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ABSTRACT

This report evaluates the participation of nearly all public school districts in Ohio in ESEA Title I programs. The evaluation aims to provide a basis for determining whether programs are to be modified, intensified or shifted in terms of objectives and activities. The report focuses on: the size, scope and effectiveness of all Title I programs; data and observations on eight primary instructional service areas, or program categories; communications skills, the area involving the most students and the most money; mathematics/science area; and, data on preschool education, pupil personnel services, health education/services, arts and humanities, vocational skills, and special education. The major findings are that: many participants are improving their academic abilities; the attitude and motivation of many participants for doing school-type activities have reportedly improved; programs concentrated in the elementary grades (particularly grades 1-3) are more often successful than those spread from K-12; and, that when teachers and teacher aides are provided in-depth inservice training, a program is likely to have a positive impact. Recommendations based on these findings are also included. For Title I evaluation in Ohio during fiscal year 1968, see ED 016 705. (RJ)

Third Annual Evaluation of Title I
(Elementary and Secondary Education Act)
Fiscal Year 1968

TITLE I IN OHIO

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PREFACE

Federal guidelines for Title I of the Elementary and Secondary Education Act of 1965 require that programs be evaluated annually--at local, state, and federal levels. In compliance with guidelines, the Basic Programs Section of the Division of Federal Assistance prepared evaluation instruments, had them completed by local evaluators, and composited the data so that a state-level evaluation report could be made available to the U.S. Office of Education, local administrators, and other persons interested in Title I in Ohio.

Purpose of Title I Evaluation

The purpose of Title I evaluation is to provide a sound basis for determining whether programs are to be modified, intensified, or shifted in terms of objectives and activities. Evaluation is essential to secure quantitative and qualitative evidence to ascertain the impact of Title I on disadvantaged youth. Broad, general concerns, such as these, must be broken into specific questions for which manageable evaluation units can be framed. Examples of basic units are: "Have participants improved significantly in their reading ability?" or "Have participants' attitudes toward education improved?" These questions must be answered for each local situation to which they are applicable. Answers can then be composited into manageable state-level data. Specific questions, however, such as cause-and-effect relationships or the effect of the presence or absence of particular variables, cannot, as yet, be answered statewide.

Data Collection

The state evaluation instrument was sent to each school district that operated a Title I program during fiscal year 1968--i.e., during the 1967-68 school year or the summer that followed. At the time this report was compiled, 97% of all evaluation instruments had been returned and were sufficiently complete to be used in compiling data.

Whenever possible, the source of financial information was from estimated expenditure reports, which were 100% complete and which are among the official financial records of the districts and of the state.

Application forms were used to project the report information on total numbers of participants from 97% to 100%. In all other instances, the 97% was considered sufficiently complete for reporting purposes.

Report Organization

Chapter I relates to the overall aspects of Title I programming in Ohio during fiscal year 1968.

Chapters II through IV present data and observations on eight primary instructional and service areas, or program categories. Chapter II deals with communication skills, the area involving the most students and the most money. Chapter III treats the mathematics/science area. Chapter IV presents data on the six remaining areas, all of which were limited in the number of students served and the amount of funds expended.

Chapter V is a concise listing of conclusions and recommendations.

CONTENTS

CHAPTER I

TITLE I IN OHIO--FISCAL YEAR 1968

Through provisions of the Elementary and Secondary Education Act of 1965, federal grants are available for educational programs for educationally disadvantaged students who live in areas of high concentrations of children from low-income families. By nature of the funding formula, nearly all public school districts in Ohio qualify for funds.

Districts wishing to implement projects must--in accordance with existing federal and state guidelines--identify attendance areas to be served, determine the educational needs of children living in these areas, plan instructional and service activities to meet these needs, make application to the state for project approval and funding, implement projects, maintain fiscal records, and evaluate results of what happened to the selected children.

This chapter focuses on the size, scope, and effectiveness of all Title I programming that occurred in Ohio during fiscal year 1968.

Basic Data

Ohio school district participation

Districts having Title I projects	629
Percent of Ohio districts having projects . .	92%
Funded projects in fiscal year 1968	668

Scheduling patterns by number of districts

Regular term scheduling only	220
Summer term scheduling only	188
Both regular and summer term scheduling . . .	221

Primary Instructional and/or Service Areas

Implemented during the regular term	618
Implemented during the summer term	588
Total primary areas	1,206

Student participation

Public school participants	198,908
Non-public school participants	11,248
Total participants	210,156

Estimated expenditures for Title I programming

Regular term expenditures	$22,317,618
Summer term expenditures	$ 9,833,393
Total fiscal year 1968 expenditures	$32,151,011

Participants--Their Educational Needs

As a part of developing a Title I program, each school district is required to analyze the educational needs of all school-age youngsters residing in its target area. After the most pressing educational needs are identified, the district is to design a Title I program with these needs in mind and select participants most needful of the instruction and services to be provided.

After program activities have been completed, evaluators are asked to list the most pressing educational needs of the children actually participating in each primary area. Based on a compositing of fiscal year 1968 data, the most pressing educational needs of project participants, by grade range, are presented in the table below.

TABLE 1. MOST PRESSING EDUCATIONAL NEEDS OF TITLE I PARTICIPANTS, BY GRADE RANGE

Rank Order of Need	Grades 1-3	Grades 4-6	Grades 7-9
1	Increase ability to understand oral or written language (input)	Improve work-study skills	Increase feeling of success in the school setting
2	Increase feeling of success in the school setting	Increase ability to understand oral or written language (input)	Improve work-study skills
3	Increase ability to communicate by means of oral or written language (output)	Increase feeling of success in the school setting	Increase ability to understand oral or written language (input)
4	Lengthen attention span	Increase ability to communicate by means of oral or written language (output)	Increase ability to communicate by means of oral or written language (output)
5	Improve work-study skills	Improve self image	Improve self image

Participants--Social Pattern and Physical Handicap Hindrances

Students involved in Title I project activities frequently exhibit social patterns or have physical handicaps that may have contributed to their educationally disadvantagement.

Social pattern hindrances were reported nearly twice as frequently as physical handicaps. Based on a count, duplicated by the numbers of times a particular child was involved in more than one primary instructional or service area, the three most frequently reported social pattern hindrances were, in rank order:

(1) Cultural values that interfere with school progress
(2) Discipline problems
(3) Poor attendance, truancy, unexcused absences

Based on the type of count described above, the four physical handicap hindrances reported most frequently were, in rank order:

(1) Speech difficulties
(2) Slow-learners (50-80 I.Q.)
(3) Visual problems
(4) Auditory problems

Participants--Grade Range Patterns

The table below shows the percentages of children from different grade ranges participating in Title I during fiscal years 1966, 1967, and 1968. Patterns that seem to be emerging include:

- The number of children being served each year is decreasing (due in large part to decreased funding and to an emphasis upon greater concentration of services).
- Two out of three participants during fiscal year 1968 were from grades 1-6.
- The percentage of students from grades 1-3 over the past three fiscal years has increased from 27% to 32%.

TABLE 2. PERCENTAGES OF TITLE I PARTICIPANTS BY GRADE RANGE FOR FISCAL YEARS 1966, 1967, AND 1968

Fiscal Year	Participants	Percentages by Grade Range				
		PreK-K	1-3	4-6	7-9	10-12
1966	223,354	7%	27%	41%	18%	6%
1967	214,825	7	29	42	17	5
1968	210,156	7	32	37	18	6

Participants--Non-Public Involvement

As stated previously, districts are required to analyze the educational needs of all school-age youngsters residing in their target areas and to offer Title I services to the selected youngsters having the greatest need for the instruction and services being offered. Whether a particular youngster is enrolled in public or non-public school makes no difference, so long as he resides in the target area and his priority of educational need qualifies him for program participation. The basis for this type of non-public participation is the "child-benefit" part of the authorizing legislation.

Ohio districts are required to make a sincere effort to involve eligible non-public students. In fiscal year 1968, over 250 of the 629 participating districts enrolled 11,248 non-public students in either regular or summer term Title I activity areas. The relatively low number of districts enrolling non-public students should be put in perspective with the following in mind:

- Many districts are in small communities or sparsely populated areas where students cannot conveniently attend non-public schools.

- Many non-public students living in large and medium-size cities do not reside in target areas, and, therefore, do not qualify for program participation.

Procedures used in fiscal year 1968 by public school administrators to stimulate working relationships with non-public school officials and to involve eligible students in project activities were, in rank order according to times reported:

(1) Telephone contacts
(2) Personal contacts
(3) Close cooperation exists; no need to stimulate involvement
(4) Written contacts

In a question related to resources (not necessarily ones provided through Title I) shared by public schools with non-public schools, the three ranked most important were:

(1) Non-public pupils enrolled in classes taught by public-school teachers in public buildings
(2) Educational specialists sent to non-public schools to work with children
(3) Arrangements in connection with conferences, libraries; testing, counseling, health services, etc.

Even though, in most cases, both public and non-public officials were interested in involving qualified students, certain types of problems caused difficulties. The four ranked most troublesome were:

(1) Scheduling
(2) Transportation
(3) Communication
(4) Attendance area differences

As can be seen in the table below, the proportions of public and non-public students participating in Title I have decreased by about 2% in three years of program operation. Reasons for the decrease include:

- Smaller target areas and fewer qualified buildings--affecting both public and non-public participation.
- Greater concentrations of instruction and services on students with higher priorities of need.
- A trend toward more regular term scheduling, which sometimes increases the problems of scheduling eligible non-public students.

TABLE 3. NUMBERS AND PERCENTAGES OF PUBLIC AND NON-PUBLIC PARTICIPANTS FOR FISCAL YEARS 1966, 1967, AND 1968

Fiscal Year	Title I Participants				
	Public		Non-Public		Total Participants
	Number	Percent	Number	Percent	
1966	207,606	93%	15,748	7%	223,354
1967	200,965	94	13,860	6	214,825
1968	198,908	95	11,248	5	210,156

Participants--Non-Public Students' Activities

The 11,248 non-public participants in Title I programs during fiscal year 1968 most frequently participated in four of the eight primary instructional or service areas. Reported numbers of non-public participants by grade range for these areas are included in the table below. Even on a duplicated basis, a total of less than 700 non-public students were involved in all four remaining primary areas--preschool education, arts and humanities, vocational skills, and special education.

TABLE 4. NON-PUBLIC PARTICIPANTS BY PRIMARY INSTRUCTIONAL OR SERVICE AREAS OF MOST FREQUENT INVOLVEMENT AND BY GRADE RANGE

Grade Range	Communication Skills		Mathematics/ Science		Pupil Personnel Services		Health Education/ Services	
	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term
1-3	1,932	1,656	12	674	236	52	178	60
4-6	2,655	2,091	92	710	307	81	108	70
7-9	772	494	85	163	140	50	251	60
10-12	176	15		3	9	30	1	48
Total	5,535	4,256	189	1,550	692	213	538	238
Duplicated Total	9,791		1,739		905		776	

Primary Instructional and Service Areas--Definition

Inherent to the Ohio evaluation plan was the classification of locally planned program activities into units called "Primary Instructional and/or Service Areas."

By definition, a primary area is "an essentially separate segment of educational programming which operates independently of other instructional or service segments within a project."

Each primary segment of Title I programming had to be classified under one of the following primary areas:

Communication Skills	Health Education/Services
Mathematics and/or Science	Arts and Humanities
Preschool Education	Vocational Skills
Pupil Personnel Services	Special Education

Each primary area could have multiple core activities, which in combination, comprise general objectives of the area. Core activity possibilities were outlined in the data collection instrument instructions and are included here on page 8.

Supportive activities were considered activities or services conducted for the purpose of contributing to the effectiveness of each core activity, which in turn, contributed to the effectiveness of the primary area. Core activities for one area could be associated with other areas as supportive activities. For example, in a communication skills area, "remedial/correctional reading" was classified as a core activity, but, in a vocational skills area, "remedial/correctional reading" was a supportive activity.

All core and supportive activities were to relate to the primary instructional or service area, and, furthermore, were expected directly or indirectly to add to its effectiveness. Each child participated in core or supportive activities, as required by his particular needs. However, by the above definition of primary area, each child in supportive activities had to be a participant within the primary area.

Structural interrelationships within a typical Title I program are illustrated in Figure 1. The circle represents the program--the total Title I activities conducted by the district during any one fiscal year. The semicircles denote primary areas, each with separate general objectives and core activities. Supportive activities can contribute to the effectiveness of one or all primary areas.

CORE AND SUPPORTIVE ACTIVITIES

Communication Skills

Language arts (basic communication skills, grammar, writing, spelling)
Developmental reading (general)
Remedial/correctional reading
Reading readiness
English as a second language
Speech (non-therapeutic speech improvement or development)
Library use
Study skills
Other communication activities

Mathematics/Science

Mathematics/science (general)
Mathematics
Physical sciences
Social sciences
Economics
Other mathematics/science activities

Preschool Education

Pre-kindergarten
Summer kindergarten
Regular kindergarten
Headstart follow-up

Pupil Personnel Services

Psychological services
Psychiatric services
School social work (including home-school visiting)
Attendance service
Individual counseling by counselor or psychologist
Group counseling by counselor or psychologist
Guidance services (general) by counselor
Guidance related services by teacher
Elementary guidance
Efforts to reduce dropouts
Efforts to improve attitude/motivation
Efforts to improve emotional/social health
Efforts to improve self concept
Extracurricular and socially oriented school activities
Pupil-personnel related services for parents

Health Education/Services

Physical development (motor coordination)
Physical recreation activities
Health education
Visual health services
Dental health services
Medical health services
School nurse program
Other health education/service activities

Arts and Humanities

Arts and humanities (general)
Fine art (general)
Arts and crafts
Music, appreciation
Music, instrumental
Music, vocal
Drama
Literature
Other art/humanities activities

Vocational Skills

Business education
Industrial arts
Vocational awareness/orientation
Work study
Home economics
Child care/development
Other vocational activities

Special education

Slow learners (50-80 IQ)
Speech and hearing therapy
Emotionally disturbed
Neurologically impaired
Deaf--hard of hearing
Other special education activities

Additional Supportive Activities

Staff visitations to other schools
Conferences/workshops for project staff
Project provides for staff to attend university classes
University staff used as consultants for staff development
Local administrators conduct project staff development
Increase of professional library for project staff
Provision of food, fees, and clothing (general)
Food services (breakfast, lunch, other)
Community education/public relations
Other supportive service activities (general)

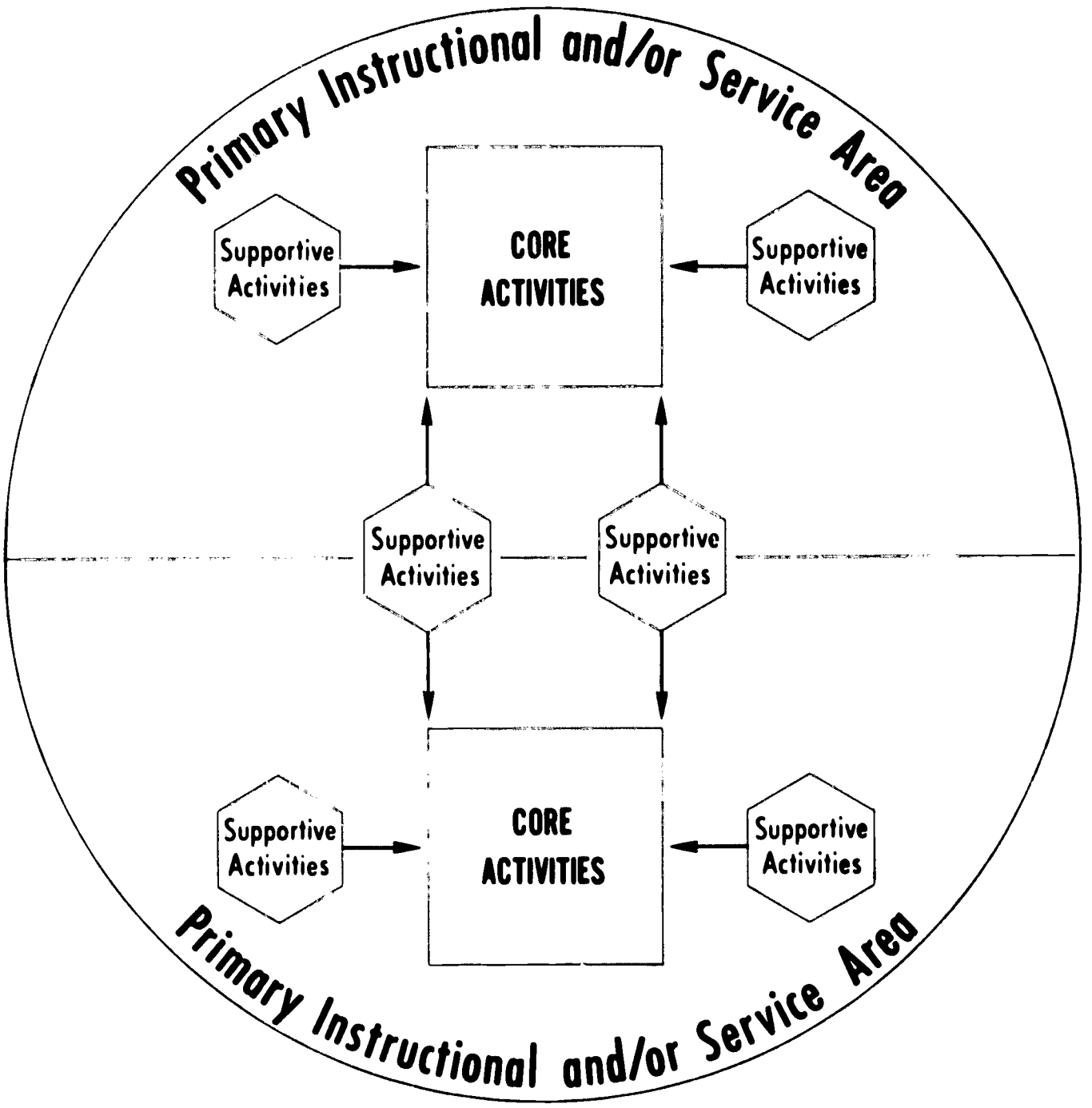

FIGURE 1. STRUCTURAL INTERRELATIONSHIPS WITHIN A TYPICAL TITLE I PROGRAM

Primary Instructional and Service Areas--District Implementation Patterns

Of the 629 participating Ohio districts, 441 had regular term programming and 409 had summer term programming. During one or both of these terms the average district implemented a total of two primary areas. As can be seen in the table on the following page, most districts having programming in the respective terms had a communication skills primary area. During the regular term, the second most prevalent primary area was "health education/services." In the summer term, "mathematics/science" ranked second.

TABLE 5. APPROXIMATE PERCENTAGES OF DISTRICTS IMPLEMENTING THE VARIOUS PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Primary Area	Regular Term: Percent of 441 Districts	Summer Term: Percent of 409 Districts
Communication skills	95%	90%
Mathematics/science	6	22
Preschool education	2	4
Pupil personnel services	9	5
Health education/services	11	9
Arts and humanities	4	6
Vocational skills	6	6
Special education	4	1

Primary Instructional and Service Areas--Participation Patterns

Numbers of youngsters participating in each primary instructional or service areas are reported in the table below. Observations include:

- 47% of all Title I participants in Ohio during fiscal year 1968 were involved in regular term communication skills areas; 37% were in summer term communication skills areas.
- On an average, one of every two Title I participants was involved in two primary areas.

TABLE 6. REPORTED REGULAR AND SUMMER TERM PARTICIPANTS IN EACH OF THE PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Primary Area	Regular Term Participants	Summer Term Participants
Communication skills	97,818	77,743
Mathematics/science	11,821	40,405
Preschool education	7,227	1,821
Pupil personnel services	18,359	5,552
Health education/services	27,972	7,098
Arts and humanities	23,499	4,280
Vocational skills	3,216	1,189
Special education	1,958	1,481
Duplicated Total	191,870	139,569

Expenditure Patterns

Based on estimated expenditure reports submitted after fiscal year 1968 projects were completed, a total of $32,151,011 was expended or encumbered by Ohio school districts for the 668 projects.

Expenditure patterns by primary instructional and service areas are illustrated in the following figure. Table 7 compares expenditures for fiscal years 1967 and 1968.

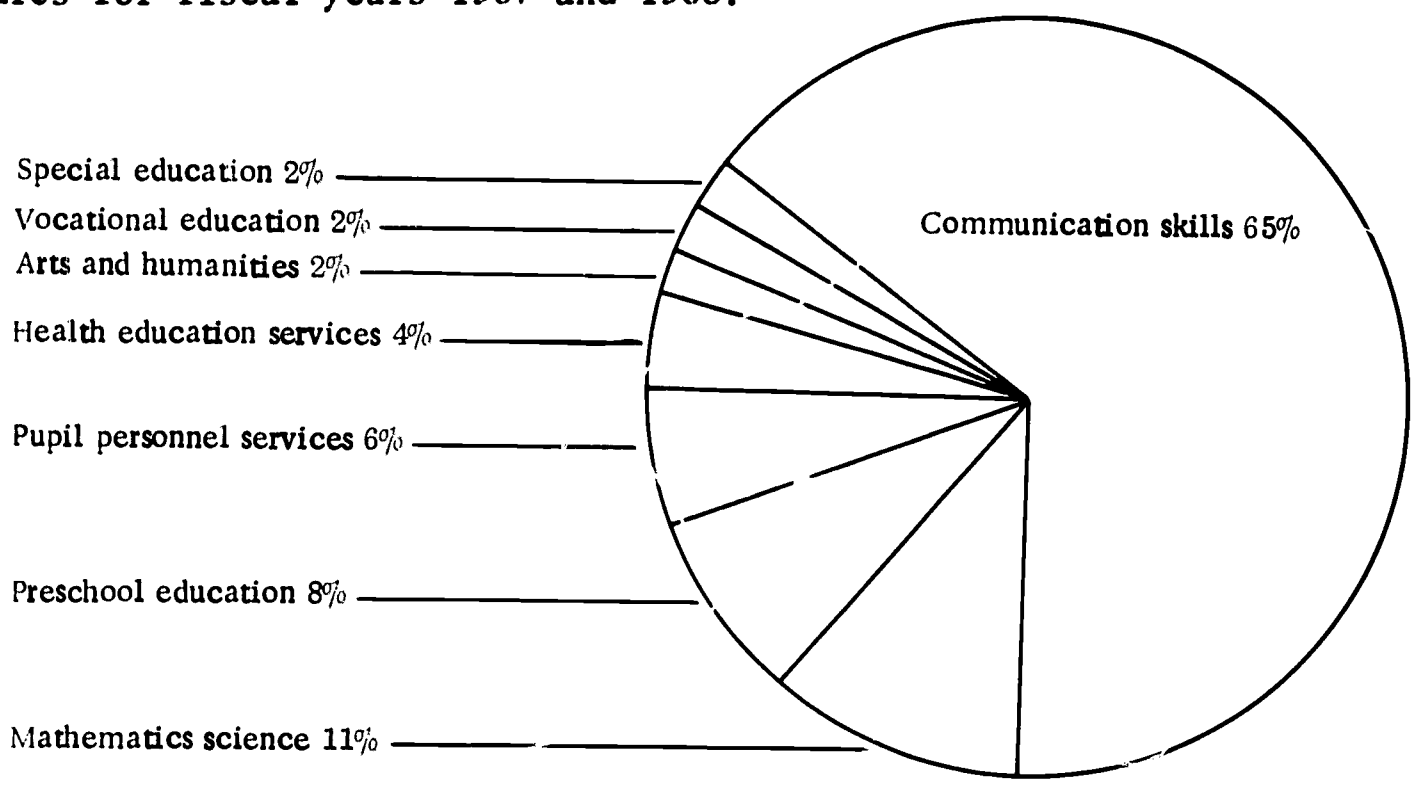

FIGURE 2. REPORTED EXPENDITURE PATTERNS BY PRIMARY INSTRUCTIONAL AND SERVICE AREAS

TABLE 7. COMPARISON OF APPROXIMATE EXPENDITURES BY PRIMARY INSTRUCTIONAL AND SERVICE AREAS FOR FISCAL YEARS 1967 AND 1968

Fiscal Year	Millions of Dollars Expended									Total
	Communication skills	Mathematics/ science	Preschool education	Pupil personnel services	Health education/ services	Arts and humanities	Vocational education	Special education	Other	
1967	19.3	3.1	2.1	0.6	1.1	1.1	0.7	0.5	3.9	32.4
1968	20.9	3.4	1.4	1.8	1.4	0.7	0.7	0.6	--	32.2

In the table below, expenditures are broken into three very general categories--staff development, which included salaries, employee benefits, and inservice training; equipment and supplies; and, all other costs.

TABLE 8. APPROXIMATE EXPENDITURE PATTERNS WITHIN THE VARIOUS PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Expenditures by Millions of Dollars / Expenditure Category	Primary Instructional and Service Areas								
	Communication skills	Mathematics/ science	Preschool education	Pupil personnel services	Health education/ services	Arts and humanities	Vocational skills	Special education	Total
Staff development	16.6	2.7	2.4	1.5	1.1	.6	.4	.5	25.8
Equipment and supplies	1.9	.3	.1	.1	.1	.1	.1	--	2.7
Other	2.4	.4	.2	.2	.2	--	.2	.1	3.7
Total	20.9	3.4	2.7	1.8	1.4	0.7	0.7	0.6	32.2

Title I activities may be conducted during the regular term, during the summer term, or both the regular and summer terms. The opinion of the Ohio Department of Education Title I staff is that regular term programs are more beneficial to the educationally disadvantaged than short summer term programs. As can be noted in the table below, the percentages of funds expended for Title I programming reflects continuing emphasis by both state and local administrators upon more comprehensive efforts during the regular term.

TABLE 9. REPORTED TITLE I EXPENDITURES DURING THE REGULAR TERM AND SUMMER TERM FOR FISCAL YEARS 1966, 1967, AND 1968

Fiscal Year	Regular Term		Summer Term		Estimated Expenditures
	Amount	Percent	Amount	Percent	
1966	$12,955,933	38	$21,138,628	62	$34,094,561
1967	19,518,315	60	12,845,536	40	32,363,851
1968	22,317,618	69	9,833,393	31	32,151,011

Staffing Patterns

The number of teachers employed to instruct Title I participants during the regular term, the summer term, or both, was 6,417. As can be seen in the table below, 75% of the teachers were considered full-time employees.

TABLE 10. TITLE I TEACHERS, CLASSIFIED BY FULL-TIME AND PART-TIME EMPLOYMENT

Category	Number	Percent
Full-time	4,843	75%
Part-time	1,574	25
Total	6,417	100

Background on the teaching experiences and training of Title I teachers indicate that nearly all the teachers had previous classroom experience. Many of them also had experience teaching the disadvantaged or had special skills training.

TABLE 11. TITLE I TEACHERS ACCORDING TO TEACHING EXPERIENCE AND SPECIAL TRAINING

Background Descriptors	Percent of Title I Teachers Having This Background	Number of Teachers
General Teaching Experience	92.1%	5,908
Experience in Teaching the Disadvantaged	30.1	1,932
Special Skills or Training, as in Remedial Reading	26.6	1,710
Special Training to Teach the Disadvantaged	9.0	579

Information on overall staffing patterns was collected separately for regular and summer term employment. Numbers are, however, duplicated to an undetermined extent. For example, in the table below, the duplicated number of teachers is 10,642 contrasted with the 6,417 unduplicated number of teachers reported in a previous table.

TABLE 12. DUPLICATED NUMBERS OF PROFESSIONAL AND NON-PROFESSIONAL PERSONS EMPLOYED UNDER TITLE I TO CONDUCT PRIMARY AREA ACTIVITIES

Job Classification(s)	Regular Term Employees		Summer Term Employees		Employees in Fiscal Year 1968		
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Total
Teachers	1,353	1,401	4,682	3,206	6,035	4,607	10,642
Teacher aides . . .	910	481	2,036	635	2,946	1,116	4,062
Administrators, principals	95	347	463	404	558	751	1,309
Counselors	83	127	148	195	231	322	553
Psychologists . . .	11	64	38	40	49	104	153
Nurses, physicians, dentists	76	171	59	137	135	308	443
Librarians	12	39	113	189	125	228	353
Librarian aides . .	72	41	134	129	206	170	376
Social workers, home visitors, attendance workers . .	82	43	49	30	131	73	204
Speech therapists. .	6	28	47	46	53	74	127
Clerks, secretaries, cooks, bus drivers, others	223	397	660	2,254	883	2,651	3,534
TOTAL	2,923	3,139	8,429	7,265	11,352	10,404	21,756

In addition to persons paid with Title I funds, an undetermined number of persons were paid with local funds and approximately 3,500 volunteers--about 1,000 being parents of project participants--helped conduct program activities.

Inservice Training

The two tables below provide information about amounts and types of inservice training provided to Title I staff members. Note in the first table that, on an average, regular term staff members received over twice as much inservice training as summer term members.

TABLE 13. PROFESSIONAL AND NON-PROFESSIONAL TITLE I STAFF MEMBERS RECEIVING TRAINING DURING THE REGULAR AND SUMMER TERMS

Staff Classification	Regular Term		Summer Term	
	Persons	Average Hours	Persons	Average Hours
Professional	4,452	27.6	6,259	11.2
Non-professional	2,079	17.3	3,160	7.0

TABLE 14. REPORTED HOURS SPENT BY PROFESSIONAL AND NON-PROFESSIONAL TITLE I STAFF MEMBERS IN VARIOUS TYPES OF INSERVICE TRAINING ACTIVITIES

Type of Inservice Training	Professionals		Non-Professionals	
	Total Hours: Regular and Summer Terms	Average Hours Per Person	Total Hours: Regular and Summer Terms	Average Hours Per Person
Local administration provided inservice training	93,849	10.9	28,944	7.8
Conferences/workshops provided for project staff	54,580	8.3	15,749	5.7
Visitation to other schools by members of Title I staff	14,823	6.9	1,666	2.5
Staff members provided college or university courses on campus	6,305	41.9	5,396	14.9
College or university professor(s) provided courses in local schools	9,878	23.4	915	5.4
Other	13,927	9.0	4,386	4.8

Parent Involvement

Estimated numbers of participants' parents involved in various types of Title I activities--other than volunteer work, which was reported previously--are reported in the table below.

TABLE 15. INVOLVEMENT OF PARTICIPANTS' PARENTS IN TITLE I ACTIVITIES DURING THE REGULAR AND SUMMER TERMS

Type of Parent Involvement	Regular Term		Summer Term	
	Estimated Numbers of Persons	Average hours	Estimated Numbers of Persons	Average hours
Group meetings to explain how parents can help meet student needs	22,197	7.8	10,416	1.0
Parental visits to Title I classrooms	17,753	1.5	20,307	1.2
Group meetings to explain how Title I school activities meet student needs	17,669	1.8	13,449	1.1
Individual conferences with project staff personnel	33,456	1.0	18,382	0.7
Home visits by social workers or home visitors	24,285	1.5	9,997	0.7
Involvement in Title I planning	3,142	3.3	1,547	1.0
Estimated unduplicated count of parents involved	40,487		40,732	
Estimated average hours per parent	7.8		1.7	

Title I Effectiveness--Overview

To discuss the educational achievements of youngsters enrolled in Title I programs as if Title I operated in a vacuum would be meaningless. About thirty-five or forty federally funded programs affect economically deprived children, many of whom are the educationally disadvantaged served by Title I. Untold numbers of state and local agencies are using varied approaches in attempts to positively influence these same youngsters. As a result of the complexity of forces, cause-and-effect relationships between Title I efforts alone and educational achievement cannot be determined. What can be evaluated, however, is how well Title I participants achieved beyond arbitrary, reasonable expectations. Types of changes, and in some cases measured amounts of change, can be reported. Causes of change, however, cannot be identified.

Title I Effectiveness--Generalized Successes

When the opinions of local evaluators--stated in narrative form--were analyzed, the five most frequently mentioned successes connected with Title I were, in rank order:

(1) Improved achievement of participants
(2) Improved attitude of participants
(3) Improved school-community relationships
(4) Improved motivation of participants
(5) Increased individual attention provided to participants

Title I Effectiveness--Reported Hindrances

Evaluators were also asked to report major problem areas. The five mentioned most frequently were, in rank order:

(1) Irregular attendance by participants
(2) Scheduling
(3) Insufficient funds
(4) Lack of school/parent cooperation
(5) Shortages of teachers

Title I Effectiveness--Elements of Successful Programs

In an effort to determine what made some Title I programs more successful than others, specific information was collected from communication skills areas reports. Indications are that the more successful communication skills areas had the following characteristics:

- Participants in the grade 1 through 6 ranges
- Pupil-teacher ratios of less than 10 to 1
- Teacher aides, who were provided with in-depth inservice training
- Involvement of counselors, psychologists, and other supportive personnel

Title I Effectiveness--Objective and Subjective Evaluation

Using information from locally completed evaluation data collection instruments, the state-level Title I staff gethered information relative to the degree of change that students exhibited in three primary instructional areas--communication skills, mathematics/science, and arts and humanities as measured by standardized tests and subjective evaluative techniques. For reporting purposes, specific criteria were established so that each child's measured efforts could be classified in one of three categories--"marked improvement," "improvement," or "no significant change." Table 16 has criteria information and reported percentages of participants in each classification. More specific information for the respective primary areas is included in chapters two, three, and four.

TABLE 16. EFFECTIVENESS OF THREE PRIMARY AREAS, AS INDICATED BY DEGREES OF CHANGE MEASURED BY EVALUATIVE TECHNIQUES

Primary Area	Evaluative Technique	Degree of Change	Grade Range			
			1-3	4-6	7-9	10-12
Communication skills	Objective (Standardized tests)	M*	33%	34%	38%	38%
		I	34	32	28	36
		N	33	34	34	26
	Subjective	M	23	33	28	28
		I	50	44	52	43
		N	27	23	20	29
Mathematics/ science	Objective (Standardized tests)	M	34	31	25	29
		I	27	32	17	32
		N	39	37	58	39
	Subjective	M	23	21	11	6
		I	57	56	73	88
		N	20	23	16	6
Arts and humanities	Objective (Standardized tests)	M	26	20		
		I	8	62		
		N	66	18		
	Subjective	M	4	7	12	25
		I	25	29	39	58
		N	71	64	49	17

*M-Marked improvement (1.5 or more months gain per month of instruction)
I-Improvement (1.1 to 1.4 months gain per month of instruction)
N-No significant change (1.0 or less month gain per month of instruction)

Title I Effectiveness--Dropout Prevention

A dropout is defined as "a student who leaves a school, for any reason except death, before graduation or completion of a program of studies and without transferring to another school district." Dropout information may eventually provide indications of Title I effectiveness, although cause-effect relationships will always be difficult--if not impossible--to establish.

In fiscal year 1968, for the first time, dropout information was collected on a grade-by-grade basis. Reported rates are shown below.

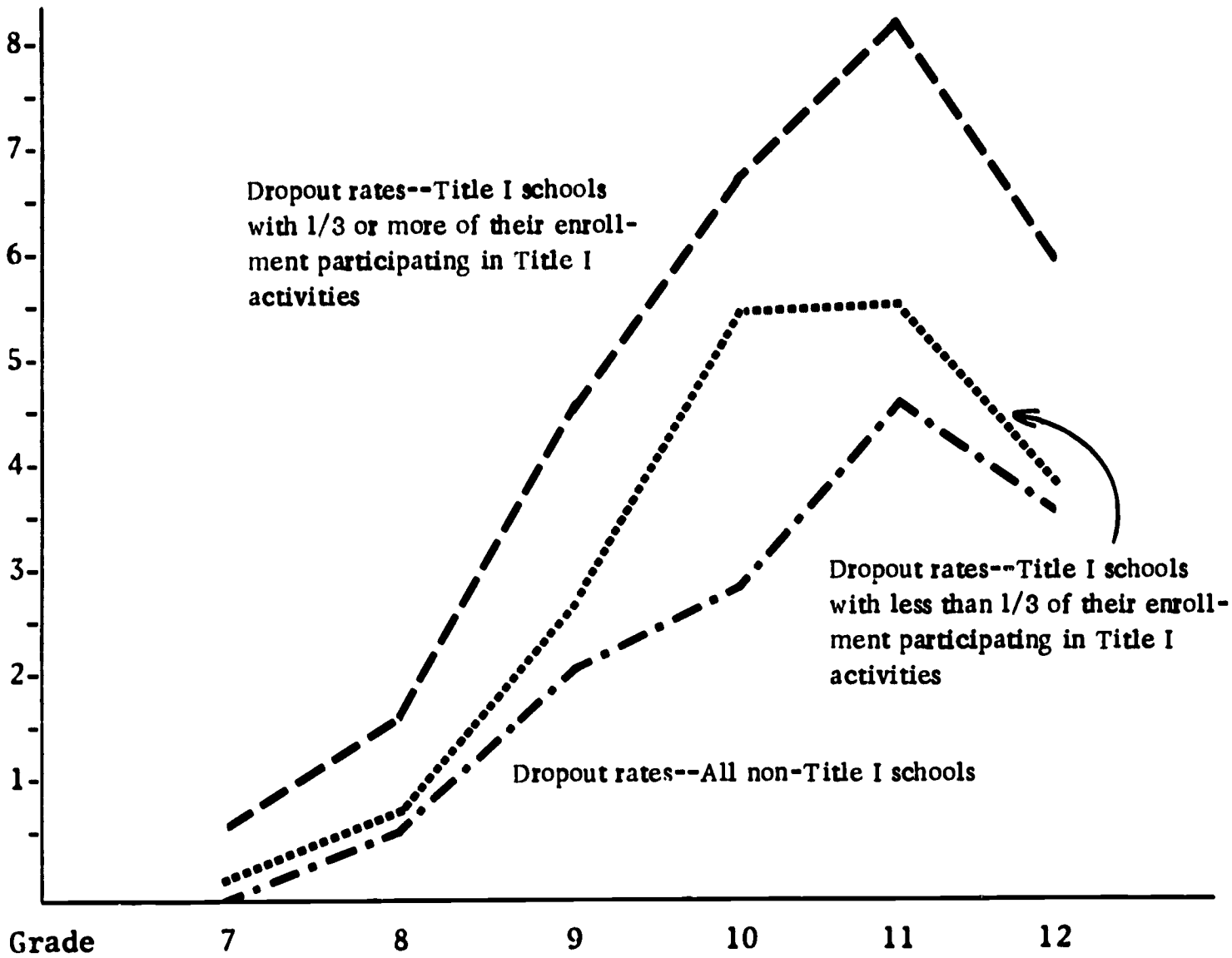

FIGURE 3. DROPOUT RATES FOR SEVENTH- THROUGH TWELFTH-GRADERS IN TITLE I AND NON-TITLE I SCHOOLS

Longitudinal information on dropout rates, without reference to grade level, is presented in the following table. With no speculation as to reasons, the information does suggest that--using fiscal year 1966 as a baseline--the dropout rate in Title I schools is dropping more consistently than the dropout rate in non-Title I schools and that this rate is the same as the rate for all Ohio secondary schools.

TABLE 17. REPORTED DROPOUT RATES IN OHIO SCHOOLS DURING FISCAL YEARS 1966, 1967, AND 1968

Fiscal Year	Title I Secondary Schools	Non-Title I Secondary Schools	All Ohio Secondary Schools
1966	3.4%	2.9%	3.3%
1967	3.2	3.1	3.1
1968	2.9	2.6	2.8

Title I Effectiveness--Continuing Education

How many high school graduates have been encouraged to continue their education as a result of Title I activities? The complexity of cause-effect relationships negates a "Yes" or "No" answer to this question. What may be indicated is that, during the past three years, some forces--Title I possibly among them--have directly or indirectly encouraged increasing percentages of graduates in Title I schools to pursue some schooling, either technical or academic. In the figure below, note the apparent narrowing of the gap between non-Title I graduates and graduates from Title I schools with one-third or more of their enrollment participating in Title I.

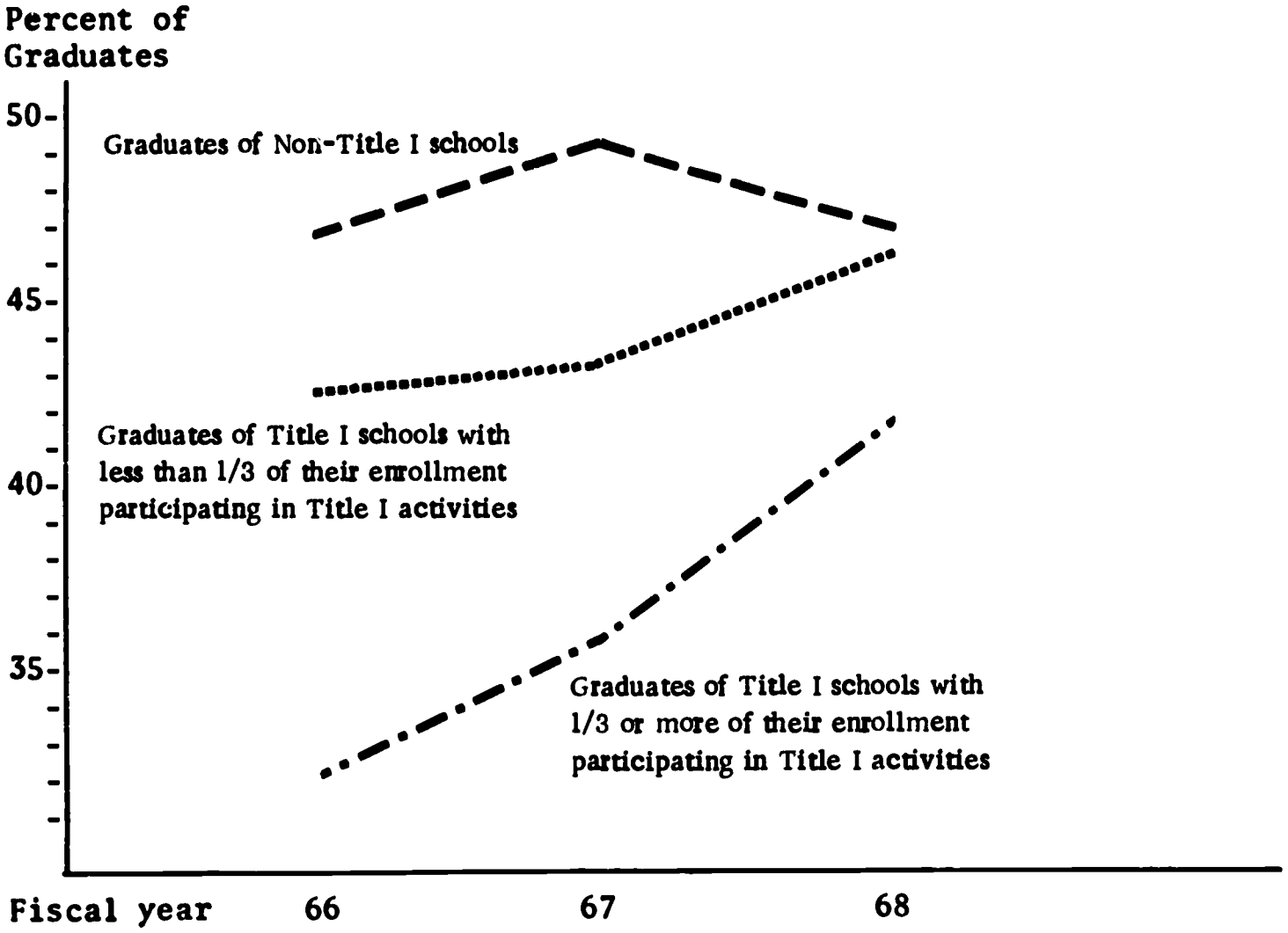

FIGURE 4. CONTINUING EDUCATION PATTERNS FOR TITLE I AND NON-TITLE I SCHOOLS

CHAPTER II

COMMUNICATION SKILLS

The Primary Instructional and/or Service Area implemented most frequently was entitled "Communication Skills." By evaluation-instrument definition, core activities within communication skills areas were designed to improve the facility of educationally disadvantaged youngsters in one or more of the following areas:

- Basic communication skills, grammar, writing, and spelling
- Developmental, remedial, or correctional reading
- Reading readiness
- Non-therapeutic speech improvement or speech development
- Library use
- Study skills
- English as a second language

Basic Data

Communication skills areas implemented in Ohio during fiscal year 1968	
Regular term	431
Summer term	373
Approximate percent of Ohio districts implementing communication skills areas	
Districts with regular term scheduling	95%
Districts with summer term scheduling	90%
Reported participants in communication skills areas	
Regular term participants	97,818
Summer term participants	77,743
Total, including duplication	175,561
Reported expenditures for communication skills areas	
Regular term expenditures	$14,073,320
Summer term expenditures	$ 5,746,957
Total expenditures	$19,820,277

Participants

The numbers of participants in regular and summer term Title I communication skills areas in Ohio during fiscal years 1967 and 1968 are listed in the table below. Observe that in 1968 approximately 25 thousand more students participated in communication skills areas. By contrast, the total number of students involved in Title I activities was reduced in 1968 by approximately 5 thousand.

TABLE 18. NUMBER AND GRADE RANGE OF PARTICIPANTS IN REGULAR AND SUMMER TERM COMMUNICATION SKILLS AREAS DURING FISCAL YEARS 1967 AND 1968

Grade Range	Regular Term		Summer Term	
	Fiscal Year 1967	Fiscal Year 1968	Fiscal Year 1967	Fiscal Year 1968
PreK-K	1,134	4,701	1,679	1,737
1-3	27,134	33,383	29,027	28,618
4-6	25,789	35,433	31,407	33,986
7-9	17,524	20,013	10,813	10,533
10-12	4,943	4,288	1,347	2,869
TOTAL	76,524	97,818	74,273	77,743

Distribution of project participants within the communication skills area by grade range and sex is shown in the table below. Observations about the data include:

- The percentage of boys during the regular term clusters around 60% for all grade ranges except pre-kindergarten/kindergarten, where the percentage was about 50%. This difference illuminates the need for special emphasis on preventive communication skills activities for pre-kindergarten and kindergarten boys.
- Except for the pre-kindergarten/kindergarten level, the percentage of boys participating during the regular term was consistently higher than the percentage for the summer term. Assuming that educational needs and bases for participant selection were generally equivalent during the two terms, boys were apparently less willing to participate during the summer term. This difference strengthens the arguments for comprehensive regular term Title I programming.

TABLE 19. NUMBER AND GRADE RANGE OF PUBLIC SCHOOL PARTICIPANTS BY SEX AND PERCENT OF BOYS IN REGULAR AND SUMMER TERM COMMUNICATION SKILLS AREAS

Grade Range	Regular Term			Summer Term		
	Number of Boys	Number of Girls	Percent of Boys	Number of Boys	Number of Girls	Percent of Boys
PreK-K	2,354	2,347	50.1	903	834	52.0
1-3	18,622	12,829	59.2	15,322	11,640	56.8
4-6	19,992	12,786	61.0	18,319	13,576	57.4
7-9	11,334	7,907	58.9	5,663	4,376	56.4
10-12	2,494	1,618	60.7	1,494	1,360	52.3
TOTAL	54,796	37,487	59.3	41,701	31,786	56.7

Core and Supportive Activities

For evaluation purposes, a communication skills area is an essentially separate segment of educational programming that operates independently of other instructional or service segments within a project. However, multiple core and supportive instructional or service activities are conducted to contribute to the effectiveness of a primary area. Title I evaluators could list information for up to seven core or supportive activities conducted as a part of their regular or summer term communication skills areas. The following table reports participants for all core activities and for supportive activities involving more than 5,000 participants. Observations based on this table include:

- Each regular term participant in a communication skills area was involved in an average of 2.9 core or supportive activities. This average is the same as in fiscal year 1967.

- Each summer term participant was involved in an average of 4.0 core or supportive activities compared with an average of 3.4 activities in fiscal year 1967.

- Each average participant was involved in more core or supportive activities during the summer because different scheduling and staffing factors influenced regular and summer term operation of primary areas.

- The seven core and supportive activities that involved the most participants during the regular term, listed in rank order, were:

  (1) Remedial/correctional reading
  (2) Language arts (communication skills, grammar, writing, spelling)
  (3) Developmental reading
  (4) Study skills
  (5) Efforts to improve attitude/motivation
  (6) Efforts to improve self concept
  (7) Library use

- The seven core and supportive activities that involved the most participants during the summer term, listed in rank order, were:

  (1) Remedial/correctional reading
  (2) Language arts (communication skills, grammar, writing, spelling)
  (3) Study skills
  (4) Efforts to improve attitude/motivation
  (5) Library use
  (6) Physical recreation activities
  (7) Developmental reading

TABLE 20. PARTICIPANTS RECEIVING CORE AND SUPPORTIVE SERVICES WITHIN COMMUNICATION SKILLS AREAS

Core or Supportive Activity	Regular Term	Summer Term	Duplicated Total
CORE ACTIVITY			
Remedial/correctional reading	48,233	55,026	103,259
Language arts (communication skills, grammar, writing, spelling)	44,794	45,838	90,632
Study skills	24,494	32,844	57,338
Developmental reading	28,367	17,488	45,855
Library use	10,116	29,654	39,770
Reading readiness	7,405	3,887	11,292
Speech (non-therapeutic speech improvement or development)	4,418	3,813	8,231
English as a second language	2,143	515	2,658
Other communication skills	5,749	2,516	8,265
SUPPORTIVE ACTIVITY*			
Efforts to improve attitude/ motivation	16,062	31,423	47,485
Physical recreation activities	2,940	19,520	22,460
Efforts to improve self concept	13,080	9,091	22,171
Mathematics/science	3,572	7,647	11,219
Physical development (motor coordination)	6,579	4,050	10,629
Visual health services	5,171	1,194	6,365
School social work (including home-school visiting)	4,857	1,016	5,873
School nurse program	3,369	2,249	5,618
Guidance services by counselor	1,534	3,842	5,376

*5,000 or more participants

Techniques, Procedures, and Resources

From five to nine techniques, procedures, and resources utilized by school districts in the implementation of communication skills areas were listed on evaluation instruments in rank order of importance to the successful operation of the primary area. On a state-level, the most important techniques, procedures, and resources--based on composite data--were ranked as follows:

(1) Individualized instruction
(2) Reduced class size/reduced student-teacher ratio
(3) Motivation through the use of books, kits, and printed material
(4) Motivation through the use of audio-visual material/equipment
(5) New or modified remedial techniques
(6) Professional educators
(7) Motivation through the use of material/equipment (general)
(8) Teacher(s) serve selected groups of students within a building
(9) Extension of existing staff time during the summer

When personnel, supplies, and equipment categories were ranked separately to determine relative importance to the communication skills areas, the five most important were:

(1) Professional educators
(2) Laboratories, kits, sets of work materials
(3) Films, tapes, transparencies, other audio-visual supplies
(4) Reading machines
(5) Teacher aides

Expenditure Patterns

Expenditure patterns in communication skills areas implemented in Ohio during fiscal years 1967 and 1968 are compared in the table on the next page. Further analysis of the data indicate the following:

	FY 1967	FY 1968
• Mean cost for a regular term communication skills area	$26,814	$32,652
• Mean cost for a summer term communication skills area	$17,482	$15,407
• Percent of expenditures used for staff expansion or for extended time of current staff . .	64.8%	79.5%
• Percent of expenditures for equipment	7.0%	2.7%

TABLE 21. AMOUNT AND PERCENT OF EXPENDITURES BY SPECIFIED CATEGORIES FOR REGULAR TERM AND SUMMER TERM COMMUNICATION SKILLS AREAS DURING FISCAL YEARS 1967 AND 1968

Category	Fiscal Year	Regular Term Total	Percent of Total	Summer Term Total	Percent of Total	Fiscal Year Total	Percent of Total
Staff expansion/ extended time of current staff	67	$ 6,872,611	68.1	$ 4,677,961	60.5	$ 11,550,572	64.8
	68	11,599,969	82.4	4,148,080	72.2	15,748,049	79.5
In-service training	67	81,122	.8	94,911	1.2	176,033	1.0
	68	58,391	.4	89,845	1.6	148,236	.7
Equipment	67	665,266	6.6	581,149	7.5	1,246,415	7.0
	68	356,834	2.5	181,960	3.2	538,794	2.7
Educational materials and supplies	67	1,076,387	10.7	863,909	11.2	1,940,296	10.9
	68	773,977	5.5	579,968	10.1	1,353,945	6.8
Transportation	67	86,601	.9	384,733	5.0	471,334	2.6
	68	78,599	.6	283,922	4.9	362,521	1.8
Other	67	1,307,446	12.9	1,124,526	14.6	2,431,972	13.7
	68	1,205,550	8.6	463,182	8.0	1,668,732	8.5
TOTAL	67	10,089,433	100.0	7,727,189	100.0	17,816,622	100.0
	68	14,073,320	100.0	5,746,957	100.0	19,820,277	100.0

Staffing Patterns

Approximately 58% of the staffing positions filled to implement Title I communication skills areas were in the teacher category. Another 22% were in the teacher aide category. Numbers of persons employed in these and other capacities are included in the table below.

TABLE 22. PROFESSIONAL AND NON-PROFESSIONAL PERSONS PAID WITH TITLE I FUNDS FOR REGULAR AND SUMMER TERM COMMUNICATION SKILLS AREAS

Job Classification(s)	Regular Term Employees		Summer Term Employees		Employees in Fiscal Year 1968*		
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Total
Teachers	963	834	3,198	1,943	4,161	2,777	6,938
Teacher aides . . .	666	292	1,260	416	1,926	708	2,634
Administrators, principals	61	263	295	232	356	495	851
Counselors	36	63	66	105	102	168	270
Psychologists . . .	7	38	19	27	26	65	91
Nurses, physicians, dentists	23	61	35	63	58	124	182
Librarians	9	26	78	103	87	129	216
Librarian aides . .	56	33	89	71	145	104	249
Social workers, home visitors, attendance workers . .	29	27	25	10	54	37	91
Speech therapists. .	3	11	30	23	33	34	67
Clerks, secretaries, cooks, bus drivers, others	137	256	339	1,212	536	1,468	2,004
TOTAL	1,990	1,904	5,494	4,205	7,484	6,109	13,593

*Duplicated totals

The next table reports information about teachers employed within communication skills areas categorized by academic degree, overall teaching experience, and Title I teaching experience. Noteworthy observations about teachers in communication skills areas include:

- 12.6% had masters degrees.
- 80.6% had three years or more teaching experience.
- 26.4% had over two years Title I teaching experience.
- Only 6.5% were first-year teachers.

TABLE 23. EXPERIENTIAL BACKGROUNDS OF TEACHERS HIRED WITHIN COMMUNICATION SKILLS AREAS

Degree	Teaching Experience in Title I	Overall Teaching Experience													
		Less Than 1 Year		1 to 2 Years		3 to 6 Years		7 to 10 Years		10 to 20 Years		Over 20 Years		Total	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Less than bachelors degree	1 year or less	50	31	50	9	34	7	23	3	26	5	51	6	233	61
	1-2 years			25	5	32	4	21		21	9	46	9	145	27
	Over 2 years					26	3	14	3	35	2	77	14	152	22
Bachelors degree	1 year or less	154	99	279	82	350	128	188	47	188	60	100	38	1259	454
	1-2 years			169	69	309	127	191	72	225	44	152	53	1046	365
	Over 2 years					227	39	195	34	252	34	202	50	876	157
Masters degree	1 year or less	11	10	11	2	30	13	28	17	46	18	18	20	144	80
	1-2 years			9		29	25	41	11	57	17	24	11	160	64
	Over 2 years					17	2	46	4	79	16	62	15	204	37
TOTAL	1 year or less	215	140	340	93	414	148	239	67	260	83	169	64	1636	595
	1-2 years			203	74	370	156	253	83	303	70	222	73	1351	456
	Over 2 years					270	44	255	41	366	52	341	79	1232	216

Effectiveness of Communication Skills Areas

The figures on this page and the following page illustrate the levels of effectiveness reported for students participating in communication skills areas during the regular term and summer term, respectively. Collected data were categorized on the basis of standardized test results and on change criteria as indicated. Observations following the figure showing summer term data.

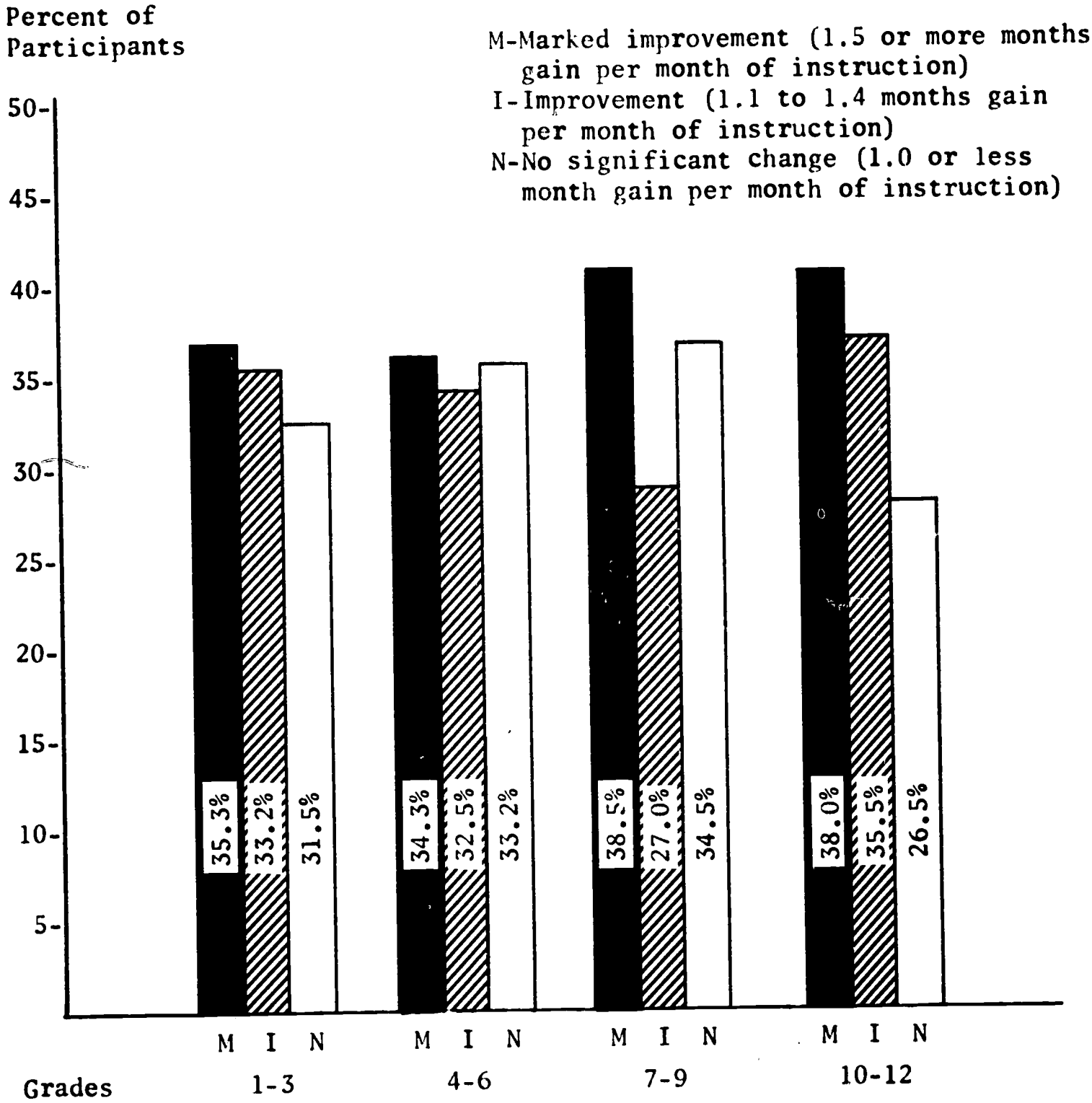

FIGURE 5. PERCENT OF PARTICIPANTS IN REGULAR TERM COMMUNICATION SKILLS AREAS BY GRADE RANGE, WHERE DEGREES OF CHANGE WERE REPORTED AS MEASURED BY STANDARDIZED TESTS

M-Marked improvement (1.5 or more months gain per month of instruction)
I-Improvement (1.1 to 1.4 months gain per month of instruction)
N-No significant change (1.0 or less month gain per month of instruction)

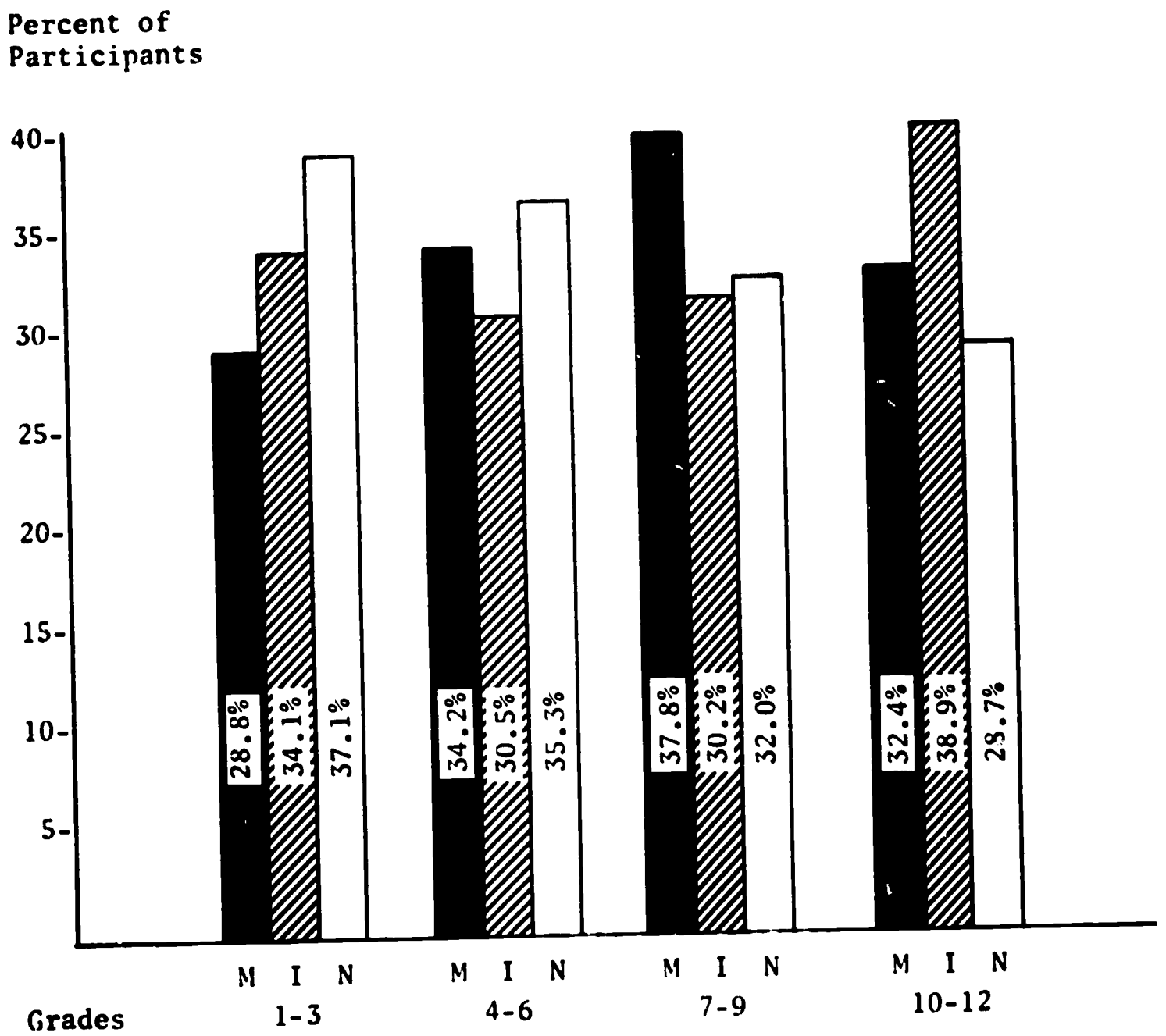

FIGURE 6. PERCENT OF PARTICIPANTS IN SUMMER TERM TITLE I COMMUNICATION SKILLS AREAS BY GRADE RANGE, WHERE DEGREES OF CHANGE WERE REPORTED AS MEASURED BY STANDARDIZED TESTS

Analysis of the data used to compile figures 5 and 6 indicates:

- Statewide, approximately 66% of about 98,000 students involved in communication skills areas during the regular term exhibited 1.1 months or more gain for every month enrolled in Title I activities. Of these same students, 34% exhibited 1.5 or more months gain for every month enrolled.
- Approximately 65% of about 78,000 summer term participants, (many of whom were also among the participants mentioned above) exhibited 1.1 months or more gain for every month enrolled in Title I activities. Of this same group, 33% exhibited 1.5 or more months gain for every month enrolled.

Year-to-Year Involvement

Because problems in the communication skills area are usually deep-rooted and often interrelated with other Title I activities, involvement of a particular child for one or two terms during one year is often not enough for him to catch up with his more advantaged classmates. The graphs below are based on information collected to learn the extend to which Title I services are being provided on a longitudional basis. Two limiting factors to keep in mind are (1) changes brought about by promotion of students to grade levels not served by a communication skills area and (2) population mobility. Further analysis of data indicates that over 30,000 youngsters who participated in regular term communication skills areas had been in Title I activities during each of three years. By contrast, approximately 15,000 of the summer term participants were involved in each of the years.

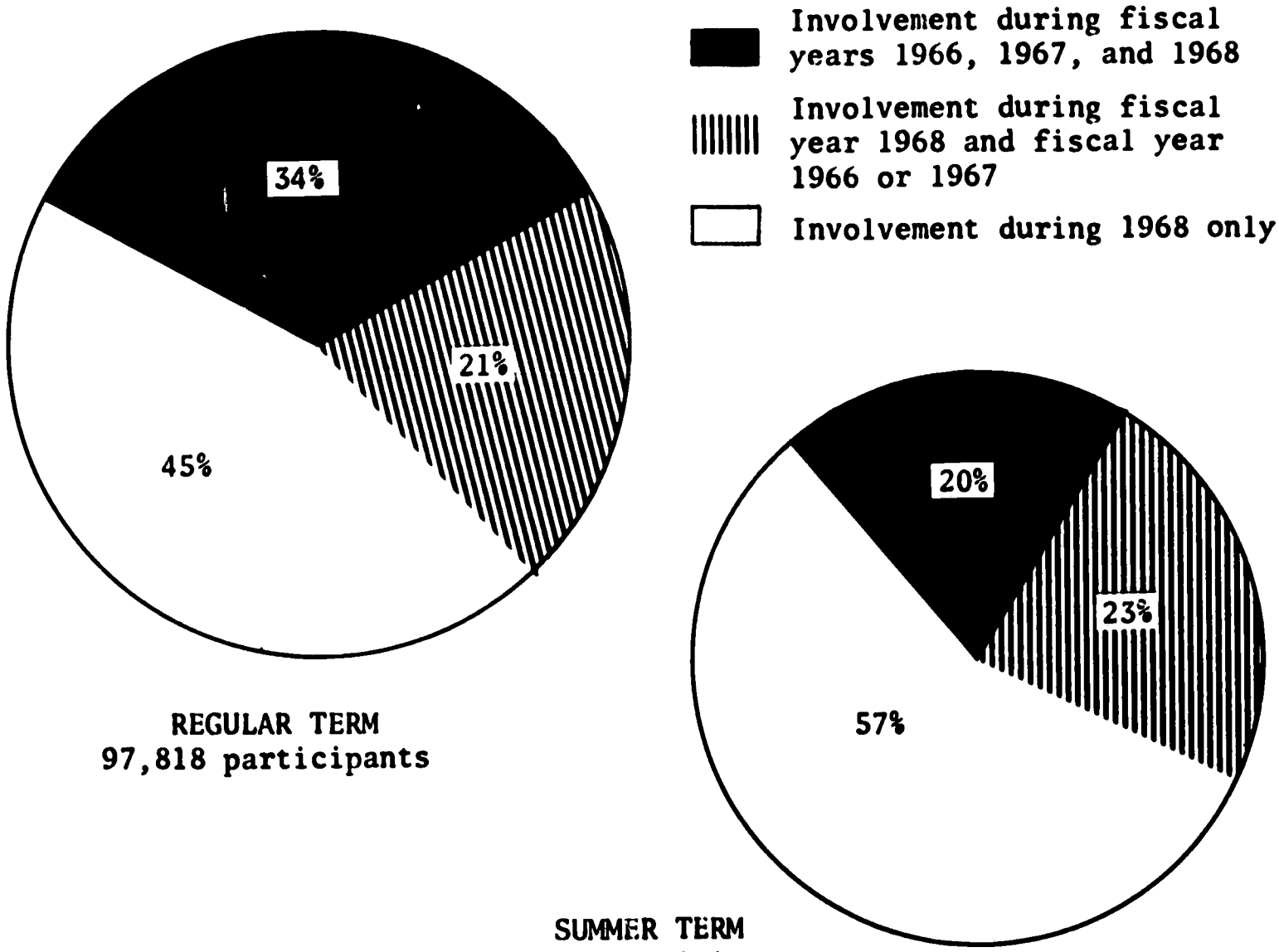

FIGURE 7. PERCENTAGES OF REGULAR AND SUMMER TERM PARTICIPANTS IN COMMUNICATION SKILLS AREAS DURING FISCAL YEAR 1968 WHO WERE ALSO INVOLVED IN TITLE I DURING FISCAL YEAR 1966 AND/OR 1967

CHAPTER III

MATHEMATICS AND/OR SCIENCE SKILLS

After communication skills, the second most frequently implemented Primary Instructional and/or Service Area was entitled "Mathematics and/or Science." By evaluation-instrument definition, core activities within mathematics/science areas were designed to improve the facility of educationally disadvantaged youngsters in one or more of the following areas:

- Mathematics/science (general)
- Mathematics
- Physical sciences
- Social sciences
- Economics
- Other mathematics/science activities

Basic Data

Mathematics/science areas implemented in Ohio during fiscal year 1968	
Regular term	28
Summer term	88
Approximate percent of Ohio districts implementing mathematics/science areas	
Districts with regular term scheduling	6%
Districts with summer term scheduling	22%
Reported participants in mathematics/science areas	
Regular term participants	11,821
Summer term participants	40,405
Total, including duplication	52,226
Reported expenditures for mathematics/science areas	
Regular term expenditures	$1,456,687
Summer term expenditures	$1,771,170
Total expenditures	$3,227,857

Participants

The numbers of participants in regular and summer term Title I mathematics/science areas in Ohio during fiscal years 1967 and 1968 are listed in the table below. Observe that in 1968 over 8 thousand more students participated in mathematics/science areas. By contrast, the total number of students involved in Title I activities was reduced in 1968 by approximately 5 thousand.

TABLE 24. NUMBER AND GRADE RANGE OF PARTICIPANTS IN REGULAR AND SUMMER TERM TITLE I MATHEMATICS/SCIENCE AREAS DURING FISCAL YEARS 1967 AND 1968

Grade Range	Regular Term		Summer Term	
	Fiscal Year 1967	Fiscal Year 1968	Fiscal Year 1967	Fiscal Year 1968
PreK-K	6	81	216	1,084
1-3	936	3,514	10,391	14,209
4-6	9,590	3,834	14,246	15,156
7-9	2,042	3,602	4,901	6,883
10-12	746	790	293	3,073
TOTAL	13,320	11,821	30,047	40,405

Distribution of project participants within the mathematics/ science areas by grade range and sex is shown in the table below. The percentage of boys during the regular and summer terms generally ranged between 51 and 52 percent, which is about the percentage of school-age boys throughout the country. A possible explanation is that needs in the area of mathematics and science, unlike needs in the communication skills area, are independent of sex differences. A larger sampling and longitudinal study are needed, however, to test this observation.

TABLE 25. NUMBER AND GRADE RANGE OF PUBLIC SCHOOL PARTICIPANTS BY SEX AND THE PERCENT OF BOYS IN REGULAR AND SUMMER TERMS MATHEMATICS/SCIENCE AREAS

Grade Range	Regular Term			Summer Term		
	Number of Boys	Number of Girls	Percent of Boys	Number of Boys	Number of Girls	Percent of Boys
PreK-K	42	39	51.9	564	520	52.0
1-3	1,788	1,714	51.1	7,021	6,514	51.9
4-6	1,894	1,848	50.6	7,500	6,946	51.9
7-9	1,929	1,588	54.8	3,437	3,283	51.1
10-12	417	374	52.7	1,581	1,489	51.5
TOTAL	6,070	5,563	52.2	20,103	18,752	51.7

Core and Supportive Activities

For evaluation purposes, a mathematics/science area is an essentially separate segment of educational programming that operates independently of other instructional or service segments within a project. However, multiple core and supportive instructional or service activities are conducted to contribute to the effectiveness of a primary area. Title I evaluators could list information for up to seven core or supportive activities conducted as a part of their regular or summer term mathematics/science areas. The following table reports participants for all core activities and for supportive activities involving more than 1,000 participants. Observations based on this table include:

- Each regular term participant in a mathematics/science area was involved in an average of 2.1 core or supportive activities compared with an average of 1.7 activities in fiscal year 1967.

- Each summer term participant was involved in an average of 3.0 core or supportive activities compared with an average of 2.7 activities in fiscal year 1967.

- Each average participant was involved in more core or supportive activities during the summer because different scheduling and staffing factors influenced regular-and summer term operation of primary areas.

- The seven core and supportive activities that involved the most participants during the regular term, listed in rank order, were:

  (1) Physical sciences
  (2) Mathematics
  (3) Efforts to improve attitude/motivation
  (4) Study skills
  (5) School social work (including home-school visiting)
  (6) Mathematics/science (general)
  (7) Group counseling by counselor or psychologist

- The seven core and supportive activities that involved the most participants during the summer term, listed in rank order, were:

  (1) Efforts to improve attitude/motivation
  (2) Mathematics/science (general)
  (3) Social sciences
  (4) Mathematics
  (5) Physical recreation activities
  (6) Study skills
  (7) Vocational awareness/orientation

TABLE 26. NUMBER OF PARTICIPANTS RECEIVING CORE AND SUPPORTIVE SERVICES IN MATHEMATICS/SCIENCE AREAS

Core or Supportive Activity	Regular Term	Summer Term	Duplicated Total
CORE ACTIVITY			
Mathematics/science (general)	1,507	21,293	22,800
Social sciences	772	21,003	21,775
Mathematics	3,115	14,558	17,673
Physical sciences	7,073	1,653	8,726
Economics	7	224	231
Other mathematics/science activities	51	1,075	1,126
SUPPORTIVE ACTIVITY*			
Efforts to improve attitude/ motivation	2,425	26,728	29,153
Physical recreation activities		13,944	13,944
Study skills	1,578	3,841	5,419
Vocational awareness/orientation	497	3,349	3,846
Efforts to improve self concept	463	1,254	1,717
School social work (including home-school visiting)	1,567	101	1,668
Medical health services	1,425	184	1,609
Guidance services by counselor	1,122	426	1,548
Group counseling by counselor or psychologist	1,515		1,515
Food services (breakfast, lunch, other	42	1,466	1,508
Pupil-personnel related services for parents		1,200	1,200

*1,000 or more participants

Techniques, Procedures, and Resources

From five to nine techniques, procedures, and resources utilized by school districts in the implementation of mathematics/science areas were listed on evaluation instruments in rank order of importance to the successful operation of the primary area. On a state-level, the most important techniques, procedures, and resources--based on composite data--were ranked as follows:

(1) Individualized instruction
(2) Reduced class size/reduced student-teacher ratio
(3) Tutorial arrangements (instruction on a one-to-one basis)
(4) New or modified remedial techniques
(5) Motivation through the use of audio-visual material/equipment
(6) Extension of existing staff time during the summer
(7) Games, flashcards, manipulative materials

When personnel, supplies, and equipment categories were ranked separately to determine relative importance to mathematics/science areas, the five most important were:

(1) Professional educators
(2) Laboratories, kits, sets of work materials
(3) Films, tapes, transparencies, other audio-visual supplies
(4) Games, flashcards, manipulative materials
(5) Teacher aides

Expenditure Patterns

Expenditure patterns in mathematics/science areas implemented in Ohio during fiscal years 1967 and 1968 are compared in the table on the next page. Further analysis of the data indicate the following:

	FY 1967	FY 1968
· Mean cost for a regular term mathematics/science area	$39,893	$52,024
· Mean cost for a summer term mathematics/science area	$19,060	$20,127
· Percent of expenditures used for staff expansion or for extended time of current staff	62.9%	80.8%
· Percent of expenditures for equipment	6.0%	3.3%

TABLE 27. AMOUNT AND PERCENT OF EXPENDITURES BY SPECIFIED CATEGORIES FOR REGULAR TERM, SUMMER TERM, AND FISCAL YEAR MATHEMATICS/SCIENCE AREAS DURING FISCAL YEARS 1967 AND 1968

Category	Fiscal Year	Regular Term Total	Percent of Total	Summer Term Total	Percent of Total	Fiscal Year Total	Percent of Total
Staff expansion/ extended time of current staff	67	$ 700,979	58.6	$1,094,263	66.0	$1,795,242	62.9
	68	1,206439	82.8	1,401,691	79.1	2,608,130	80.8
In-service training	67	22,588	1.9	18,366	1.1	40,954	1.4
	68	3,241	.2	16,721	.9	19,962	.6
Equipment	67	85,063	7.1	85,226	5.1	170,289	6.0
	68	34,521	2.4	72,505	4.1	107,026	3.3
Educational materials and supplies	67	93,437	7.8	150,302	9.1	247,739	8.5
	68	80,848	5.6	97,649	5.5	178,497	5.5
Transportation	67	8,027	.7	44,174	2.7	52,101	1.8
	68	7,759	.5	56,078	3.2	63,837	2.0
Other	67	286,686	23.9	265,919	16.0	652,605	19.4
	68	123,879	8.5	126,526	7.2	250,405	7.8
TOTAL	67	1,196,780	100.0	1,658,250	100.0	2,855,030	100.0
	68	1,456,687	100.0	1,771,170	100.0	3,227,857	100.0

Staffing Patterns

Approximately 48% of the staffing positions filled to implement Title I mathematics/science areas were in the teacher category. Numbers of persons employed in other capacities are included in the table below.

TABLE 28. PROFESSIONAL AND NON-PROFESSIONAL PERSONS PAID WITH TITLE I FUNDS FOR REGULAR AND SUMMER TERM MATHEMATICS/SCIENCE AREAS

Job Classification(s)	Regular Term Employees		Summer Term Employees		Employees in Fiscal Year 1968*		
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Total
Teachers	60	175	774	1,160	834	1,335	2,169
Teacher aides . . .	31	63	437	147	468	210	678
Administrators, principals	5	24	78	129	83	153	236
Counselors	3	27	13	81	16	108	124
Psychologists . . .		2	7	8	7	10	17
Nurses, physicians, dentists	1	3	2	20	3	23	26
Librarians	2	3	25	82	27	85	112
Librarian aides . .	11	2	32	58	43	60	103
Social workers, home visitors, attendance workers . .	2	2	9	6	11	8	19
Speech therapists. .	1		1	15	2	15	17
Clerks, secretaries, cooks, bus drivers, others	4	3	113	946	117	949	1,066
TOTAL	120	304	1,491	2,652	1,611	2,956	4,567

*Duplicated totals

The next table reports information about teachers employed within mathematics/science areas categorized by academic degree, overall teaching experience, and Title I teaching experience. Noteworthy observations about teachers in mathematics/science areas include:

- 16.1% had masters degrees.
- 74.8% had three years or more teaching experience.
- 18.7% had over two years Title I teaching experience.
- Only 6.0% were first-year teachers.

TABLE 29. EXPERIENTIAL BACKGROUNDS OF TEACHERS HIRED WITHIN MATHEMATICS/SCIENCE AREAS

Degree	Teaching Experience in Title I	Overall Teaching Experience													
		Less Than 1 Year		1 to 2 Years		3 to 6 Years		7 to 10 Years		10 to 20 Years		Over 20 Years		Total	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Less than bachelors degree	1 year or less	5	2	11	5	5	1	4		7	1	14	2	46	11
	1-2 years			2	2	7		8		6	2	8	3	31	7
	Over 2 years					1		1		1		13	1	16	1
Bachelors degree	1 year or less	20	33	92	26	85	22	39	12	37	14	17	2	290	109
	1-2 years			34	27	49	28	33	9	33	11	26	3	174	83
	Over 2 years					42	2	33	9	35	1	29	4	139	16
Masters degree	1 year or less	1	5	5	3	19	6	9	4	14	3	3	2	51	23
	1-2 years			4	1	11	10	13	7	12	4	5	2	45	24
	Over 2 years					3	2	6		11		11	1	31	3
TOTAL	1 year or less	26	40	108	34	109	29	52	16	58	18	34	6	387	143
	1-2 years			40	30	67	38	54	16	51	17	39	13	250	114
	Over 2 years					46	4	40	9	47	1	53	6	186	20

Effectiveness of Mathematics/Science Areas

The figure below illustrates the levels of effectiveness reported for students participating in mathematics/science areas during either the regular term and/or the summer term. Collected data were categorized on the basis of standardized test results and on change criteria as indicated. Analysis of the data indicates:

- About 3 out of 10 participants involved in mathematics/ science areas exhibited marked improvement.
- About 5 out of 10 participants involved in mathematics/ science areas exhibited improvement or marked improvement.

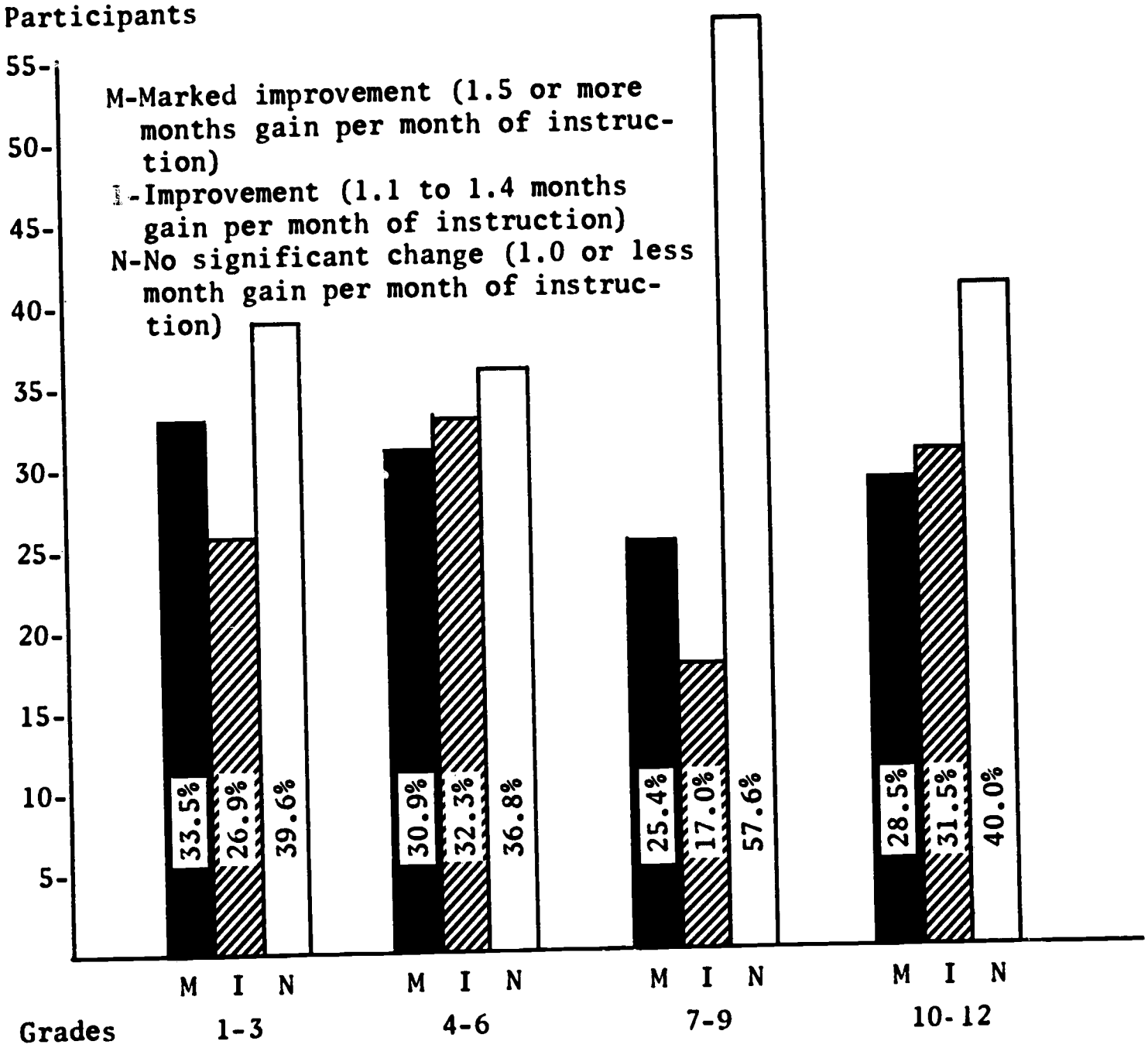

FIGURE 8. PERCENT OF PARTICIPANTS IN MATHEMATICS/SCIENCE AREAS BY GRADE RANGE, WHERE DEGREES OF CHANGE WERE REPORTED AS MEASURED BY STANDARDIZED TESTS

Year-to-Year Involvement

Problems in the mathematics/science area, just as those in the communication skills area, are frequently deep-rooted and often interrelated with other Title I activities. Involvement of a particular child for one or two terms during one year is often not enough for him to catch up with his more advantaged classmate. The graphs below are based on information collected to learn the extent to which Title I services are being provided on a longitudional basis. Two limiting factors to keep in mind are (1) changes brought about by promotion of students to grade levels not served by a mathematics/science area and (2) population mobility. Further analysis of data indicates that over 5,000 youngsters who participated in regular term mathematics/science areas had been in Title I activities during each of three years. By contrast, approximately 10,000 of the summer term participants were involved in each of the years.

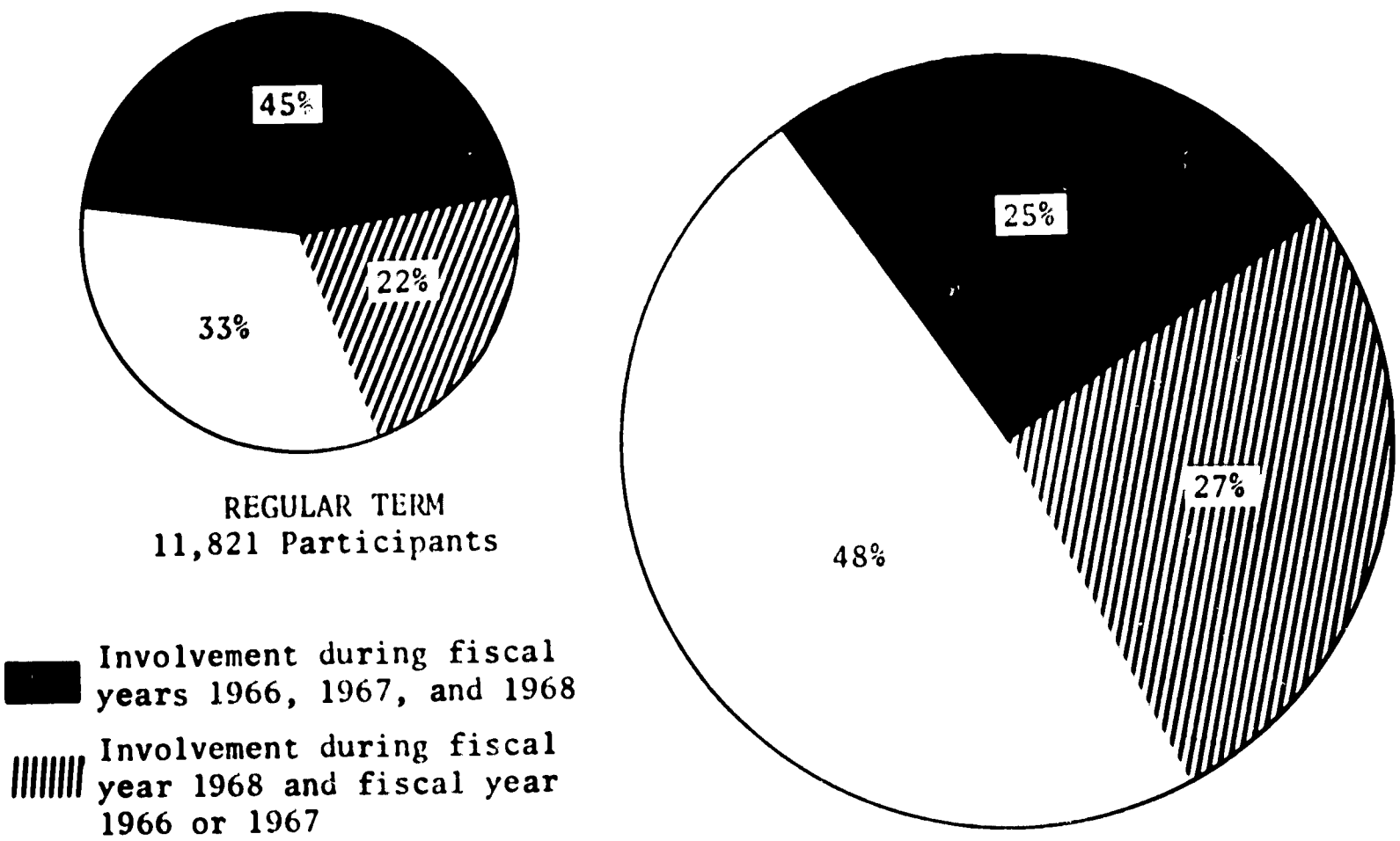

FIGURE 9. PERCENTAGES OF REGULAR AND SUMMER TERM PARTICIPANTS IN MATHEMATICS/SCIENCE AREAS DURING FISCAL YEAR 1968 WHO WERE ALSO INVOLVED IN TITLE I DURING FISCAL YEAR 1966 AND/OR 1967

CHAPTER IV

OTHER PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Six of the eight Primary Instructional and/or Service Areas--the exceptions being the communication skills and the mathematics/science areas discussed in chapters two and three--were limited in size and scope. The six areas, ranked by reported expenditures, were:

(1) Preschool Education
(2) Pupil Personnel Services
(3) Health Education/Services
(4) Arts and Humanities
(5) Vocational Skills
(6) Special Education

In view of the limited numbers of participants and the comparatively low expenditures of funds in each of these areas, this chapter presents data and observations about all six areas. Chapter organization is essentially the same as that used in the two preceding chapters, with modifications as deemed advisable. Exceptions include:

- Individual techniques, procedures, and resources were used with so few participants and were so varied that--even on a statewide basis--data provided no comparisons that were considered meaningful.
- Effectiveness of individual areas, as measured by evaluative procedures, were so limited in nature that separate treatment of data was considered meaningless.
- Year-to-year involvement was dropped for lack of meaningful data.

Basic Data

Basic data for the six areas, along with observations and other data, have been placed on separate sheets, beginning on the next page.

Participants

The numbers of regular and summer term participants are reported in Table 30 on page 52. Observe that in every area, except special education, numbers of participants were much higher during the regular term.

Core and Supportive Activities

The table on page 53 lists by primary area the core and supportive activities that involved, in the opinion of the writers of this publication, significant numbers of participants. Activities are listed in rank order, according to the reported numbers of participants.

Expenditure Patterns

Expenditure patterns are compared in the table on page 54.

PRESCHOOL EDUCATION

Basic Data

Preschool education areas implemented in Ohio during fiscal year 1968	
Regular term	9
Summer term	17
Approximate percent of Ohio districts implementing preschool education areas	
Districts with regular term scheduling	2%
Districts with summer term scheduling	4%
Reported participants in preschool education areas	
Regular term participants	7,227
Summer term participants	1,821
Total, including duplication	9,048
Reported expenditures for preschool education areas	
Regular term expenditures	$2,154,874
Summer term expenditures	$ 365,270
Total expenditures	$2,520,144

Observations and Other Data

- The third highest expenditure of Title I funds was for preschool education areas, exceeded only by expenditures for the communication skills and mathematics/science areas.
- 89% of the reported expenditures for preschool education areas during fiscal year 1968 was used for salaries and employee benefits.
- Reported expenditures for preschool education areas during fiscal year 1968 exceeded similiar expenditures in fiscal year 1967 by over $500,000.
- Reported numbers of participants in preschool education areas in fiscal year 1967 were 5,590 for the regular term and 3,169 for the summer term. When these data are contrasted with data above, a shift to regular term programming is evident.

PUPIL PERSONNEL SERVICES

Basic Data

Pupil personnel service areas in Ohio during fiscal year 1968	
Regular term	41
Summer term	20
Approximate percent of Ohio districts implementing pupil personnel service areas	
Districts with regular term scheduling	9%
Districts with summer term scheduling	5%
Reported participants in pupil personnel service areas	
Regular term participants	18,359
Summer term participants	5,552
Total, including duplication	23,911
Reported expenditures for pupil personnel service areas	
Regular term expenditures	$1,251,180
Summer term expenditures	$ 420,724
Total expenditures	$1,671,904

Observations and Other Data

- The fourth highest expenditure of Title I funds was for pupil personnel services, exceeded only by expenditures for the communication skills, mathematics/science, and preschool education areas.
- 85% of the reported expenditures for pupil personnel service areas during fiscal year 1968 was used for salaries and employee benefits.
- A limitation to the above data is that local evaluators had to classify all primary areas in one of eight specified categories and that, in some instances, the pupil personnel service area was apparently used in lieu of the miscellaneous area evaluators were permitted to use in fiscal year 1967. Modification of both application and evaluation instruments for fiscal year 1969 will, hopefully, alleviate this problem.

HEALTH EDUCATION/SERVICES

Basic Data

Health education/service areas implemented in Ohio during fiscal year 1968	
Regular term	48
Summer term	35
Approximate percent of Ohio districts implementing health education/service areas	
Districts with regular term scheduling	11%
Districts with summer term scheduling	9%
Reported participants in health education/service areas	
Regular term participants	27,972
Summer term participants	7,098
Total, including duplication	35,070
Reported expenditures for health education/service areas	
Regular term expenditures	$ 923,589
Summer term expenditures	$ 358,914
Total expenditures	$1,282,503

Observations and Other Data

- 76% of the reported expenditures for health education/service areas during fiscal year 1968 was used for salaries and employee benefits.
- 3% of the reported expenditures during fiscal year 1968 was used for equipment compared with 10% during fiscal year 1967.
- Of the six primary areas dealt with in this chapter, the health education/service area involved the highest numbers of participants in the regular and summer terms, respectively.

Basic Data

Arts and humanities areas implemented in Ohio during fiscal year 1968	
Regular term	19
Summer term	23
Approximate percent of Ohio districts implementing arts and humanities areas	
Districts with regular term scheduling	4%
Districts with summer term scheduling	6%
Reported participants in arts and humanities areas	
Regular term participants	23,499
Summer term participants	4,280
Total, including duplication	27,779
Reported expenditures for arts and humanities areas	
Regular term expenditures	$369,446
Summer term expenditures	$348,367
Total expenditures	$717,813

Observations and Other Data

- 77% of the reported expenditures for arts and humanities areas during fiscal year 1968 was used for salaries and employee benefits.
- 1.6% of the reported expenditures during fiscal year 1968 was used for equipment compared with 9.4% during fiscal year 1967.
- Of the six primary areas dealt with in this chapter, the arts and humanities area involved the second highest numbers of participants in the regular and summer terms respectively. Only the health education/service area had more participants.
- Reported numbers of participants in arts and humanities areas in fiscal year 1967 were 17,669 for the regular term and 7,895 for the summer term. When these data are contrasted with data above, a shift to regular-term programming is evident.

VOCATIONAL SKILLS

Basic Data

Vocational skills areas implemented in Ohio during fiscal year 1968	
Regular term	25
Summer term	26
Approximate percent of Ohio districts implementing vocational skills areas	
Districts with regular term scheduling	6%
Districts with summer term scheduling	6%
Reported participants in vocational skills areas	
Regular term participants	3,216
Summer term participants	1,189
Total, including duplication	4,405
Reported expenditures for vocational skill areas	
Regular term expenditures	$448,906
Summer term expenditures	$223,117
Total expenditures	$672,023

Observations and Other Data

- Of all eight primary areas, the vocational skills area involved the lowest numbers of participants in the regular and summer terms, respectively.
- 60% of the reported expenditures for vocational skills areas during fiscal year 1968 was used for salaries and employee benefits.
- 10% of the reported expenditures during fiscal year 1968 was used for equipment compared with 26% during fiscal year 1967. A partial explanation for this difference is the "tooling up" nature of first year vocational skills programs.
- 51% of the participants during the regular term were boys compared with 61% during the summer term.

SPECIAL EDUCATION

Basic Data

Special education areas implemented in Ohio during fiscal year 1968	
Regular term	17
Summer term	6
Approximate percent of Ohio districts implementing special education areas	
Districts with regular term scheduling	4%
Districts with summer term scheduling	1%
Reported participants in special education areas	
Regular term participants	1,958
Summer term participants	1,481
Total, including duplication	3,439
Reported expenditures for special education areas	
Regular term expenditures	$462,010
Summer term expenditures	$ 80,007
Total expenditures	$542,017

Observations and Other Data

- Of the eight primary areas, the lowest expenditure of Title I funds was for special education. A reason for this was the availability of state funds.
- 81% of the reported expenditures for special education areas during fiscal year 1968 was used for salaries and employee benefits.
- 4% of the reported expenditures during fiscal year 1968 was used for equipment compared with 20% during fiscal year 1967.

TABLE 30. NUMBER AND GRADE RANGE OF PARTICIPANTS IN SIX PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Grade Range	Primary Instructional and Service Areas											
	Preschool Education		Pupil Personnel Services		Health Education/ Services		Arts and Humanities		Vocational Skills		Special Education	
	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term	Regular Term	Summer Term
PreK-K	7,227	1,821	991	38	1,828	99	3,002	38			83	61
1-3			3,713	913	9,779	2,290	8,635	1,228			447	532
4-6			5,936	1,695	10,008	3,273	9,656	1,823	9	51	1,038	606
7-9			5,751	1,592	4,880	1,050	1,965	950	558	417	281	142
10-12			1,968	1,314	1,477	386	241	241	2,649	721	109	40
TOTAL	7,227	1,821	18,359	5,552	27,972	7,098	23,499	4,280	3,216	1,189	1,958	1,481

TABLE 31. CORE AND SUPPORTIVE ACTIVITIES OF SIGNIFICANCE WITHIN SIX PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Primary Area	Core Activities of Significance	Supportive Activities of Significance
Preschool education	1. Pre-kindergarten activities 2. Regular kindergarten activities	1. School social work (including home-school visiting) 2. Physical development (motor coordination) 3. Efforts to improve self concept 4. Dental health services
Pupil personnel services	1. Extracurricular and socially oriented school activities 2. Efforts to improve attitude/motivation 3. Elementary guidance	1. Speech and hearing therapy 2. Language arts (communication skills, grammar, writing, spelling) 3. Arts and humanities (general)
Health education services	1. Dental health services 2. Health education 3. Medical health services 4. Physical development (motor coordination)	1. Efforts to improve self concept 2. Efforts to improve emotional/social health
Arts and humanities	1. Fine arts (general) 2. Music appreciation 3. Arts and humanities (general)	1. Efforts to improve attitude/motivation
Vocational skills	1. Vocational awareness/orientation 2. Work study	1. Guidance services (general) by counselor 2. Individual counseling by counselor or psychologist 3. Efforts to improve attitude/motivation 4. Language arts (communication skills, grammar, writing, spelling)
Special education	1. Activities for the emotionally disturbed 2. General special education activities	1. Arts and crafts 2. Physical development 3. Food services 4. Language arts (communication skills, grammar, writing, spelling)

TABLE 32. EXPENDITURES BY SPECIFIED CATEGORIES FOR SIX PRIMARY INSTRUCTIONAL AND SERVICE AREAS

Expenditures / Category	Primary Instructional and Service Areas					
	Preschool Education	Pupil Personnel Services	Health Education/ Services	Arts and Humanities	Vocational Skills	Special Education
Staff expansion/ extended time of current staff	$2,214,038	$1,413,252	$ 975,667	$551,662	$405,137	$436,327
In-service training	15,868	46,861	10,470	8,329	1,137	3,228
Equipment	18,466	43,626	44,133	11,434	68,145	21,676
Educational materials and supplies	68,128	66,524	71,959	68,041	49,488	28,986
Transportation	28,934	11,404	18,898	29,802	10,561	17,597
Other	174,710	90,237	161,376	48,545	137,555	34,203
TOTAL	$2,520,144	$1,671,904	$1,282,503	$717,813	$672,023	$542,017

Staffing Patterns

Approximately 43% of the staffing positions filled to implement the six small primary areas were in the teacher category. Numbers of persons employed in other capacities are included in the table below.

TABLE 33. DUPLICATED NUMBERS OF PROFESSIONAL AND NON-PROFESSIONAL PERSONS PAID WITH TITLE I FUNDS FOR THE SIX SMALL PRIMARY AREAS

Job Classification(s)	Employees in Fiscal Year 1968		
	Full-time	Part-time	Total
Teachers	1,040	495	1,535
Teacher aides	552	198	750
Administrators, principals	119	103	222
Counselors	113	46	159
Psychologists	16	29	45
Nurses, physicians, dentists	74	161	235
Librarians	11	14	25
Librarian aides . . .	18	6	24
Social workers, home visitors, attendance workers . . .	66	28	94
Speech therapists . .	18	25	43
Clerks, secretaries, cooks, bus drivers, others	230	234	464
TOTAL	2,257	1,339	3,596

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented in this report, on discussions by state officials with many educators, and on observations made by state officials during on-site visits of programs, the following conclusions and recommendations are offered:

Conclusions

- The number of students that can be effectively served by any one district depends on needs of children and on allocated funds.
- Many Ohio Title I participants are improving their academic abilities, particularly in the communication skills and mathematics/science areas.
- The attitude and motivation of many participants for doing school-type activities have reportedly improved.
- Programs concentrated in the elementary grades, particularly grades 1-3, are more often successful than those spread from K-12.
- When teachers and teacher aides are provided in-depth inservice training, a program is more likely to have a positive impact.
- Specific questions concerning effectiveness of a local program, or of a program component, must be answered at the local level.
- Each district should--in addition to compiling data needed on the state level--systematically assess criteria for selecting participants and approaches used in program implementation.

Recommendations

- To effect positive change, Title I efforts should be concentrated on a few students rather than thinly spread to many students.
- Program emphasis should be placed on readiness or preventive measures that should alleviate--over a period of years--the need for concentration on remedial and corrective measures.
- New approaches should be tried, if they appear to offer maximum services and activities within reasonable cost limits.
- Based on pertinent needs of project participants, services of necessary counselors, psychologists, and other professionals should be provided.
- In-depth inservice training should be provided to teacher aides.
- Use of Title I funds during the summer term should, in most cases, be limited to regular term participants who need follow-up activities.
- Local evaluative data should be studied carefully; then, program emphasis and intensity shifted, as deemed advisable.
- Title I should be interrelated with regular school programming.
- Other sources of money that could be used to supplement or expand local Title I programming should be investigated.