EFFECTS OF TITLE I OF THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965 UPON THE INDUSTRIAL ARTS PROGRAMS IN SELECTED IOWA PUBLIC SCHOOLS

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by

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EFFECTS OF TITLE I OF THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965 UPON THE INDUSTRIAL ARTS PROGRAMS IN SELECTED IOWA PUBLIC SCHOOLS

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Approved by Committee:

[Signatures]

Dean of the Graduate Division

[Signature]
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CHAPTER I

INTRODUCTION

The Elementary and Secondary Education Act was signed into Public Law 89-10 by President Johnson on April 11, 1965. This legislation authorized over 1.06 billion dollars in federal aid to the schools of the nation.\(^1\) Although five different types of federal aid to education were provided by the act, the scope of this research was limited to Title I which authorized assistance to schools for payment of one-half the average per pupil expenditure for children from families with an income below $2,000 per year.

I. STATEMENT OF THE PROBLEM

Recently the Iowa State Department of Public Instruction has stated that an industrial arts Title I project should serve to provide exploratory experience for youth to enable them to gain knowledge of the industrial society. Assistance will be provided for developing a comprehensive, general industrial arts program by the State Department of Public Instruction. A regularly certified industrial arts

teacher will be best qualified to teach the necessary knowledge and skills. The problem was: Have the school districts provided exploratory experience in comprehensive programs; what was the amount of federal financial assistance they received under Title I for their program? Have the schools provided certified industrial arts teachers and in-service training in this field?

II. PURPOSE OF THE STUDY

The purpose of this field report was to determine the effects of Title I of the Elementary and Secondary Education Act of 1965 upon the industrial arts programs in the selected Iowa public schools. The effects of the act were determined in the following areas:

1. Changes in the industrial arts program because of Title I, and changes in the number of students participating in the program;

2. Amount of funds reimbursed under Title I to the selected public schools and how it was used;

3. Number of teachers approved in industrial arts and if they have received in-service training in this field.

Iowa State Department of Public Instruction, "Exploratory Experiences in Industrial Arts Education," Policy Statement (Des Moines: State Department of Public Instruction, n.d.). (Mimeographed.)
III. IMPORTANCE OF THE STUDY

A greater degree of pressure appears to be developing in education to help the deprived in those school districts with a concentration of low-income families. With the increasing emphasis upon formal education in the United States, it was urgent that the schools initiate programs designed to help students in low-income families. In this study an attempt was made to determine the progress made by selected schools in Iowa in setting up and carrying out programs designed to help the above students. The number of students helped and the amount of funds made available was determined. Training the teachers have received was also determined.

IV. DEFINITION OF TERMS

Course offering. Course offering is the specific title or name of a given subject in the industrial arts curriculum.

Curriculum. Curriculum is the course of study in a school. In this investigation curriculum referred specifically to Industrial arts.

**Exploratory experiences.** Instruction will be largely of an individual nature, and students should be rotated through short periods of instruction in the various phases of work to provide exploration. As the youth progresses and finds a certain area or two in which he has interest and skill, opportunities to develop this specialty should be provided.

**Industrial arts instructor.** A person approved to devote one-half time or more to industrial arts activities was designated as an industrial arts instructor. In order for a person to be approved as an industrial arts instructor by the State Department of Public Instruction, he must have completed fifteen semester hours in industrial arts courses at an accredited institution of higher learning.

**In-service training.** In-service training was interpreted as meaning all programs planned by administrators, supervisors, and teachers to promote by appropriate means the professional growth and development of professional personnel during their teaching service.

**Reimbursed funds.** The term "reimbursed funds" refers to those funds which were actually paid to the Iowa public secondary schools which conducted programs under Title I.
V. PROCEDURES OF THE STUDY

The data for this field report were secured through research into books and professional publications available concerning the topic of Title I of the Elementary and Secondary Education Act of 1965. The materials published by the Iowa State Department of Public Instruction on the topic of Title I and its aid to industrial arts programs in the schools of Iowa were also used in this research. Data were also collected, by use of a questionnaire, from selected Iowa public schools, and were validated by sending questionnaires to five selected schools not included in the study. Changes and classification of questions were determined from this validation. Data collected included:

1. The total expenditures of selected schools for programs conducted under Title I;
2. The amount of federal funds reimbursed to these schools;
3. The changes in the industrial arts curricula because of Title I;
4. The number of students in the programs;
5. The number of teachers certified in industrial arts and if they are receiving in-service or additional
training in schools of higher learning.

Tables were used to summarize the data. Conclusions were drawn and recommendations made.

VI. LIMITATIONS OF THE STUDY

This study was limited to fifteen schools, including three different categories classified according to size. Schools in Class A included five schools with a three-year average daily attendance over two hundred high school students. Schools in Class B included five schools with a three-year average daily attendance of 125 to 200 high school students. Schools in Class C included five schools with a three-year average daily attendance under 125 high school students. Selection of five schools from each of these three categories gave equal representation to schools of these sizes. The schools were picked from each classification by a table of random numbers. Only Title I of the Elementary and Secondary Education Act of 1965 was included in the study on industrial arts programs.

The study was set up in four chapters. In Chapter I the problem was set up. Included are its purpose, its importance, definition of terms, the procedures that were followed, and the limitations of the study. Chapter II
contains the history and background of Title I of the Elementary and Secondary Education Act of 1965. The purposes of Title I, the requirements for participation in the program, and the Iowa state plan are included in Chapter II.
CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature pertaining to Title I of the Elementary and Secondary Education Act of 1965 has been presented in Chapter II. This review has been summarized in three major parts: (1) general purposes of Title I, (2) requirements for participation under the Act as set forth by the United States Office of Education, and (3) requirements for participation under the Act as set forth by the Iowa State Department of Public Instruction.

As stated by President Johnson:

The Elementary and Secondary Education Act of 1965 was passed by the 89th Congress on April 9, 1965, to bridge the gap between helplessness and hope for more than five million educationally deprived children. As a son of a tenant farmer, I know that education is the only valid passport from poverty. As a former teacher--and I hope a future one--I have great expectations of what this law will mean for our young people.1

Although several types of federal aid to education were provided, the Act was designed to serve as a single purpose. Keyed to "poverty" ESFA will virtually double the amount of Federal aid available to public schools.

Hughes stated the reasoning behind this legislation and quoted the Act as follows:

The purpose of Title I is to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families. Title I is meant to improve the elementary and secondary educational opportunities of educationally deprived children.¹

This type of legislation is in accord with the democratic heritage as evidenced by the following statement by Fleming:

Paradoxical though it may seem, society as a whole must come to the aid of the individual—finding ways to identify him as a unique person, and to place him alongside his fellow men in ways which will not inhibit or destroy his individuality. By its educational system, its public and private institutional practices, and perhaps most importantly, by its attitude toward the creative person, a free society can actively insure its own constant invigoration.²

The Act was not intended to provide federal aid to every educational area. As Keppel stated, the improvement of the education of the children from low-income families is the first goal of the President's program.³

¹John F. Hughes, "Title I of the Elementary and Secondary Education Act of 1965," Audiovisual Instruction, X (October, 1965), 621.


³Hughes, op. cit., p. 622.
The purpose is not to take on all the problems of American education, but to take on the most serious problems first. The new program looks to the educational needs of the children of poverty whether in public or in private schools.

I. PURPOSES OF TITLE I

The first section in Title I contains the "declaration of policy" of the United States in recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs. The Congress hereby declares it to be the policy of the United States to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means which contribute particularly to meet the special educational needs of educationally deprived children.\(^1\) In a single school where there is a concentration of educationally deprived children, the funds are to be used to strengthen the education of this group.

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Programs that are established in such schools, even though designed primarily to aid low-income children, might very well benefit other children who do not fall under the specific income level of the law.

Poverty measures are used to make allocations of funds to the area of high concentration of educationally deprived children. Once that point is reached, educational measures are used to determine which specific children will participate in the programs established to eliminate the effects of deprivation. The law generally uses a $2,000 income criterion to distribute funds to school districts; but educational needs, not family income, are the major determinants of which children are benefited under the Title.¹

As to the kind of benefit to be sought for the educationally deprived child, the focus should center on the fullest development of his mind, body, and skills. Programs under this Title must have as their ultimate goals the equalization of opportunity between the educationally deprived and the more fortunate child.²

Designed to encourage and support the establishment, expansion, and improvement of special programs,

¹Hughes, op. cit., p. 623. ²Ibid.
including the construction of school facilities where needed, to meet the special needs of educationally deprived children of low-income families. Public school districts would be eligible for payments for programs designed to meet the special educational needs of children in school attendance areas having high concentrations of disadvantaged children. In these areas, the school district would design special educational services and arrangements, including those in which all children in need of such services could participate.¹

II. REQUIREMENTS FOR PARTICIPATION

The United States Office of Education was designated by Congress as the federal administrative agency for the Elementary and Secondary Education Act. The states and local communities, however, retained primary responsibility for, and complete control over, the educational institutions. In Iowa, the State Department of Public Instruction was the administrative agency for the Act. It was the responsibility of this department to approve or disapprove all applications submitted by Iowa public schools for federal reimbursement under Title I of the Act.

Furthermore, this agency handled all communications concerning Title I between the federal government and the Iowa public schools.

In order to obtain federal funds, each state was required to submit an application for participation to the Office of Education setting forth the details of its program for Title I. Each state's industrial arts project should serve to provide exploratory experience for youth to enable them to gain knowledge of the industrial society, skills useful in entering an occupation, and guidance with respect to making a vocational choice.

The role of the state educational agency is clearly set forth in the Act. The state agency administers the Title I program within the state. If the state wishes to participate in the program of Title I, it submits to the United States Commissioner of Education an application. It gives to the commissioner assurance that: (a) payments made to the state will be used only for programs and projects which the state agency has approved; (b) such fiscal control and fund accounting procedures will be adopted as to assure proper disbursement of funds paid to the state by the commissioner and funds paid to the state to the local educational agencies; and (c) the state will make such reports to the United States commissioner as may be
necessary, including reports regarding the effectiveness of the program.

III. THE IOWA STATE PLAN

The Iowa State Department of Public Instruction submitted its state plan to the Office of Education on November 1, 1965, and the plan was approved and put into effect on December 1, 1965. In compliance with the specifications stated previously, the state plan required that local school units develop industrial arts programs which would serve the following functions:

1. An industrial arts Title I project should serve to provide exploratory experiences for youth to enable them to gain knowledge of our industrial society, provide guidance with respect to making a vocational choice, and skills useful in entering an occupation. When proper opportunities are provided in this program, students will be enabled to determine the types of industrial work in which they are most interested and for which they are best suited.

2. A school must provide a program of an elementary nature in the junior high school level. The junior high program should begin in the seventh grade. Educationally deprived students in grades seven through twelve who can profit from an industrial arts program should be served. An exploratory industrial arts program for educationally deprived junior high school students should be provided in a comprehensive general shop-type setup. It should include woodworking, metal working, electricity, and drafting for seventh and eighth grades. For ninth grade, power mechanics should be included along with electives in more advanced work in the above mentioned fields. After preliminary

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¹Hughes, loc. cit., p. 423.
instruction in principles of drafting, this phase of the instruction should be continued as a blue-print reading and sketching in connection with activity planning and development. Exploration should be completed in the junior high program.

3. Projects at the senior high level should follow the same procedure as for junior high level. More emphasis should be placed on individual interests and aptitude to allow for development of the student's specialty.

4. In planning a project for the educationally deprived in industrial arts, special consideration should be given to the selection of the students to be served. Guidance and counseling services should be an integral part in determining the needs of the educationally deprived. Projects should not be planned just to improve the present program of industrial arts for all students. Planners of industrial arts projects should be encouraged to: (1) define the needs of the students to be served, and (2) then plan the activity to fulfill the needs. Originality and ingenuity in planning should be kept uppermost in mind. Traditional methods of teaching industrial arts will not adequately serve to meet the needs of the educationally deprived. In making judgments in regard to approving or disapproving a project, it is important to know the present program of industrial arts and equipment which is now available in the school.

5. The instruction for educationally deprived students will be largely of an individual nature, and students should be rotated through short periods of instruction in the various phases of work to provide exploration. As the youth progresses and finds a certain area or two in which he has interest and skill, opportunities to develop this specialty should be provided.

6. Financial assistance will be provided for developing a comprehensive general shop with the following kinds of equipment and supplies: drafting, electricity, elementary hydraulics, metalworking, and power mechanics. If a building construction unit is developed, assistance may be provided for this kind of equipment, such as radial arm saw and portable electric saw. It is not contemplated at this time to financially assist schools to organize a complete shop of any one type.
7. A regularly certified industrial arts teacher will be best qualified to teach the necessary knowledge and skills. Qualified craftsmen may be required to teach some phases; the latter would assist the certified teacher.

8. The materials should be identical to those used in standard industrial arts programs for junior and senior high schools. Regular industrial arts shops or business buildings with adequate work area and auxiliary rooms will be required to provide space for instruction.

9. The evaluation of this project can be most easily accomplished through observing interest on part of students, skill development, and evidence of the use of various types of work experience as a means of selecting further training, as well as in selection of occupations to be followed after completion of school. Several standardized paper-pencil instruments of evaluation could be used on a test-retest basis. An example is the Minnesota Test of Mechanical Ability.¹

The Iowa State Plan met the requirements as set forth by the Office of Education and also provided the local schools with a detailed statement of the objectives and purposes of the industrial arts programs in the state of Iowa under Title I of the Elementary and Secondary Education Act. After stating the basic requirements for approval of industrial arts programs in Iowa, the Department of Public Instruction published a circular which outlined the minimum standards for participation under Title I. The requirements for public schools in Iowa as set by the department were as follows: (1) provide exploratory

¹Policy Statement, Exploratory Experiences in Industrial Arts Education (Des Moines: Iowa State Department of Public Instruction, 1967). (mimeographed.)
experiences which were consistent with the State Plan; (2) an industrial arts program designed to fulfill the objectives as stated in the State Plan; (3) a regularly certified industrial arts teacher must be employed by the school; (4) regular industrial arts materials and facilities will be required; (5) not over twelve to fourteen educationally deprived students for each class; and (6) an evaluation of the project as stated in the State Plan. 1

In order to evaluate each school's program, the State Department of Public Instruction printed application forms and required each participating school to submit a local plan for an industrial arts program. Upon receipt of a school's application, the department either approved or disapproved the application or returned it to the school for revision or withdrawal. The department based its decision solely upon the completeness and appropriateness of the application as applied to the standards set forth for participation under Title I.

As part of the application for participation under the Act, the State Department required each school to contain as many activities and services as are required to meet the needs of the identified educationally deprived

1Title I Elementary and Secondary Education Act Projects (Des Moines: Iowa State Department of Public Instruction, 1968), pp. 60-69.
children residing within the eligible attendance center areas. No project application will be approved for an amount of proposed expenditures of less than $2,500. This will enable each district to plan as comprehensive a project as is required to meet the needs of identified educationally deprived children at all grade levels from preschool through the secondary level.\(^1\)

Reimbursed funds to local educational agencies will be in accordance with a formula set by the State Department. The formula is the number of children aged five through seventeen, inclusive, from families with an annual income of less than $2,000 plus the number of children aged five through seventeen, inclusive, from families receiving ADC payments in excess of $2,000 a year, multiplied by one-half the average per pupil expenditure for free public education in the state.\(^2\)

Federal assistance for local educational agencies for the education of children of low-income families extends Impact Law 874 for three years. It specifies school construction and the development of special programs

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\(^1\) Submitting A Title I Project, 1969 (Des Moines: Iowa State Department of Public Instruction, June, 1969), p. 50.

\(^2\) School Programs for Educationally Deprived Children (Des Moines: Iowa State Department of Public Instruction, October, 1965), p. 5.
to aid educationally deprived children. To qualify, school districts must have at least one hundred students, or 3 percent of the student body, coming from families with incomes of less than $2,000 per year. Payments will be made up to one-half the average per pupil expenditure in any one state multiplied by the number of deprived children of ages five through seventeen.  

Obligation of federal funds cannot occur until the local educational agencies receive written approval for a project or planning grant and a project number is assigned by the State Department. In no case may fiscal funds be obligated prior to July 1. Federal funds for each fiscal year project should be requested quarterly, but checks will be mailed to the schools on a monthly basis. The State Department of Public Instruction was responsible for evaluating the applications from public schools and for distributing the federal funds received under the provisions of Title I. The local education agency receiving a grant under Title I of the Act shall keep intact and accessible all records supporting claims for such federal grants. Schools

1 Dec't, op. cit., pp. 190-191.

were required to maintain all fiscal records for three years after the close of the fiscal year in which the expenditure was made, until the State Educational Agency is notified that such records are not needed for administrative review or until the State Educational Agency is notified of the completion of the fiscal audit by the Department of Health, Education, and Welfare, whichever is the latest.

The types of expenditures which are reimbursable under Title I were outlined by the Iowa State Department of Public Instruction. Categories of expenditures for the operation of the Title I program were enumerated in the State Plan. These categories were as follows: (1) purchase of materials, supplies, and equipment to be used in the industrial arts Title I program, (2) mobile classroom, remodeling, and rental of physical facilities when absolutely necessary, (3) travel expenses and compensation of Title I staff, (4) employment of Title I coordinators and consultative assistants, and (5) recruitment of staff and clerical assistance directly related to the Title I program. Federal funds were to be used for expenditures in these areas for the development and improvement of industrial arts programs.

1 Submitting A Title I Project, 1969, cit., no. 3-31-66-66.
The Elementary and Secondary Education Act of 1965 can not be called general aid in its true meaning. Examinations of this Act will reveal that it contains aid for several specialized programs, not for general aid in the sense that this term has been used historically. This Act appears to indicate that the Congress has determined to assert a more vigorous interest in both the scope and quality of educational service. National policy seems also to have decided upon providing continuing funds for the support of education.\(^1\)

Chapter III is devoted to the investigation by questionnaire. The data collected were compared and the cumulative results presented.

CHAPTER III

PRESENTATION OF DATA

The data presented in this chapter were gathered to show the effects of Title I of the Elementary and Secondary Education Act of 1965 had upon the industrial arts programs in the public schools in Iowa. These data will be presented in the following order: (1) total expenditures for industrial arts programs, (2) federal reimbursement to participating schools and the year this was first received, (3) enrollments in industrial arts programs before Title I and enrollments during Title I, (4) number of approved, employed industrial arts teachers, (5) additional training received by industrial arts teachers and if they have an in-service training program, (6) how federal funds were used under Title I, (7) courses offered before Title I was put into effect, (8) courses that were added to the industrial arts program because of Title I, and (9) exploratory experience programs added to the industrial arts curriculum.

During the four-year period the act was in effect, the industrial arts programs in Iowa public schools were conducted by the local schools themselves. Each local unit that applied for participation under Title I of
the Elementary and Secondary Education Act was required
to complete an application form\(^1\) and submit it to the
State Department of Public Instruction for approval.
These applications were processed by the personnel of
Title I of the Elementary and Secondary Education Act
and approved or disapproved by them with the aid of
R. W. Van Dyke, who is the coordinator of Title I.

The information presented in the tables was col­
lected, by use of a questionnaire, from fifteen Iowa
public schools. Schools in Class A included five schools
with a three-year average daily attendance over two hundred
high school students. Schools in Class B included five
schools with a three-year average daily attendance of 125
to 200 high school students. Schools in Class C included
five schools with a three-year average daily attendance
under 125 high school students. These three categories
were selected to give equal representation to schools of
these sizes.

The information presented in Table I was obtained
to show the expenditures in each of the three categories
of schools and their total expenditures for the years
1965 through 1968. During the four years the Act has
been in effect, the total expenditures of local industrial

\(^1\) Submitting A Title I Project, 1969, op. cit.,
\(\text{p. 50.}\)
Arts programs rose during the second school year over the first year by $31,939.27. Then during the third school year the amount fell to under $7,618.58 of the first year; the total expenditures were $39,557.05 under the expenditures for the second school year of the program.

TABLE I

TOTAL EXPENDITURES OF INDUSTRIAL ARTS PROGRAMS
DURING THE YEARS 1965-68
IN FIFTEEN SELECTED IOWA SCHOOLS

<table>
<thead>
<tr>
<th>Schools</th>
<th>1965-66</th>
<th>1966-67</th>
<th>1967-68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>653,015.19</td>
<td>60,906.68</td>
<td>33,080.86</td>
</tr>
<tr>
<td>Class B</td>
<td>36,999.30</td>
<td>49,330.36</td>
<td>56,211.68</td>
</tr>
<tr>
<td>Class C</td>
<td>24,182.55</td>
<td>35,099.25</td>
<td>27,285.92</td>
</tr>
<tr>
<td>Total</td>
<td>714,197.04</td>
<td>146,136.31</td>
<td>106,576.46</td>
</tr>
</tbody>
</table>

The largest income occurred in 1966-67 when the total amount increased from $714,197.04 to $146,136.31. As shown in Table I, this difference may be explained by the fact that schools were taking a more active part in the Title I program and that expense would go down after equipment and supplies were received in the first two years of the program.
As shown in Table II, the reimbursement ratio set by the State Department for industrial arts programs was set by the individual school's need. Each public school unit that conducted an industrial arts program under Title I received federal reimbursement for up to one-half the average per pupil expenditure in any one state multiplied by the number of deprived children of ages five through seventeen.

**TABLE II**

TOTAL AMOUNT OF FEDERAL FUNDS REIMBURSED UNDER TITLE I TO SCHOOLS WITH INDUSTRIAL ARTS PROGRAMS IN FIFTEEN SELECTED IOWA SCHOOLS

<table>
<thead>
<tr>
<th>Schools</th>
<th>1965-66</th>
<th>1966-67</th>
<th>1967-68</th>
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</thead>
<tbody>
<tr>
<td>Class A</td>
<td>39,452.96</td>
<td>17,565.20</td>
<td>9,200.00</td>
</tr>
<tr>
<td>Class B</td>
<td>17,900.00</td>
<td>33,526.00</td>
<td>26,908.00</td>
</tr>
<tr>
<td>Class C</td>
<td>10,719.50</td>
<td>19,752.56</td>
<td>11,701.06</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68,072.46</strong></td>
<td><strong>70,243.86</strong></td>
<td><strong>47,809.06</strong></td>
</tr>
</tbody>
</table>

The Iowa State Department of Public Instruction was responsible for distributing federal funds under Title I to the participating units in Iowa. The State Department was authorized by the United States Office of Education to compute a reimbursement ratio.
The first year Title I was in effect, schools received on the average of $4,000 for their Title I programs. During the second year the amount of money reimbursed to schools went up as schools began to take a more active part in the program. During the 1967-68 school year the amount of money reimbursed to schools dropped down to almost one-half the amount paid out by the State Department in 1966-67.

Table III shows the years the schools received their first federal funds under Title I. Under the provisions of Title I, public schools in Iowa could receive federal funds for use in developing and expanding their industrial arts programs. In order to receive federal reimbursement,
each school's program had to be approved by the Iowa State Department of Public Instruction. Programs which did not meet approved standards were returned to the schools for modification. The schools could then elect to withdraw their application or reorganize the programs to meet the requirements set by the State Department.

During the first year the Act was in effect about one-half of the schools in the study made applications and received their Title I funds. During the second year of the Act eight additional schools made applications and received the Title I funds. During the 1967-68 school year these schools made no applications for a new program, but these schools still received funds from their original applications they had made in either the first year of the program or the second year.

Table IV shows the enrollment of students in the industrial arts programs before Title I went into effect.

<table>
<thead>
<tr>
<th>TABLE IV</th>
</tr>
</thead>
</table>

| POWER OF STUDENTS TO CLIME IN INDUSTRIAL ARTS PROGRAMS DURING THE 1964-65 SCHOOL YEAR IN GRADES 7-12 IN FIRST SELECTED IOWA SCHOOLS |
|---|---|---|---|
| Class A | Class B | Class C | Total |
| 156 | 222 | 317 | 697 |
This table shows how many students in grades seven through twelve were enrolled in the schools' industrial arts programs. The total enrollment of schools who answered the questionnaire was 697 for the 1964-65 school year. The enrollment of the schools, who later participated in the Title I program, ranged from 14 students to 112 students. Table IV was used to show if there were an increase or decrease in the industrial arts programs because of the Title I program.

Table V shows the enrollment in grades seven through twelve in the schools that conducted programs under Title I.

<table>
<thead>
<tr>
<th>TABLE V</th>
</tr>
</thead>
</table>

**NUMBER OF STUDENTS ENROLLED IN INDUSTRIAL ARTS PROGRAMS DURING THE SCHOOL YEARS 1965-68 IN FIFTEEN SELECTED IOWA SCHOOLS**

<table>
<thead>
<tr>
<th>Schools</th>
<th>1965-66</th>
<th>Enrollments</th>
<th>1966-67</th>
<th>1967-68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>314</td>
<td>434</td>
<td>433</td>
<td></td>
</tr>
<tr>
<td>Class B</td>
<td>262</td>
<td>250</td>
<td>299</td>
<td></td>
</tr>
<tr>
<td>Class C</td>
<td>210</td>
<td>210</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>739</td>
<td>902</td>
<td>927</td>
<td></td>
</tr>
</tbody>
</table>
This table was used to show the number of students enrolled in industrial arts during the four years Title I has been in effect. Table V shows that there has been an increase in enrollment during the past three school years.

During the 1965-66 school year there were 759 students enrolled in industrial arts programs according to the schools surveyed by the questionnaire. This is sixty-two more students than were enrolled in industrial arts during the 1964-65 school year. During the 1965-66 school year sixty-two more students were enrolled in industrial arts than in the year earlier; this means sixty-two more students gained the advantages of an increased industrial arts program.

During the second year of Title I there were 902 students enrolled in the same schools in industrial arts. This is an increase of 143 students over the first year of Title I, and it is an increase of 205 students over the school year 1964-65. Therefore, in these same schools there was an increase from 143 students during the first year of Title I to 205 students in the second year.

In the third year of the Act, there were 947 students enrolled in the industrial arts programs of the schools surveyed in this study. This was an increase of 250 students over the 1964-65 school year. There was an increase of 188 students over the 1965-66 school year.
From the second year of the Act to the third year of Title I, there was an increase of forty-five students. During the second year of Title I a big increase can be seen; then during the third year the program levels off with a small increase of student enrollment.

One of the requirements of the Title I program was that a regularly certified industrial arts teacher would be best qualified to teach the necessary knowledge and skills. Table VI shows the number of qualified industrial arts teachers that taught the Title I industrial arts programs in the schools.

**TABLE VI**

<table>
<thead>
<tr>
<th>Number of Certified Industrial Arts Teachers Teaching Title I Industrial Arts Programs In Fifteen Selected Iowa Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School</strong></td>
</tr>
<tr>
<td>Number of Certified Teachers</td>
</tr>
</tbody>
</table>

Of the fifteen schools surveyed in this study, there were twenty-seven certified industrial arts teachers. The range was from five certified teachers in one school
to one as the lowest number of certified teachers. All schools had at least one teacher that was certified by the Iowa State Department of Public Instruction. The study showed that the Class A schools had just over two certified teachers for their industrial arts programs while the Class B schools had just under two certified teachers for their programs. All of the Class C schools had just one certified teacher for their Title I program.

The standards for approval of industrial arts teachers in the state of Iowa were established by the State Department of Public Instruction. Before an individual could be approved as an industrial arts teacher, however, it was necessary to have been recommended for approval by the institution of higher learning attended by the candidate. Before any person could be approved by the State Department, it was necessary to meet the department's requirements.

In order for a person to be approved as an industrial arts teacher by the State Department of Public Instruction, he must have completed thirty semester hours of undergraduate work in industrial arts at an accredited institution of higher learning. A person approved to devote more than one-half time to industrial arts must have thirty hours of undergraduate industrial arts credits; he must have fifteen hours to devote half time to industrial arts teaching.
Table VII shows the number of industrial arts teachers who have received additional training in their field during the past three years. This training had to be received in an institution of higher learning at either a college or university. This table shows if the teachers were gaining additional instruction to carry on a more exploratory program for students in the Title I program.

TABLE VII

<table>
<thead>
<tr>
<th>Number of Teachers Receiving Additional Training</th>
<th>Number of Teachers Who Did Not Receive Additional Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>24</td>
</tr>
</tbody>
</table>

Of the twenty-seven industrial arts teachers included in this study of fifteen schools, only three teachers have received additional training in schools of higher learning during the past three years. There were twenty-four teachers who did not receive additional training in schools of higher learning during the past three years under the Title I program. The percentage of teachers
who have received additional training during the past three years is only 11.1 per cent.

Table VIII shows the number of schools that provide their teachers with an in-service training program for their industrial arts programs. These programs are important to help keep the teachers acquainted with new ideas and techniques in their field of industrial arts.

During the first three years the Act was in effect three schools set up in-service programs, and twelve schools did not set up any in-service programs; therefore, only 20 per cent of the schools set up in-service programs. This percentage was very low as each school should have had some type of in-service program to carry out this new project.

TABLE VIII

<table>
<thead>
<tr>
<th>Do</th>
<th>Do Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

Table VIII shows how federal funds were used for the Title I program. In all of the schools, some money was used
for teachers' salaries; this was not shown in this table. 
In each of the categories the Iowa State Department of 
Public Instruction had to approve federal reimbursement 
to the schools who applied for Title I funds.

Financial assistance can be provided for develop-
ing a comprehensive general shop with the needed equipment 
and supplies. If a building construction unit is devel-
oped, assistance can be given as well as for teaching aids.
It was not the intent of the Title I program to financially 
assist schools to organize a complete shop of any one type 
or kind.

Title I of the Elementary and Secondary Education 
Act of 1965 provided federal funds for reimbursement to 
public schools conducting approved industrial arts pro-
grams. Furthermore, schools could be reimbursed only for 
approved expenditures in the following areas: (1) salaries 
of industrial arts personnel, (2) supplies, (3) equipment 
and tools, (4) teaching aids and materials, and (5) a 
limited amount for new facilities.

All of the schools received some money for salaries, 
as this is an important part of the program to have 
approved teachers. There were ten of the fifteen schools 
who used some of their funds for supplies. Equipment and 
tools were almost always included in the new program, as 
twelve of the fifteen schools purchased these items with 
their Title I funds.
Teaching aids and materials were purchased by ten of the fifteen schools who received Title I funds. As was previously stated, only limited funds could be used for new facilities; only one of the fifteen schools used Title I funds for new facilities. All of the schools that received Title I funds used them for more than one area. Equipment and tools were purchased by almost all of the schools with supplies and teaching aids second. All of the schools used their present facilities; therefore, very little money was spent in this area.

**TABLE IX**

**HOW FEDERAL FUNDS WERE USED BY SCHOOLS UNDER THE TITLE I PROGRAM IN FIFTEEN SELECTED IOWA SCHOOLS**

<table>
<thead>
<tr>
<th>Types of Uses</th>
<th>Number of Schools That Used These Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplies</td>
<td>10</td>
</tr>
<tr>
<td>Equipment and Tools</td>
<td>12</td>
</tr>
<tr>
<td>Teaching Aids and Materials</td>
<td>10</td>
</tr>
<tr>
<td>New Facilities</td>
<td>1</td>
</tr>
</tbody>
</table>

Table X shows the courses that were offered in the schools' industrial arts curricula before Title I of the Elementary and Secondary Education Act went into
effect. This table shows the changes in the industrial arts programs when compared to Table XI on the industrial arts curricula. Table X shows the course offerings and number of schools that offered the various courses. An industrial arts Title I project should serve to provide exploratory experiences for youth in a variety of fields for their future in an industrial world.

In 1964-65 fourteen of the fifteen schools offered woodworking as their main course. Drafting and leathercraft were the next two fields of study that most of the schools offered. Metalworking and electricity were offered by less than one-half of the schools. Other courses offered by the schools were offered by four or less of the schools included in the study.

The courses offered by almost all of the schools were woodworking, drafting, and leathercraft. This left a very small offering for students who were to receive exploratory experiences in a variety of industrial fields present in today's society.

Table XI shows the number of courses added to the schools' industrial arts programs because of Title I. The program should provide exploratory experiences for youth in several fields and skills useful in entering an occupation. When the proper opportunities are available, the students will be able to determine the types of industrial
### TABLE X

**Courses Offered in Fifteen Selected Iowa Schools' Industrial Arts Curricula during the 1964-65 School Year**

<table>
<thead>
<tr>
<th>Courses Offered</th>
<th>Number of Schools Offering These Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodworking</td>
<td>14</td>
</tr>
<tr>
<td>Drafting</td>
<td>13</td>
</tr>
<tr>
<td>Leathercraft</td>
<td>9</td>
</tr>
<tr>
<td>Metalworking</td>
<td>7</td>
</tr>
<tr>
<td>Electricity</td>
<td>5</td>
</tr>
<tr>
<td>Plastics</td>
<td>4</td>
</tr>
<tr>
<td>Auto Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>Foundry</td>
<td>3</td>
</tr>
<tr>
<td>Home Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>Power Mechanics</td>
<td>2</td>
</tr>
<tr>
<td>Electronics</td>
<td>2</td>
</tr>
<tr>
<td>Welding</td>
<td>1</td>
</tr>
</tbody>
</table>
work in which they are most interested and for which they are best suited.

During the three years Title I has been in effect, nine courses have been added to the curricula that were not offered in the various schools. The courses that have been added will give the student the exploratory experiences he needs for this industrial world he lives in. Those courses will give a student the opportunity to see if he would like to work at this type of industrial work and to determine where he has the most interest.

Auto mechanics was added in twelve schools; added to the schools that offered it before 1964-65, this brings the total up to fifteen schools. Electronics was added in nine schools, bringing the total to eleven schools offering electronics. Power mechanics was added in eight schools, giving a total of ten of the fifteen schools offering it. Nine schools added courses in electricity, with a total of fourteen schools now offering electricity. Foundry, which is another new course, was added in seven schools; this brought the total up to ten. Metalworking was added to the curricula of eight schools; this brought the total up to fifteen schools. By adding metalworking, all fifteen of the schools in the study now have a course in this area.
With the addition of drafting in one school, this brought the total to fourteen schools now offering a course in this field. Plastics was added at two schools, bringing the total to six schools offering this course. A course in graphic arts was added at two schools; before Title I, no school had offered this course.

Four courses were not added to the schools' curricula in industrial arts: woodworking, leathercraft, home mechanics, and welding. Woodworking was already offered by fourteen of the fifteen schools. Leathercraft, already offered by nine schools, was not added to the curricula of the other six schools. In 1964-65 home mechanics was offered in three schools, and welding was offered in only one school.

The courses that were added are ones that seem to have a future in an industrial world. By the schools offering students exploratory experiences in these fields, they can be of a great help to the student who may want to carry on in one of these fields in industry.

Table XII shows the schools which offer exploratory experience in their programs and at what grade levels these experiences are offered. One of the requirements of Title I was to provide a program of an exploratory nature in the junior high school level. The junior high program should begin in the seventh grade and carry through the twelfth grade to educationally deprived students who could
TABLE XI

COURSES THAT HAVE BEEN ADDED TO THE SCHOOLS' INDUSTRIAL ARTS CURRICULA AS A RESULT OF TITLE I IN FIFTEEN SELECTED IOWA SCHOOLS

<table>
<thead>
<tr>
<th>Courses Added</th>
<th>Number of Schools Adding These Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Mechanics</td>
<td>12</td>
</tr>
<tr>
<td>Electricity</td>
<td>9</td>
</tr>
<tr>
<td>Electronics</td>
<td>9</td>
</tr>
<tr>
<td>Metalworking</td>
<td>8</td>
</tr>
<tr>
<td>Power Mechanics</td>
<td>8</td>
</tr>
<tr>
<td>Foundry</td>
<td>7</td>
</tr>
<tr>
<td>Graphic Arts</td>
<td>2</td>
</tr>
<tr>
<td>Plastics</td>
<td>2</td>
</tr>
<tr>
<td>Drafting</td>
<td>1</td>
</tr>
</tbody>
</table>

profit from an industrial arts program of this type. However, the high school level should place more emphasis on individual interest and attitude to allow for development of the student's specialty.

In Table XII it can be seen that most of the schools offer their exploratory experiences in grades seven and eight. With three schools offering it at grade nine and two offering the exploratory experiences at grade ten,
these schools are carrying this phase of Title I past the junior high school level. One school offered exploratory experiences at grade eleven and another at grade twelve. There were two schools that did not offer exploratory experiences at any level.

**TABLE XII**

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Schools Offering Exploratory Experiences</td>
<td>9</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

In Chapter IV, the summary, conclusions, and recommendations are presented. Following Chapter IV are the appendices, which contain a copy of the letter and the questionnaire used in the study and a list of the fifteen Iowa schools which were selected.
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the effect of Title I of the Elementary and Secondary Education Act of 1965 upon industrial arts programs in the public schools in Iowa from 1965 through 1966.

All of those quantitative data contained in the research were obtained from a questionnaire composed at the start of this study. The State Department of Public Instruction supplied the materials on the topic of Title I and its aid to industrial arts programs in the schools of Iowa. As stated in Chapter I, the data presented herein had been compiled by the use of a questionnaire which had been validated by sending the questionnaire to five selected public schools.

Title I of the Elementary and Secondary Education Act of 1965 provided federal aid to schools which were developing their industrial arts programs. The Iowa State Department of Public Instruction was authorized by the United States Office of Education to serve as the administrative agency in Iowa. The primary function of the State Department of Public Instruction was to evaluate proposed programs as set up by Iowa public schools and determine
whether or not each program merited federal aid.

The Elementary and Secondary Education Act of 1964 was put into effect in an attempt to provide exploratory experiences for the youth of the country. Title I of the Act provided federal funds to schools for use in improving the industrial arts programs of local educational agencies serving areas with concentrations of children from low-income families. The primary objective of this program was to improve the elementary and secondary education opportunities of educationally deprived children. Industrial arts programs were designed to gain knowledge of the industrial society, provide guidance with respect to making a vocational choice, and skills useful in entering an occupation.

In addition to evaluating the industrial arts programs in Iowa public schools, the State Department of Public Instruction was required to distribute federal funds to the participating schools. The Act provided for maximum reimbursements to the schools by the use of the following formula: the number of children aged five through seventeen, inclusive, from families with an annual income of less than $2,000, plus the number of children aged five through seventeen, inclusive, from families receiving ADC payments in excess of $2,000 a year, multiplied by one-half the
average per pupil expenditures for free public education in the state.

The industrial arts programs in Iowa public schools were organized on a local basis. For this reason the data included in this research were presented to show the degree of participation under Title I of the local schools.

During the four years the Act has been in effect, $186,725.38 was distributed among the fifteen Iowa public schools which conducted approved programs under Title I in the study. The federal funds received for the industrial arts programs under Title I were used for salaries, equipment and tools, supplies, and new facilities.

There was an increase in the enrollment in the industrial arts courses in the schools that took part in this program. The enrollment in industrial arts programs in the fifteen schools went from 697 students in 1964-65 to 947 students in the 1967-68 school year.

During the period between 1965 and 1968, the number of approved industrial arts teachers in the schools in this study was twenty-seven; only three of these teachers had received additional training in schools of higher learning. Of the fifteen schools in the study, only three of the fifteen schools had an in-service training program for their teachers.
During the three schools years Title I was in effect, a variety of courses were added to the industrial arts curricula of the schools conducting Title I programs in industrial arts. The courses added were: auto mechanics, electronics, power mechanics, electricity, foundry, metalworking, drafting, plastics, and graphic arts. The courses that were added are ones that have a future in the industrial world.

The first conclusion is that the school districts did provide exploratory experiences in their comprehensive industrial arts programs. There was a significant increase in the enrollment of students participating in these programs.

The federal funds were adequate for the schools to carry out their programs. The fifteen schools received $186,725.30 in federal funds during the four years the Act has been in effect; these funds were used for salaries, equipment and tools, supplies, and new facilities.

The schools did provide certified industrial arts teachers, as each school employed at least one certified teacher in this field. The final conclusion is that the schools did not provide adequate in-service training for the industrial arts teachers.

The first recommendation is that the Title I program be continued. There was an appreciable change in the
number of exploratory programs offered in the industrial arts curricula. In the three years this program has been in effect, there was an increase of 250 students taking part in the programs of the fifteen schools used in the study; the number of courses added to the industrial arts curriculum gave more students the opportunity to take part in the industrial arts programs. Here it can be seen that the culturally disadvantaged should continue to have this opportunity for greater educational gains under Title I.

A further recommendation is that the schools should continue to apply for federal funds as needed to best facilitate their Title I programs. More money should be used to establish adequate in-service programs for the industrial arts teachers.

A third recommendation is that there needs to be an increase in the number of industrial arts teachers. Although all fifteen schools had at least one approved industrial arts teacher, there were no new ones added as the number of students in the programs increased. Only three teachers received additional training the first three years of Title I; this number should be substantially increased to facilitate the industrial progress taking place in this country today.
Since the Act has been in effect for only four years, it was not possible to identify any long-term trends. Follow-up research is needed to determine whether or not students from low-income families have benefited from the Title I program.
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BIBLIOGRAPHY

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B. PUBLICATIONS OF THIS GOVERNMENT, D.A.A.S. SOCIETIES, AND OTHER ORGANIZATIONS


C. PERIODICALS


D. UNPUBLISHED MATERIALS

Exploratory Experiences in Industrial Arts Education.
Policy Statement. Des Moines: Iowa State Department of Public Instruction, 1965. ( Mimeographed.)
APPENDIX A

LETTER MAILED TO SUPERINTENDENTS

Box 343
Fontanelle, Iowa 50846
July 23, 1968

Dear Sir:

In order to complete my requirements for a master's degree from Drake University, I am doing a study of the effects of Title I of the Elementary and Secondary Education Act of 1965 upon the industrial arts programs in selected Iowa public schools. As a part of this study, I am seeking your assistance in completion of the questionnaire.

Will you please fill out the enclosed questionnaire as it applies to your school. Also make comments or additions that you feel will make the information more complete. A copy of the results of the questionnaire will be sent to you upon your request.

A self-addressed, stamped envelope is enclosed for your convenience.

Thank you for your cooperation.

Sincerely,

James E. Wood

Encs.
APPENDIX B

QUESTIONNAIRE

1. What were the total expenditures of your industrial arts programs for the past three years?
   1965-1966 ___________________________
   1966-1967 ___________________________
   1967-1968 ___________________________

2. What was the total amount of federal funds reimbursed under Title I to your school for industrial arts for the past three years?
   1965-1966 ___________________________
   1966-1967 ___________________________
   1967-1968 ___________________________

3. During what school year did you receive your first Title I funds for your industrial arts programs?

4. How many students were enrolled in your industrial arts programs during the 1964-1965 school year?

5. How many students were enrolled in your industrial arts programs for the past three years?
   1965-1966 ___________________________
   1966-1967 ___________________________
   1967-1968 ___________________________

6. How many certified industrial arts teachers do you have in your program? __________

7. Have your industrial arts teachers received additional training in their field in schools of higher learning during the past three years as the result of Title I? __________ Number that have

8. Do you have an industrial arts in-service training program? ____ yes ____ no

9. How were your federal funds used?
   ____ 1. Supplies
   ____ 2. Equipment and tools
   ____ 3. Teaching aids and materials
   ____ 4. New facilities
10. What courses were offered in your industrial arts curriculum during the 1964-1965 school year?

- woodworking
- drafting
- leathercraft
- electricity
- home mechanics
- foundry
- others: (Please specify)

- graphic arts
- metalworking
- plastics
- power mechanics
- electronics
- auto mechanics

11. What courses have you added as a result of Title I?

- woodworking
- drafting
- leathercraft
- electricity
- home mechanics
- foundry
- others: (Please specify)

- graphic arts
- metalworking
- plastics
- power mechanics
- electronics
- auto mechanics

12. Do you provide exploratory experience in your program?

- yes
- no

If yes, at what grade levels? ______________________
APPENDIX C

LIST OF SCHOOLS USED IN THE STUDY

Class A Schools

Glenwood Community School
Griswold High School
Marshalltown Senior High School
Rockwell City Community High School
Spirit Lake Community School

Class B Schools

Anthon-Oto Community School
Dallas Center Community School
Edgewood-Colesburg High School
Exira Community School
Tri-Center Community High School

Class C Schools

Armstrong Community High School
Ayrshire Consolidated High School
Titonka Consolidated High School
Troyton Community High School
Walnut Community High School