouping of 51.9 per cent of these administrators had detected an increase of an appreciable nature.

In Questionnaire Item 3 the administrators were asked to determine the effect of matching reimbursements with local funds upon money made available for other curriculum areas. Over one-half, 52.2 per cent of the respondents, indicated no change as having taken place. An additional 41.8 per cent of these administrators noted an increase in the funds made available for other equally important areas.

Evaluative Judgments. Of the 318 administrators responding to Questionnaire Item 5, which asked for reactions

to the expansion of Title III of the National Defense Education Act to include history, civics, geography, reading, and English, 94.0 per cent of them considered the expansion to be desirable. This percentage included 185 of the administrators who referred to the addition as being very desirable.

When asked to provide suggested future alterations for Title III in Questionnaire Item 6, 34.9 per cent of the 318 administrators advocated no change in the program; 16.3 per cent advocated a change to general aid, and 31.8 per cent spelled out subject matter area additions. Another 4.7 per cent of the administrators suggested additions outside the realm of specific subject matter areas. The subject matter areas most frequently listed and the number of times included: industrial arts, 61; business education, 45; physical education, 40; art, 36; vocational education, 17; music, 16; and home economics, 12. The most frequently mentioned area outside the realm of subject matter areas was the library.

Questionnaire Item 4 requested the administrators to consider the price changes of items purchased aside from normal inflationary rise. The term, normal inflationary rise, was inserted to allow for a rising trend in production costs aside from the idea measured as to whether manufacturers had increased or reduced prices to encourage or discourage purchasing. Of the 318 responding administrators 70.5 per cent of them noted an additional increase with

49.4 per cent of them labeling the increase as slight. A group of 29.2 per cent of the administrators indicated no change aside from the rise caused by production costs.

When administrators were asked to list what they considered to be the most advantageous aspect of Title III in Questionnaire Item 7, a variety of responses were given. However, four major categories seemed to be evident in view of the positive responses. A segment of 54.7 per cent of the respondents related their answers to the acquisition of funds. Another 27.4 per cent of the responding administrators listed curricular improvements. A grouping of 3.2 per cent of the respondents listed the ease of administration. A total of 10.3 per cent of the administrators failed to offer a response, and 3.8 per cent of them could not list any advantageous aspect.

A final question asked administrators to suggest the most disadvantageous aspect of Title III. A total of 273 of the 318 responding administrators provided responses. A large segment of 72.2 per cent of the responses expressed dissatisfaction with the receiving pattern. This percentage was composed of 21.6 per cent listing red-tape, 35.3 per cent noting application and accounting procedures, and 15.3 per cent showing concern with delays. Another area mentioned in 14.7 per cent of the responses was the element of federal control. A few of the responses indicated the stimulation of wasteful spending.

CONCLUSIONS

Participation. On a state-wide basis considerable diversity existed between the number of approved projects according to subject matter areas. Within the ranks of the established areas, science almost doubled mathematics in terms of number of projects, and mathematics in turn more than doubled the number of projects devoted to modern foreign languages. Very much in evidence also was the low degree of participation in the areas of civics, geography, history, reading, and English. This was expected in the transitional 1964-65 school year since these areas were added after about one-half of the school year had passed.

A consideration of grade level grouping of approved projects on a state-wide basis showed a slightly greater number of projects on the senior high level. However, a great deal of the difference between the number of approved projects for the elementary and senior high levels was exhibited in the area of modern foreign languages, an area traditionally reserved for the upper grade levels.

A comparison of the Iowa project totals for the 1964-65 school year with nationally established trends in the areas of science, mathematics, and modern foreign languages was used. The Iowa totals showed fewer projects proportionately in the areas of science and modern foreign languages. No answers were secured for the small deviation.

A final state-wide participation item of information was that only one remodeling project under Title III was awarded. This project was one portion of a combination junior-senior high science project also involving the acquisition of equipment.

County unit participation showed a definite emphasis upon the area of science with over 50 per cent of the approved projects in this area. Grade level emphasis was placed upon the elementary and combination junior-senior high levels. A striking result was the low degree of participation, only 3 of 139 approved projects, by the county units in the area of modern foreign languages. Realistically, the situation was viewed as feasible in view of the general lack of foreign language teaching in the rural county-operated elementary schools.

When county units were segmented into Area Education Districts outlined by the Department of Public Instruction, it was generally in evidence that county units in the northeast corner of the State of Iowa participated to the lowest degree. Conversely, a grouping of Area Education Districts in west-central Iowa exhibited the greatest degree of participation.

Four-year high school districts represented the largest grouping of school district types. This type of district also showed considerable activity in the area of science with 611 approved projects. This total almost doubled

the area of mathematics which in turn doubled the number of foreign language projects. The participation of these districts reflected the fact that the areas of history, geography, reading, civics, and English were added in January of the 1964-65 school year, a time when local purchases were governed by available surplus dollars. A grade level view showed the greatest participation on the senior high level.

A segmentation of four-year high school districts into Area Education Districts failed to produce any area of the State showing a great deal of deviation from the 73 per cent of participation of this type of district.

A comparison of participation of four-year high school districts showed that the larger districts participated to a greater extent under Title III. With some exceptions, a gradual rise in percentage of participation was detected as the enrollment size increased.

Two other district types, operating non-high school districts and special school systems, showed minor degrees of participation and were included to complete the elements of the State picture.

Expenditures. When expenditures were measured, the area of science involved the greatest number of dollar reimbursements on both the county and the individual school system levels. However, with also the most pupils reportedly

involved in these projects devoted to science on both levels, the per pupil reimbursement still remained the highest category. Only in the area of civics did the county reimbursements exceed those of individual school units.

With reference to grade levels the lower average per pupil reimbursements appeared on the elementary level. This was acceptable in view of the price of needed equipment and materials and the greater number of pupils involved in the projects. The highest average per pupil reimbursement of \$3.49 on the combination junior-senior high level for individual school systems was affected by the smaller number of pupils involved. This was based on the tendency of smaller school systems to categorize projects on the combination junior-senior high level and the fact that certain basic equipment purchases are necessitated through offering certain subject matter.

Throughout the expenditure analysis individual school systems on a per pupil basis far exceeded county unit effort. The reason was based upon purpose. Individual school systems faced the responsibility of providing the basic accessories in terms of materials and equipment necessary for adequate instruction. County units, on the other hand, operated in a supplemental capacity as materials reference centers.

When a percentage comparison between Title III reimbursements in Iowa during the 1964-65 school year and the

total national cost for reimbursements for the fiscal years 1959-63 in the areas of science, mathematics, and modern foreign languages was drawn, the area of science was represented by almost the same percentage. However, the percentages for mathematics and modern foreign languages were almost reversed. No attempt was made to account for this difference.

An intrastate comparison of the highest and lowest quarters in terms of enrollment of four-year high school districts showed that school districts in the highest quarter received considerably more reimbursed dollars, but on a per pupil basis the schools in the lowest quarter received reimbursements averaging \$1.13 more per pupil enrolled.

A final expenditure consideration was reached by a questionnaire item with reference to expenditures in the categories of equipment and materials. Another category, minor remodeling, was not considered because only one such project was approved in Iowa during the 1964-65 school year. Basically, the subject matter areas implemented in January of 1965 showed larger expenditure percentages for materials purchases, and the established areas of science, mathematics, and modern foreign languages showed larger expenditure percentages for the purchase of equipment. Since the established areas received the larger reimbursements, the final ratio of 31.1 per cent for materials and 68.9 per cent for equipment was produced.

Curriculum. With reference to stimulation of curriculum improvements in the areas for which funds were received, an overwhelming majority of 96 per cent of the questionnaires returned by the administrators of participating four-year high school districts noted an increase. This indication of progress was viewed as significant evidence that Title III federal reimbursements have been most valuable in improving instruction.

A related questionnaire item asking administrators to assess the money made available for other curriculum areas as a result of the matching provision significantly showed 41.8 per cent of the respondents indicating an increase. This evidence showed the fact that boards of education and administrators have been stimulated to support to a greater extent other curriculum offerings. This was considered to be a very desirable effect.

Evaluative Judgments. Several significant curriculum deductions were also secured from the evaluative judgments elicited from the administrators through the questionnaire device. One of the considerations was that 94 per cent of the administrators reacted favorably to the expansion of Title III to include five new areas. Another important outcome was the segment of respondents advocating a change to general aid for use in any needed area. Also significant was the frequency of the suggested subject matter additions

to Title III in the realms of vocational and cultural subjects.

An evaluative judgment related to the purchase price of items found a large portion of the administrators indicating an increase. With a gradual rise in prices due to a general inflationary trend considered, the general consensus produced the conclusion of an increase of the slight variety showing manufacturers taking slight advantage of the existing situation as opposed to the reduction of prices to further encourage purchasing.

A listing of the most advantageous aspect of Title III of the National Defense Education Act by administrators of participating schools found over one-half of the responses realistically geared to the reception of funds. Another large portion of administrators listed the area of curriculum improvement. These administrators thought that with additional materials secured at a faster rate in a gradually broadening number of areas, the improvement of teaching effectiveness had been greatly aided. It was for this basic outcome that the Act was established.

A listing of the most disadvantageous aspect of Title III by the administrators revealed primarily administrative problems. Situations such as red-tape, paper work, delays, and deadlines could readily be improved through insight and trial-and-error experiences. Two of the problems cited, federal control and curriculum imbalance, must be kept in line.

RECOMMENDATIONS

Title III of the National Defense Education Act has performed an important function which should be continued.

Through Title III activities equipment and materials have been placed in the hands of the classroom teacher so better instruction can be the result. This improvement in the selected areas was very much apparent when 96 per cent of the administrators questioned in this study indicated increased stimulation for improvement in the areas for which reimbursement was received.

A better balance in Title III reimbursements according to subject matter areas should be achieved.

As was depicted throughout the course of this study, a very strong emphasis upon the area of science was apparent. In the opinion of the author better results could be attained through a somewhat more symmetrical arrangement.

Title III should be expanded to reach curricular areas for which provisions have not been made by some type of federal measure.

Since the improvement of instruction has been noted in the curricular areas for which assistance has been given, this improvement should be expanded to other curricular areas.

If the areas suggested in this project such as industrial arts, business education, and home economics are not applicable under the Vocational Education Act of 1963, they should be given consideration for addition along with the arts and physical education. The idea of general aid, as opposed to categorical, possesses merit when one considers the individuality of localities.

Title III operations should be improved administratively.

With a large portion of the listed disadvantageous aspects of Title III by the administrators questioned in this study centering around administrative problems, it is hopeful that some of these problems could be eliminated. The problems of delays, red-tape, bookkeeping, reporting, application procedures, and inconsistencies possess many inherent administrative communication difficulties. The author conceptualized that while a certain amount of detail and routine is necessary, there always remain problem areas which could be more effectively administered.

The concept should be more fully developed that Title III reimbursements are made for three areas: equipment, materials, and minor remodeling.

Although this study showed an emphasis upon equipment purchases made under Title III of the National Defense Education Act, the areas of supplemental materials and minor

remodeling possess significance. The fact that about 30 per cent of the reimbursements in this study were spent for the purchase of materials has provided the illustration.

County units in the State of Iowa should become more involved in the degree and extent of participation.

If county school systems as intermediate units are to assume an active role as materials reference centers, a more active role in securing equipment and materials of the supplemental variety through Title III of the National Defense Education Act should be undertaken. This role has become more feasible as the burden of providing the basic rural elementary education has decreased because of school reorganization throughout the State.

BIBLIOGRAPHY

"Audio-Visual Provisions of P. L. 864 -- NDEA Act of 1958,"
Clearing House, XXXIII (March, 1959), pp. 447-448.

Breckmann, M. W. "NDEA Support for Improved Mathematics In-
struction," Math Teacher, XLIII (October, 1960), pp.
445-447.

Brennan, M. J. "NDEA and Elementary Science Equipment,"
National Elementary Principal, XXXIX (April, 1960),
pp. 53-54.

_____. "State Reports and Title III," School Life, XLII
(April, 1960), pp. 22-24.

"Broad Purpose Federal Support Should Replace NDEA: School
Administrators Opinion Poll Findings," The Nations
Schools, LXVII (March, 1961), p. 86.

Campbell, Roald F. "Antecedents and Expressions of Educa-
tional Policy at the National Level," Educational Re-
search Bulletin, XXXVIII (September, 1959), pp.
141-150.

_____, and Bunnell, Robert A. "Differential Impact of
National Programs on Secondary Schools," The School
Review, LXXI (Winter, 1963), pp. 465-471.

_____, and Hencley, Stephen P. "Accept NDEA Money -- But
With Doubts and Reservations," The Nations Schools,
LXIV (October, 1960), pp. 80-81.

Crummel, Robert A. "Administration of Title III: The Man
and the Job," School Life, XLIII (December, 1960),
pp. 13-14.

Department of Public Instruction. "Assignment of Superin-
tendents by Area Education District." Des Moines:
State of Iowa, 1965. (Mimeographed.)

_____. Data on Iowa Schools -- 1965. Des Moines: State
of Iowa, 1965.

_____. "Federal Reimbursements to Individual Schools for
1964-65 -- Regular and Supplemental." Des Moines:
State of Iowa, 1965.

_____. "Request Blank." Des Moines: State of Iowa,
1964. (Mimeographed.)

- _____. "State Plan for the Strengthening of Instruction in Science, Mathematics, Modern Foreign Languages, and Other Critical Subjects under Sections 301-304 of Title III as Amended." Des Moines: State of Iowa, 1964. (Mimeographed.)
- _____. "Title III Project Application." Des Moines: State of Iowa, 1964. (Mimeographed.)
- Derthick, Lawrence G. "Effect of the NDEA Act of 1958 on Our Secondary Schools," Bulletin of the National Association of Secondary School Principals, XLIII (April, 1959), pp. 343-346.
- _____. "Impact of the National Defense Education Act," The Nations Schools, LXIII (February, 1959), pp. 73-114.
- Eckelberry, R. H. "Long Step in the Right Direction," Educational Research Bulletin, XXXVIII (January, 1959), pp. 22-24.
- Exton, Elaine. "Administration of Defense Education Law still Controversial," The American School Board Journal, CXXXVIII (June, 1959), pp. 46-47.
- _____. "Controversies Cloud Administration of Defense Education Law," The American School Board Journal, CXXXVIII (January, 1959), pp. 40-41.
- _____. "School Part in Implementing Title III," The American School Board Journal, CXXXVIII (February, 1959), pp. 35-36.
- "Federal Aid: Don't Let It Unbalance the Curriculum," The Nations Schools, LXVI (November, 1960), pp. 76-80.
- Prazier, R. P. "State Plans and Title III," School Life, XLII (March, 1960), pp. 26-28.
- Harris, Arthur L. "Six Years of Progress under NDEA," Health, Education, and Welfare Indicators, II (November, 1964), pp. xv-xvi.
- Klohr, P. R. "NDEA," Educational Leadership, XVI (January, 1959), pp. 249-250.
- Leedington, J. R., and Gates, R. D. "What Are the Implications of the NDEA Act for Local Schools?" Bulletin of the National Association of Secondary School Principals, XLIII (April, 1959), pp. 123-125.

- Miller, Bruce, and Taylor, Donald N. "What Superintendents Think of NDEA," School Management, VI (May, 1962), pp. 87-90.
- "Millions for NDEA and Impacted Areas, not One Cent for General Support," NEA Journal, L (December, 1961), pp. 18-20.
- "National Defense Education Act," NEA Journal, LII (January, 1963), p. 69.
- "NDEA: a Full Report," School Life, XLI (October, 1958), pp. 2-32.
- "NDEA of 1958," School Executive, LXXVIII (October, 1958), pp. 16-17.
- Parr, Lawrence. "The Educational Implications of the Russian Sputnik Success as Exemplified by the National Defense Education Act." Unpublished Master's thesis, Drake University, Des Moines, 1962.
- Smith, H. A. "Report on Title III, NDEA of 1958," Science Teacher, XXVI (December, 1959), pp. 534-538.
- Sufrin, Sidney C. "Administering the National Defense Education Act." Public School Finance. Edited by Jesse Burkhead. New York: Syracuse University Press, 1964.
- Sullivan, J. Graham. "What NDEA Has Done and Can Do," The Nations Schools, LXVIII (July, 1961), pp. 45-46.
- United States Department of Health, Education, and Welfare. Annual Report. A Report Prepared by the Office of Education. Washington: Government Printing Office, 1964.
- . Grants in Aid and Other Financial Assistance Programs Administered by the United States Department of Health, Education, and Welfare. A Report Prepared by the Office of Education. Washington: Government Printing Office, 1964.
- . NDEA Title III Guidelines. A Report Prepared by the Office of Education. Washington: Government Printing Office, 1965.
- . Report on the National Defense Education Act of 1963. A Report Prepared by the Office of Education. Washington: Government Printing Office, 1964.

APPENDIX

COVER LETTER

Denison, Iowa
November 9, 1965

Dear Administrator:

I am currently in the process of attempting to clarify and synthesize some information relative to an administrative field study performed as a requirement for the Educational Specialist Degree at the University of Omaha. It is my sincere hope that you will be of assistance to me in this endeavor through the completion of the enclosed one-page questionnaire.

The topic of my investigation is the National Defense Education Act, Title III, with specific emphasis upon the 1964-65 school year necessitated in view of available data. The questionnaire has been utilized in order to secure some expanded information with reference to material collected from the Department of Public Instruction and to secure reactions of the school leaders of the participating districts with reference to NDEA, Title III.

Perhaps some explanation relative to the first question is necessary. I am here trying to determine the division or per cent of money spent for each of the two categories established in the Guidelines. The amount your school was reimbursed has been placed in the first section, and I am asking that you show the division of that amount into the two corresponding categories. It is my hope that this explanation will clarify the maze which at first glance may be problematical.

Again, I urge you to complete the enclosed questionnaire and return it to me in the enclosed self-addressed stamped envelope by December 1st. If you desire to secure a summary of the results of this study, please check the appropriate blank at the bottom of the questionnaire.

Thank you very much for your consideration.

Sincerely yours,

Wade J. Bruggeman
Denison Community Schools

QUESTIONNAIRE

1. Records on file in the Department of Public Instruction show that your district participated in the NDEA program of Title III during the 1964-65 school year in the areas where reimbursement is shown.

	Science	Math	F. Lang.	History	Civics	Reading	English	Geog.
Ele.	_____	_____	_____	_____	_____	_____	_____	_____
J.H.	_____	_____	_____	_____	_____	_____	_____	_____
S.H.	_____	_____	_____	_____	_____	_____	_____	_____
Com.	_____	_____	_____	_____	_____	_____	_____	_____

I am interested in determining the per cent of the money spent for the following two purposes: (1) materials and (2) equipment. Please indicate these percentages for the areas completed as accurately as is feasibly possible.

	Science		Math		F.Lang.		History		Civics		Reading		English		Geog.		
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Ele.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
J.H.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
S.H.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Com.	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

2. What effect did these NDEA funds have toward stimulating improvements in the areas for which reimbursement was received?
- _____ Appreciable increase _____ Slight increase _____ No change
 _____ Slight decrease _____ Appreciable decrease
3. Since your district has used local matching funds in order to receive this reimbursement, in what manner do you think this has affected funds available for other equally important areas of the curriculum?
- _____ Appreciable increase _____ Slight increase _____ No change
 _____ Slight decrease _____ Appreciable decrease
4. Relative to the prices of items purchased, how do you feel that these prices have been affected by the presence of NDEA funds aside from the normal inflationary increase?
- _____ Appreciable increase _____ Slight increase _____ No change
 _____ Slight decrease _____ Appreciable decrease
5. What is your reaction to the expansion of NDEA to include history, civics, geography, reading, and English?
- _____ Very desirable _____ Desirable _____ No opinion
 _____ Undesirable _____ Very undesirable
6. If you believe that in the future NDEA, Title III, should be altered, list the areas in order of priority that you think should be included.
- _____
7. What do you like best or consider to be the most advantageous aspect relative to NDEA, Title III?
- _____
8. What do you dislike most or consider to be the most disadvantageous aspect relative to NDEA, Title III?
- _____

If you desire a summary of these findings, please check _____

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Paul F. Johnston, Superintendent
Des Moines, Iowa 50319

REQUEST BLANK
for application forms under Title III of
the National Defense Education Act

Check the area(s) and grade level(s) for which you wish application forms.
Please indicate the approximate amount of money (Federal plus local matching funds)
to be expended for each project you expect to submit.

MATHEMATICS
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

GEOGRAPHY
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

MOD. FOR. LANG.
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

CIVICS
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

SCIENCE
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

ENGLISH
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

HISTORY
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

READING
Elementary _____ \$ _____
Junior High _____ \$ _____
Senior High _____ \$ _____
Jr/Sr Comb. _____ \$ _____

TOTAL PROJECT REQUESTS \$ _____

Name of School District

Superintendent

Return to Mr. Paul E. Wallace, Coordinator - Title III, National Defense Education Act and Director of Supervision.

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Paul F. Johnston, Superintendent
Des Moines, Iowa 50319

TITLE III PROJECT APPLICATION

for the improvement of instruction in the subject areas of
science, mathematics, modern foreign languages, history,
civics, geography, English, and reading.

(FOUR COMPLETE COPIES MUST BE SUBMITTED FOR CONSIDERATION)

NAME OF DISTRICT _____

ADDRESS OF DISTRICT _____ COUNTY _____

Subject Area _____ Level _____
(SEE SUBJECT AREAS ABOVE) (ELEM, JR, SR, JR/SR)

No. Centers _____ Total Level Enrollment _____

TOTAL EXPENDITURES FOR MATERIALS & EQUIPMENT _____

TOTAL EXPENDITURES FOR MINOR REMODELING _____

TOTAL _____

FINANCIAL DATA

Assessed valuation per pupil (ADA) _____

Free bonding capacity available _____

Total district mill levy _____

We certify that:

- a. The equipment and materials included in this application will be used (by teachers in teaching and/or students in learning) to provide education in the above subject areas.
- b. The storage space included in this application will be used solely for the care and protection of equipment and materials used in teaching the above subject areas.
- c. The space to be remodeled, referred to in this application will be used for providing education in the above subject areas.
- d. The expendable materials included in this application will be used solely by teachers in preparing instructional aids to provide education in the above subject areas. These aids should have a normal usage of at least one year.
- e. None of the equipment and/or materials requested in the application will be purchased from a communist country.
- f. THE ASSURANCE OF COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, FILED WITH THE STATE DEPARTMENT OF PUBLIC INSTRUCTION, DATED _____ MONTH _____ DAY _____ YEAR APPLIES TO THE APPLICATION SUBMITTED HERewith

PLEASE LEAVE BLANK	
Date Received _____	
Evaluation _____	
Allowable Expenditures _____	
Allowable Reimbursement _____	
Signatures: _____	

Signature _____ PRESIDENT OF BOARD OF EDUCATION DATE ADDRESS

Signature _____ SECRETARY OF BOARD OF EDUCATION DATE ADDRESS

Signature _____ SUPERINTENDENT OF SCHOOLS DATE ADDRESS

DESCRIPTION OF PROJECT

194

PROJECT FACILITIES: Indicate dimensions of laboratory rooms used in this project.

Room No. 1, _____ by _____

Room No. 2, _____ by _____

Room No. 3, _____ by _____

Other pertinent information:

PERSONNEL AND PROGRAM: Submit complete information for each (secondary) teacher in the project area and star (*) proposed new subjects for the next year. For chemistry, physics, biology, Spanish, French, German, etc., list the actual semester hours of preparation in the subject. In other subjects such as general science, mathematics, etc., give the semester hours in the field. (On elementary applications, list only the name of the person who will be directly responsible for the administration of the program and the number of semester hours of preparation in the subject area.)

NAME _____ Folder No. _____					NAME _____ Folder No. _____				
SUBJECT	NO. OF SECTIONS	TOTAL ENROLL	LENGTH PERIOD	SEM. HRS.	SUBJECT	NO. OF SECTIONS	TOTAL ENROLL	LENGTH PERIOD	SEM. HRS.

NAME _____ Folder No. _____					NAME _____ Folder No. _____				
SUBJECT	NO. OF SECTIONS	TOTAL ENROLL	LENGTH PERIOD	SEM. HRS.	SUBJECT	NO. OF SECTIONS	TOTAL ENROLL	LENGTH PERIOD	SEM. HRS.

TECHNIQUES FOR EVALUATIONS: Check the techniques that have been used to determine the gains and benefits that previous Title III equipment and/or materials have made to your educational program.

- | | |
|--------------------------|-------------------------------|
| Teacher Made Tests _____ | Standardized Tests _____ |
| Interest Surveys _____ | Follow-up Studies _____ |
| Enrollment Changes _____ | Parent Responses _____ |
| Teacher Enthusiasm _____ | Guidance and Counseling _____ |
| Other _____ | Other _____ |

JUSTIFICATION: Include information that will support justification for approval of this project, including specific justification of unusual items. The following suggestions may be considered:

1. Articulation of program K-12.
2. Unusual characteristics of the program in this area.
3. People who are involved in preparing this application and selecting the items requested.
4. In-service educational plans that insure appropriate use of the equipment and materials requested.
5. Special qualifications of teachers in this area in addition to academic preparation.

JUSTIFICATION:

195

PROPOSED PURCHASES

Please follow these regulations in preparing the proposed purchase list:

1. Give the complete name of each item.
2. Indicate either a standard number, catalog number (give name, date of catalog, and page number), or annotation and specification for each item requested.
3. State the number of items requested.
4. List by name and address the source from which the estimated cost of the item was determined. (Change of source is permissible in the same item category, if the item is of equal quality and efficiency as that originally approved. Example: An overhead projector cannot be purchased in lieu of an opaque projector).
5. State the unit cost of each item.
6. Indicate the total cost of the item.
7. Remodeling does not include equipment or furniture.
8. Remodeling cost must be itemized according to materials and labor, accompanied with detailed drawings or blueprints.
9. Whenever possible, list all similar items together.
10. Please enclose one adding machine tape of purchase list corresponding to the expenditures on page one.

ITEM NAME	STANDARD NO.	NO. ITEMS	SOURCE OF PURCHASE	UNIT COST	TOTAL COST

PARTICIPATING AND NONPARTICIPATING FOUR-YEAR HIGH SCHOOL
DISTRICTS ACCORDING TO AREA EDUCATION DISTRICTS

Participating:

Nonparticipating:

DISTRICT I

Allamakee Community
Central Community
Decorah Community
Eastern Allamakee Community
Howard-Winneshiek Community
Mar-Mac Community
MPL Community
Nashua Community
New Hampton Community
North Winneshiek Community
Postville Community
Riceville Community
South Winneshiek Community

Fayette Community
Fredericksburg Community
Garnaville Community
Guttenberg Community
North Fayette County Community
Turkey Valley Community
Valley Community

DISTRICT II

Belmond Community
Britt Community
Buffalo Center Community
CAL Community
Charles City Community
Clear Lake Community
Dumont Community
Forest City Community
Garner-Hayfield Community
Hampton Community
Lake Mills Community
Mason City Independent
Meservey-Thornton Community
Nora Springs-Rock Falls Community
North Central Community
Northwood-Kensett Community
Osage Community
Rake Community
Rockwell-Swaledale Community
Saint Ansgar-Grafton Community
Thompson Community
Ventura Community
Woden-Crystal Lake Community

Corwith-Wesley Community
Greene Community
Kanawha Community
Klemme Community
Rudd-Rockford-Marble Rock
Sheffield-Chapin Community

DISTRICT III

Armstrong Community
Arnolds Park Consolidated

Algona Community
Ayrshire Consolidated

Emmetsburg Community
 Estherville Community
 Graettinger Community
 Harris-Lake Park Community
 Lakota Consolidated
 Ledyard Community
 LuVerne Community
 Mallard Community
 Milford Community
 Ruthven Consolidated
 Sentral Community
 Sioux Valley Community
 South Clay Community
 Spencer Independent
 Spirit Lake Community
 Swea City Community
 Terril Community
 West Bend Community

Burt Community
 Clay Central Community
 Cylinder Consolidated
 Everly Community
 Lincoln-Central Community
 Ringsted Independent
 Titonka Consolidated

DISTRICT IV

Akron Community
 Alta Community
 Anthon-Oto Community
 Cherokee Independent
 Crestland Community
 Cushing Consolidated
 East Monona Community
 Floyd Valley Community
 Hartley Community
 Holstein Community
 Lake View-Auburn Community
 Lawton Community
 LeMars Community
 Little Rock Community
 Maple Valley Community
 Marcus Community
 Maurice-Orange City Community
 Newell-Providence Community
 Odebolt-Arthur Community
 Pringhar Community
 Remsen-Union Community
 Rock Valley Community
 Sac Community
 Schaller Community
 Sergeant Bluff-Luton Community
 Sheldon Community
 Sibley Independent
 Sioux Center Community
 Sioux City Independent
 Sioux Rapids Community
 Storm Lake Community

Albert City-Truesdale Community
 Aurelia Community
 Battle Creek Community
 Boyden-Hull Community
 Central Lyon Community
 Correctionville Independent
 Galva Community
 George Community
 Hinton Community
 Ida Grove Community
 Kingsley-Pierson Community
 Marathon Consolidated
 Melvin Community
 Meriden-Cleghorn Community
 Ocheyedan Community
 Paullina Community
 Rembrant Consolidated
 Sanborn Community
 Sutherland Community
 Wall Lake Community
 West Monona Community
 Willow Community
 Woodbury Central Community

Westfield Community
 West Lyon Community
 West Sioux Community
 Westwood Community
 Whiting Community

DISTRICT V

Boone Valley Community	Dayton Community
Cedar Valley Community	Dows Community
Central Webster Community	Eagle Grove Community
Clarion Independent	Fonda Community
Fort Dodge Community	Laurens Community
Gilmore City-Bradgate Community	Pocahontas Community
Goldfield Community	Pomeroy Community
Havelock-Plover Community	Prairie Community
Humboldt Community	South Hamilton Community
Lake City Community	Stratford Community
Lohrville Community	
Lytton Community	
Manson Community	
Northeast Hamilton Community	
Northwest Webster Community	
Palmer Consolidated	
Rockwell City Community	
Rolfe Community	
Twin Rivers Community	
Webster City Community	

DISTRICT VI

Ackley-Geneva Community	Alden Community
Beaman-Conrad Community	Collins Community
BGM Community	Colo Community
Eldora Community	Garwin Community
Green Mountain Independent	Gladbrook Community
Grinnell-Newburg Community	Semco Community
Hubbard Community	Steamboat Rock Community
Iowa Falls Community	
LDF Community	
Lynville-Sully Community	
Marshalltown Community	
Montezuma Community	
Nesco Community	
New Providence Community	
Radeliffe Community	
South Tama County Community	
Union-Whitten Community	
Wellsburg Community	
West Marshall Community	

DISTRICT VII

Aplington Community	Allison-Bristow Community
Cedar Falls College Community	Clarksville Community
Denver Community	New Hartford Consolidated
Dike Community	North Tama County Community
Dunkerton Community	Plainfield Community
Dysart Community	Reinbeck Community
East Buchanan Community	
Geneseo Consolidated	
Grundy Center Community	
Hudson Community	
Independence Independent	
Janesville Consolidated	
Jesup Community	
LaPorte City Community	
Oelwein Community	
Parkersburg Community	
Starmont Community	
Summer Community	
Tripoli Community	
Wapsie Valley Community	
Waterloo Independent	
Waverly-Shell Rock Community	
West Central Community	

DISTRICT VIII

Andrew Community
 Bellevue Community
 Dubuque Community
 Edgewood-Colesburg Community
 Maquoketa Community
 Maquoketa Valley Community
 Miles Community
 Preston Community
 Sabula Community
 West Delaware County Community
 Western Dubuque Community

DISTRICT IX

Bennett Community	Calamus Community
Bettendorf Community	Camanche Community
Clinton Community	Central Clinton Community
Davenport Community	Lost Nation Community
Delwood Community	Northeast Community
Durant Community	West Liberty Community
Lowden Consolidated	Wheatland Community
Muscatine Community	
North Scott Community	
Pleasant Valley Community	
Wilton Community	

DISTRICT X

Amena Township
 Anamosa Community
 Belle Plaine Community
 Benton Community
 Cedar Rapids Community
 Central City Community
 Clarence Community
 Clear Creek Community
 College Community
 English Valleys Community
 HLV Community
 Iowa City Community
 Iowa Valley Community
 Linn-Mar Community
 Lisbon Consolidated
 Lone Tree Community
 Marion Independent
 Monticello Community
 Mount Vernon Community
 Norway Consolidated
 Olin Consolidated
 Shellsburg Consolidated
 Solon Community
 Tipton Community
 Urbana Consolidated
 Vinton Community
 Walker Consolidated
 West Branch Community
 Williamsburg Community

Alburnett Community
 Center Point Consolidated
 Deep River-Millersburg Community
 Garrison Consolidated
 Lincoln Community
 Midland Community
 Oxford Junction Consolidated
 Springville Community
 Troy Mills Consolidated

DISTRICT XI

Adel Community
 Ankeny Community
 Ballard Community
 Baxter Community
 Boone Community
 Carlisle Community
 Central Dallas Community
 Dallas Center Community
 Des Moines Independent Community
 Dexfield Community
 Earlham Community
 Gilbert Community
 Grand Community
 Interstate 35 Community
 Johnston Consolidated
 Knoxville Community
 Madrid Independent
 Melcher-Dallas Community

Ames Community
 Bondurant-Farrar Community
 Colfax Community
 Indianola Community
 Martensdale-St. Marys Community
 Maxwell Community
 Mingo Community
 Winterset Community
 Woodward-Granger Community

Nevada Community
 New Monroe Community
 Newton Community
 North Polk Community
 Norwalk Consolidated
 Ogden Community
 Pella Community
 Perry Community
 Pleasantville Community
 Prairie City Community
 Roland Community
 Saydel Consolidated
 Southeast Warren Community
 Southeast Polk Community
 Story City Community
 Twin Cedars Community
 United Community
 Urbandale Community
 Van Meter Community
 Waukee Community
 West Des Moines Community

DISTRICT XII

Adair-Casey Community	Ar-We-Va Community
Audubon Community	Coon Rapids Community
Bayard Community	Denison Community
Carroll Independent	Glidden-Ralston Community
Charter Oak-Ute Community	Harlan Community
Dow City-Arion Community	Manilla Community
East Greene County Community	Manning Community
Elk Horn-Kimballton Community	Paton-Churdan Community
Exira Community	Scranton Consolidated
Guthrie Center Community	
Irwin Community	
Jefferson Community	
Menlo Community	
Penora-Linden Community	
Schleswig Community	
Shelby-Tennant Community	
Stuart Community	
YJB Community	

DISTRICT XIII

Anita Community	Atlantic Community
Avoha Community	Clarinda Community
C and M Community	Logan-Magnolia Community
Carson-Macedonia Community	Nishna Valley Community
Council Bluffs Independent	Oakland Community
Dunlap Community	Shenandoah Community
Essex Community	Sidney Community

Farragut Community
 Fremont-Mills Community
 Glenwood Community
 Griswold Community
 Hamburg Community
 Lewis Central Community
 Malvern Community
 Missouri Valley Independent
 Red Oak Community
 South Page Community
 Stanton Independent
 Treynor Community
 Tri-Center Community
 Underwood Community
 Villisca Community
 Walnut Community
 West Harrison Community
 Woodbine Community

DISTRICT XIV

Bedford Community
 Cambria-Corydon Community
 Central Decatur Community
 Chariton Community
 Clarke Community
 Corning Community
 Creston Community
 Diagonal Community
 East Union Community
 Grand Valley Community
 Greenfield Community
 Lamoni Community
 Lenox Community
 Mormon Trail Community
 New Market Community
 Orient-Macksburg Community
 Prescott Community
 Russell Community
 Seymour Community

ACL Community
 Bridgewater-Fontanelle Community
 Clearfield Community
 Mount Ayr Community
 Murray Community

DISTRICT XV

Albia Community
 Blakesburg Community
 Centerville Independent
 Davis County Community
 Eddyville Community
 Fairfield Community
 Fox Valley Community
 Fremont Independent
 Harmony Community

Cardinal Community
 Keota Community
 Moravia Community
 Moulton-Udell Community
 Van Buren Community

Hedrick Community
Highland Community
Mid Prairie Community
North Mahaska Community
Oskaloosa Community
Ottumwa Community
Pekin Community
Sigourney Independent
Tri County Community
Washington Community

DISTRICT XVI

Burlington Community
Central Lee Community
Columbus Community
Danville Community
Fort Madison Community
Keokuk Community
Mediapolis Community
Mount Pleasant Community
New London Community
Waco Community

Louisa-Muscatine Community
Morning Sun Community
Wapello Community
West Burlington Independent
Winfield-Mt. Union Community

PARTICIPATING AND NONPARTICIPATING COUNTY UNITS
ACCORDING TO AREA EDUCATION DISTRICTS

Participating:

Nonparticipating:

DISTRICT I

Peyette County

Allamakee County
Chickasaw County
Clayton County
Howard County
Winneshiek County

DISTRICT II

Cerro Gordo County
Floyd County
Franklin County
Hancock County
Mitchell County
Winnebago County
Worth County

DISTRICT III

Clay County
Dickinson County
Palo Alto County

Emmet County
Kossuth County

DISTRICT IV

Lyon County
Monona County
O'Brien County
Plymouth County
Sac County
Sioux County
Woodbury County

Buena Vista County
Cherokee County
Ida County
Osceola County

DISTRICT V

Calhoun County
Hamilton County
Humboldt County
Pocahontas County
Webster County

Wright County

DISTRICT VI

Marshall County
Poweshiek County

Hardin County
Tama County

DISTRICT VII

Buchanan County

Black Hawk County
Bremer County
Butler County
Grundy County

DISTRICT VIII

Delaware County
Dubuque County
Jackson County

DISTRICT IX

Clinton County
Scott County

Muscatine County

DISTRICT X

Benton County
Cedar County
Iowa County
Linn CountyJohnson County
Jones County

DISTRICT XI

Boone County
Dallas County
Jasper County
Marion County
Polk County
Story County
Warren County

Madison County

DISTRICT XII

Audubon County
Crawford County
Greene County
Shelby CountyCarroll County
Guthrie County

DISTRICT XIII

Cass County
Fremont County
Harrison County
Pottawattamie CountyMills County
Montgomery County
Page County

DISTRICT XIV

Adair County
Taylor County
Union County
Wayne County

Adams County
Clarke County
Decatur County
Lucas County
Ringgold County

DISTRICT XV

Appanoose County
Davis County
Jefferson County
Mahaska County
Van Buren County
Wapello County
Washington County

Keokuk County
Monroe County

DISTRICT XVI

Henry County

Des Moines County
Lee County
Louisa County