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This (Milwaukee, Wisconsin) summer school program was designed to give educational experiences which would improve basic skills and stimulate the desire to learn of children from impoverished homes. Participation in the program was by invitation, but was also voluntary since parental approval was required. Objectives of the program were directed toward enriching and strengthening the child's skills. Grade advancement was not an objective of this program. The data support the conclusion that the basic focus of the ESEA-Elementary School program has produced the desired results and should be continued. Children from disadvantaged homes have demonstrated measurable increases in reading and arithmetic achievement during the six weeks of the program. (Author)

EVALUATION OF

ELEMENTARY SUMMER SCHOOL

ESEA (TITLE I)

1968

MILWAUKEE PUBLIC SCHOOLS

Richard P. Gousha, Superintendent

07835E

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INTRODUCTION

The ESEA Elementary Summer School program was organized and conducted by the Department of Elementary Curriculum and Instruction in seven elementary schools. These elementary schools are located in areas of economic deprivation. Program dates were June 17 through July 31, 1968. (Milwaukee, Wisc.)

This summer school program was designed to give educational experiences which would improve basic skills and stimulate the desire to learn of children from impoverished homes. Participation in the program was by invitation, but was also voluntary since parental approval was required. Objectives of the program were directed toward enriching and strengthening the child's skills. Grade advancement was not an objective of this program.

SELECTION PROCEDURES

Students

Principals and teachers selected children who needed an enriched school experience and who, they felt, would benefit from the ESEA Elementary Summer School program. Primary consideration was given to children who were the "most educationally disadvantaged." In order to qualify as a member of the "most educationally disadvantaged" a student had to meet at least one of these criteria:

1. Children who have not achieved, but apparently have the potential to do so.

2. Children whose scores on the Iowa Test of Basic Skills indicate that they fall one or more grades below grade level.

3. Children who have not had the benefit of a sequential program because they have moved frequently or have an irregular attendance record.

4. Children who need to be motivated to learn

5. Regular attendance

6. Parental approval

In addition, principals and teachers were requested to give consideration to sending an equal number of boys and girls at each grade level. Grade placement was based on the grade which the child was to enter in September, 1968.

Teachers and Principals

Teachers were selected from the roster of elementary teachers regularly employed during the school year by the Milwaukee Public Schools who applied for summer school teaching. Principals at the seven participating schools were all Non-Teaching Vice-Principals during the school year.

Other Personnel

Other personnel were employed in addition to the principal and classroom teachers. Prospective teachers served as interns in some classes. Three art and three physical education supervisors were assigned to the seven buildings. One speech therapist was assigned to these schools. Three lay aides were assigned per building.

Schools and Grade Levels

Table 1 indicates the schools and the number of classes at each school for different grade levels. All schools selected were in target areas of low family income.

Table 1
ESEA ELEMENTARY SUMMER SCHOOLS, 1968

School	Number of classes	School	Number of classes
Hopkins Street	11	Palmer	9
Lower Primary	2	Lower Primary	2
Middle Primary	2	Middle Primary	2
Upper Primary	2	Upper Primary	1
Grade 4	1	Upper Primary-Grade 4	1
Grade 5	2	Grade 4	1
Grade 6	2	Grade 5	1
		Grade 6	1
Kilbourn	6	Siefert	8
Lower Primary	1	Lower Primary	2
Middle Primary	1	Middle Primary	1
Upper Primary	1	Upper Primary	1
Grade 4	1	Grade 4	2
Grade 5	1	Grade 5	1
Grade 6	1	Grade 6	1
Lloyd Street	9	Vieau	8
Lower Primary	2	Lower Primary	1
Middle Primary	1	Middle Primary	1
Upper Primary	2	Upper Primary	2
Grade 4	1	Grade 4	1
Grade 5	1	Grades 4-5	1
Grades 5-6	1	Grade 5	1
Grade 6	1	Grade 6	1
MacDowell	6	Seven School Totals	57
Lower Primary	1	Lower Primary	11
Middle Primary	1	Middle Primary	9
Upper Primary	1	Upper Primary	10
Grade 4	1	Upper Primary-Grade 4	1
Grade 5	1	Grade 4	8
Grade 6	1	Grades 4-5	1
		Grade 5	8
		Grades 5-6	1
		Grade 6	8

ORGANIZATION OF INSTRUCTION

Participation

The ESEA Elementary Summer School program was operated in seven schools in the target areas of the city. The program in each school served several neighborhood public and non-public schools. Each school held classes for all grades from lower primary through grade six. Class enrollments were limited to 25 in order to maximize the amount of time the teacher could use to individualize instruction. Composition of the school staffs is described in the previous section.

Curriculum

The summer school curriculum was built on the theme, "Living and Working in Milwaukee." Guidelines were developed which focused on topics related to this central theme; e.g. communication and transportation as they affect a person living in Milwaukee. Curriculum needs within each unique classroom were determined by the teacher involved who acted within these guidelines.

A variety of instructional activities were used in each specific area of study. Teachers also identified socially significant student needs and planned creative learning experiences which encompassed multiple subject areas.

Field trips in the community were used to develop motivation and to stimulate classroom activity. There was also an attempt to increase the children's awareness of their environment by using any resources which were available in their own neighborhood.

PROGRAM EVALUATION

Design

A test-retest design was employed to evaluate achievement during the program. Equivalent forms of the Metropolitan Achievement Tests were used. Forms A and B were used for the pre-test and post-test, respectively. Table 2 indicates the subtests administered to each grade level and batteries from which they were taken.

Table 2
METROPOLITAN ACHIEVEMENT SUBTESTS
USED IN EVALUATION

Grade	Subtests	Source Battery
Lower primary Middle primary	Reading; Arithmetic Concepts and Skills	Primary I
Upper primary Grade 4	Reading; Arithmetic: 1) Concepts and Problem Solving; 2) Computation	Primary II
Grade 5 Grade 6	Reading; Arithmetic: 1) Problem Solving and Concepts; 2) Computation	Elementary

The subtests from the given batteries were administered to students in slightly higher grade levels than ordinarily recommended. Previous experience with disadvantaged students indicated the necessity of moving the batteries to the grade level where used in this evaluation.

Additional evaluative data were secured from classroom teachers. These data included classroom activities in which their class took part, a judgment of the appropriateness of the amount of time allowed for each activity, and a judgment of the most valuable and least valuable enrichment activities for their classes.

Sample

Two different samples were drawn. The first sample was composed of three classes in each of the seven participating schools. This first sample was stratified so that one class was selected from each of the three grade level groupings listed in Table 2. The classes selected in this sample were given the Metropolitan Achievement Tests near the beginning and end of the program.

The second sample was stratified for the same three grade level groupings for each school, but the classes chosen in the first sample were not replaced before the new sample was drawn.

Students in classes drawn for the second sample were not contacted; teachers provided responses concerning program activities.

Achievement of Students

Students in selected classes responded to reading and arithmetic subtests of the Metropolitan Achievement Tests during the first week of summer schools. An equivalent form was administered during the final week of the session. Grade placement scores were also computed from the raw scores.

No significance tests were used to determine whether "significant" gains had been achieved. This decision was made because of the impossibility of attaching any meaning to a "significant" gain. The finding of a "significant" gain during this program would assume that final mean scores would be the same as initial mean scores if the child were involved in no learning activities. Research has shown that there is often a loss in achievement scores during the summer vacation period, particularly for disadvantaged children. Since maintaining original scores would be a gain over what has been shown to occur during a summer away from school, a t-test of related

measures, or other statistical test, would not yield meaningful, interpretable knowledge. If students learn during the summer at the same rate as during the school year, then grade advancement should be approximately 1.25 months or 0.125 grade during the five weeks between tests for a child achieving at the mean for his grade. Since the children in this evaluation do not fit into this category and no data is available for students performing below the mean this number can not be used as an expected mean gain. However, it does give a bench mark for purposes of comparison.

Achievement gains were compared between boys and girls at each of the three grade level groupings in order to determine if either sex gained significantly more than the other.

Lower and middle primary

Students at the lower and middle primary levels responded to the Reading and Arithmetic Concepts and Skills subtests of the Primary I Battery. Table 3 lists the means for raw scores and grade placements before and after participation in the program. Gain scores were computed and mean gains are also listed.

Table 3
MEANS AND STANDARD DEVIATIONS FOR RAW SCORES AND GRADE PLACEMENT EQUIVALENTS FOR LOWER AND MIDDLE PRIMARY STUDENTS
N = 128

Subtest	Raw Scores						Grade Placement					
	Before		After		Gain		Before		After		Gain	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	12.3	7.7	14.9	9.1	2.6	8.8	1.5	0.4	1.6	0.4	0.1	0.5
Arithmetic: Concepts and Skills	29.7	16.2	33.9	14.7	4.3	14.9	1.4	0.5	1.5	0.5	0.1	0.4

Note: Mean gain scores, in some cases, do not equal the difference between before and after means due to rounding.

Upper primary and grade four

Students at the middle primary level and in grade four responded to the Reading and Arithmetic subtests of the Primary II Battery. Two arithmetic subtests constituted the Arithmetic Total scores. The Arithmetic Total score was computed as the sum of the raw scores from the Computation and the Concepts and Problem Solving subtests. Table 4 contains the raw score means and grade placement means, where applicable, before and after participation in the ESEA Elementary Summer School program. Mean gain scores are also listed.

As indicated in Table 4 upper primary and grade four students averaged a gain of one month in their reading scores and three months in their arithmetic total scores. Grade placements were not available for the two parts from which the total score is computed; however, an examination of the raw score means leads to the conclusion that almost all of this gain is attributable to improvement in Concepts and Problem Solving.

Reading scores approximated the reference point of 1.25 months; Arithmetic total scores far exceeded it. However, the wide range shown by a standard deviation of 1.2 grades indicates that large differences in gain resulted. Some students showed a negative gain.

Grades five and six

Students in grades five and six were given the Reading and two Arithmetic subtests of the Elementary Battery. Names of the arithmetic portions were similar to those given at the lower levels:

1) Computation and;
2) Problem Solving and Concepts.

No norms were given for the total score; therefore, none was computed. Table 5 gives means for raw scores and grade placements before and after the program along with mean gain scores.

Table 4
MEANS AND STANDARD DEVIATIONS FOR RAW SCORES AND GRADE PLACEMENT EQUIVALENTS FOR UPPER PRIMARY AND GRADE 4 PRIMARY STUDENTS
N = 110

Subtest	Raw Scores						Grade Placement					
	Before		After		Gain		Before		After		Gain	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	21.4	12.9	25.4	12.7	4.0	8.1	2.4	0.9	2.5	0.8	0.1	0.6
Arithmetic: Problem Solving and Concepts (Part A)	26.2	11.0	30.1	10.3	3.9	10.4	*		*		*	
Arithmetic: Computation (Part B)	20.6	9.7	20.7	10.3	0.1	7.9	*		*		*	
Arithmetic: Total	46.8	19.0	50.9	16.5	4.1	15.5	2.6	1.1	2.9	1.1	0.3	1.2

* Test manual does not report grade placement for Parts A and B separately.

Table 5
MEANS AND STANDARD DEVIATIONS FOR RAW SCORES AND GRADE PLACEMENT EQUIVALENTS FOR GRADES 5 AND 6
PRIMARY STUDENTS
N = 122

Subtest	Raw Scores						Grade Placement					
	Before		After		Gain		Before		After		Gain	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Reading	21.3	10.6	21.7	8.5	0.3	8.3	3.5	1.5	3.8	1.3	0.3	1.3
Arithmetic: Computation	23.7	14.3	30.1	10.6	6.3	11.4	3.6	1.8	4.4	1.1	0.8	1.7
Arithmetic: Problem Solving and Concepts	14.4	10.1	17.0	8.1	2.6	8.4	3.4	1.8	3.9	1.1	0.6	1.7

Note: Mean gain scores, in some cases, do not equal the difference between before and after means due to rounding.

Students in grades five and six gained three months in Reading, eight months in Arithmetic Computation, and six months in Arithmetic Problem Solving and Concepts. These results are all well beyond the reference point of 1.25 months. However, the large standard deviations show large differences in individual gain. Some students showed a negative gain.

Boy-girl comparisons

No significant differences were found between the achievement gains of boys and girls in any of the three groups. Differences were compared for gains on both raw scores and gain scores. Therefore, it appears that boys and girls acquired equivalent degrees of improvement.

Teacher Responses

Classroom Activities. Teacher questionnaires were sent to 21 teachers; one was chosen at each grade level grouping for each of the seven schools. Fourteen questionnaires were completed and returned; one other form was returned blank, but with a brief comment. Teachers' responses were anonymous; therefore, it is impossible to know how the responses were spread among the schools.

Due to the partial return, responses for all levels have been tallied together. Table 6 indicates the results of the teacher questionnaire concerning classroom activities.

Eight classroom activities were indicated as needing more time by 50 percent or more of those responding to the time allocation section. These activities are arithmetic computations, reading comprehension, reading for pleasure, speech development, school citizenship, social development other than child-child relationships, handwriting, and spelling.

Although these activities are those showing the most need for additional time, caution must be used in restructuring the program on this basis. More teachers rated the remaining activities as having less time than needed than teachers who rated the time as more than needed.

Enrichment of experiential background. Teachers were asked to list the three most valuable and three least valuable activities which were intended to enrich the child's experiential background and/or acquaint the child with the community in which he lives. Table 7 gives the activities named in each category by the teachers. Note that many respondents did not include three least valuable activities.

Table 6
TEACHER'S INDICATION OF PARTICIPATION IN
CLASSROOM ACTIVITIES
N = 14

Classroom Activity	Participated		Time Allocation				
	Yes	No	Much Less Than Needed	Somewhat Less Than Needed	About Right	Somewhat More Than Needed	Much More Than Needed
Number Concepts	13	0	3	2	6	0	1
Arithmetic Computations	9	0	3	4	2	0	1
Other Arithmetic Activities	13	0	1	5	5	1	1
Reading Vocabulary	13	0	2	3	6	0	1
Reading Comprehension	11	0	3	3	4	0	2
Reading for Pleasure	11	0	4	2	1	1	1
Other Reading Activities	11	3	1	5	4	1	0
Study Skills Development	8	3	2	4	1	1	1
Speech Development	7	4	2	3	3	0	1
Development of good listening habits	14	0	1	3	8	1	1
Classroom Behavior	13	0	1	2	10	0	1
School Citizenship	10	2	1	5	4	0	0
Child-child relationship	11	1	2	2	8	0	1
Other social development	11	1	0	7	4	0	1
Handwriting	11	1	1	4	3	1	1
Spelling	10	1	6	2	2	0	1
Writing skills	10	0	2	2	4	1	1
Health	9	3	3	2	5	0	1

Note: Not all activities had complete responses.

Table 7
MOST VALUABLE AND LEAST VALUABLE ACTIVITIES AS RATED BY TEACHERS
N = 14

Activity	Rating	
	Among 3 Most Valuable	Among 3 Least Valuable
Harbor Boat Trip	7	0
Nature Study: Hawthorne Glenn	5	0
Visual aids; charts etc.	4	0
Physical Education	3	1
Reading (Newspapers)	2	0
Social Improvement	2	0
Art	2	1
Airplane Museum	1	0
Cultural events	1	0
Mayfair Shopping Center	1	0
Mitchell Park Conservatory	1	0
Puppet show	1	0
Purification plant	1	0
Sealtest Dairy	1	0
Study of Negroes in American History	1	0
Telephone Company	1	0
WITI TV Station	1	0
Zoo	1	0
Arithmetic Curriculum	1	1
Grant Park	1	1
Language Arts Program	1	1
Neighborhood visits	1	1
Handwriting	0	1
Old Milwaukee Days	0	1
Waiting for school supplies	0	2
Reading for pleasure	0	3
Tasks which kept teachers from having time for students	0	4

SUMMARY

The 1968 ESEA Elementary Summer School of the Milwaukee Public Schools was conducted in 57 classrooms in seven schools in areas of cultural and economic deprivation. The program was designed to enrich the students' experiential background through use of a flexible curriculum, smaller classes, and field trips to learn of community resources.

Achievement gains

Limitations. The reader is alerted that expected gain is given as a theoretical value and reference point only; there is no way to accurately convert the norms into a valid expected gain for a six week summer program. The reader also must be aware of the following convention. Since grade equivalents can not be considered as mathematically precise, their average must be interpreted accordingly. For this reason the lower limit of the range of approximate equality with the reference point will be rounded to one month.

Description. Students in this program displayed mean gains in all measures of achievement which were given at the beginning and end of the six week session. Achievement was tested in reading and arithmetic.

Mean gains in achievement either approximately equalled or excelled the reference point of 1.25 months advancement in grade placement.

Maximum gains in each group are given below.

1. The largest gain for the lower and middle primary group was 1.1 months on the Reading subtest. Arithmetic gains nearly equalled this value.

2. Arithmetic showed a gain of three months as evidenced by the Total Arithmetic score in the upper primary and grade four group.

3. Grades fives and six achieved a gain of eight months in Arithmetic Computation.

Tables 3, 4, and 5 also indicate the trend of increasing gain scores as the students' age increases. This finding should not be interpreted as meaning that the ESEA Elementary Summer School experience was less valuable to children from the lower levels. The nature of grade placement equivalents is such that a disadvantaged child is apt to be further behind as he reaches higher grades. Early deficiencies are compounded for the older student. In terms of grade placement equivalents, a small gain at a lower level should help enable the student to minimize larger deficiencies at later stages.

Not only are the mean grade placement equivalents larger at the upper grades, but the standard deviations are also larger. This indicates much more heterogeneity in grade placement scores for the older children. Even though the "average" student in the upper grades showed a large gain in relationship to the amount of time in the program, some students exhibited a negative difference from the pre-test to post-test.

No significant differences were detected in the gains made by boys as compared to the gains made by girls. This was true at all levels of this program.

Most teachers indicated that the time spent on specific classroom activities was either about right or not enough. Only a few scattered responses indicated having spent more time than necessary on a particular activity. Eight activities were rated as having insufficient amounts of time allotted to them by more than 50% of those responding. These eight activities are arithmetic computations, reading comprehension, reading for pleasure, speech development, school citizenship, social development other than child-child relationships, handwriting, and spelling.

Teachers were asked to rate the three most valuable and three least valuable activities for increasing the child's experiential background. The three activities rated best by the most teachers were the harbor boat trip, nature study in Hawthorne Glenn, and visual aids. Activities rated as least valuable were those tasks which kept the teacher from giving individualized attention to the students, reading for pleasure, and late delivery of school supplies.

Evidently, there was a division of opinion among teachers concerning the value of reading for pleasure. Six of nine teachers felt that more time should have been allocated to this activity. However, reading for pleasure was also rated by three teachers as being least valuable for enriching the experiential background.

RECOMMENDATIONS

The data support the conclusion that the basic focus of the ESEA-Elementary School program has produced the desired results and should be continued. Children from disadvantaged homes demonstrated measurable increases in reading and arithmetic achievement during the six weeks of the program.

However, certain inferences may be made concerning ways to improve an already successful program. Even though the majority of children improved their achievement scores, some declined. For these children the greater individual attention afforded by smaller class size and enrichment experiences was not enough. Investigation should be made into individualizing learning experiences even more for those not responding to the methods used with the majority.

Another explanation for the negative achievement scores could be a lack of understanding of the test directions. Proper test administration methods should be stressed.

Since a disparity exists in teachers' assessment of the importance of reading for pleasure in the program, effort should be expended to determine if reading for pleasure was handled consistently in different schools. In this way the positive aspects of the reading for pleasure program could remain in the program for following years.

Attention should be given to teacher selection procedures. Even a single teacher with a negative attitude toward the racial group he is teaching (See Appendix) can have detrimental effects upon the program and its students.

These recommendations for changes are not meant to dampen enthusiasm for a successful program. On the contrary, they are offered to make a program which is already demonstratably successful even more effective in enriching the lives of disadvantaged children from impoverished homes.

APPENDIX

The following comments and suggestions were included by teachers.

1. From a middle primary teacher

> "In arranging classes for summer school, I believe more attention should be given to the reading levels of the students in each class. It is my opinion that there should be no more than three different levels in one class. Or if it is at all possible, limit the reading levels to one. During this short six week period more time could be spent working on reading skills. According to some authorities Milwaukee's school children are from one to two years behind in reading. It appears that there is a need for a language arts program with more emphasis on reading is needed to help bridge the one to two year gap.
>
> Work books and other instructional materials should be provided. The commercially prepared materials are done by professionals. The teacher could devote more time to individualize instructions rather than preparing these materials. If the kinds of materials needed are not available we can demand them. I believe the market for these materials is great enough for some company to lend a hand once we make our needs known."

2. From a teacher who did not complete any items on the questionnaire.

> "After having 'taught' this summer in a core school, I am more than ever convinced that there are significant differences between the black and the white race. This has been a most unpleasant 'teaching' experience."