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ABSTRACT

The Summer 1972 program, funded under Title I of the Elementary Secondary Education Act, consisted of reading and mathematics instruction, instruction in physical education and art, guidance and testing, speech therapy, and a preschool program for entering first grade children. Instruction in reading and mathematics was based on the results of the testing by which children were selected for the program, and the diagnostic reading and mathematics tests given at the start of the program. The program for each week was centered on a theme. Field trips provided the children with needed experiential background and concept development. The theme gave the week's work a focus, evidently maintained pupil interest and motivation, and was the source of content through which reading and mathematics skills could be developed. As needed, other content was brought in to supplement the theme. Another procedure effectively used at the four schools was the establishment of centers in the classroom for individualizing work on specific topics in reading and mathematics. The work in academic areas was supplemented by work in art and physical education. The children also received service in speech therapy and guidance. Individual and group guidance sessions were carried out for children requiring this support. Testing was also an available service. (Author/JM)

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Evaluation of the Title I Program of the Silver Lake Regional  
School District, Summer 1972

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The Summer 1972 Title I program consisted of reading and mathematics instruction for children who completed grades one to five, instruction in physical education and art, guidance and testing, speech therapy, and a preschool program for entering first grade children. The evaluator observed the several aspects of the program at the four schools in which the program was conducted, interviewed the staff, and analyzed the test data. This report expresses the evaluator's judgment as to how well the program was implemented, summarizes the results of the achievement testing, and makes certain recommendations to encourage improvement of future programs.

#### Implementation of the Program

The evaluator visited the program each week for the six weeks it was conducted. Instruction in reading and mathematics was based on the results of the testing by which children were selected for the program, and the diagnostic reading and mathematics tests given at the start of the program. There was evidence that teachers used these findings and kept track of ongoing skill development and skill needs of each child.

The program for each week was centered on a theme. Field trips provided the children with needed experiential background and concept development. The theme gave the week's work a focus, evidently maintained pupil interest and motivation, and was the source of content through which reading and mathematics skills could be developed. As needed, other content was brought in to supplement the theme when, for example, children required additional work in mathematics skill and additional verbal problems (besides problems related to the theme) were provided. At the four schools, an effective balance was maintained between the thematic focus and specific diagnosed needs of individual children. Another procedure

effectively used at the four schools was the establishment of centers in the classroom for individualizing work on specific topics in reading and mathematics.

The work in academic areas was supplemented by work in art and physical education. The children participated in an active physical fitness program. They learned a variety of different games. They explored a variety of art media and had many opportunities to create artistic products. The specialists maintained careful records in physical education and art. The records were quantitative and anecdotal, respectively.

The children also received service in speech therapy and guidance. Any child who had been seen during the school year in the speech therapy program was seen in summer school if he or she attended the summer school. This permitted a continuity of speech therapy that would have been lost if the summer program were unavailable, and in some cases increased the intensity of speech therapy.

Individual and group guidance sessions were carried out for children requiring this support. Testing was also an available service, and several children in both the preschool and the grade 1-5 classes were referred for testing with the WISC.

In all, the evaluator was most favorably impressed by the intensity of instruction and the degree of individualization the summer program permitted, and by the manner in which the several facets of the program complemented each other.

### Testing

Achievement testing was conducted to measure the effect of instruction in reading, mathematics and physical education. Achievement data on school readiness and basic language abilities were collected in the preschool program. Quantitative information on number

of children serviced was maintained by the speech therapist and guidance counselor. Anecdotal information was collected by the art specialist.

Children in grades one to five were selected for the Title I program based upon the results of the Gates-McGinitie Reading Test, the Stanford Achievement mathematics subtests, and teacher judgment. After selection, tests of reading and mathematics were used for pupil diagnosis and program evaluation. The evaluator constructed a silent reading test employing a first-second grade vocabulary and another employing a third-fourth grade vocabulary. Children who scored  $< 3.5$  on the Gates-McGinitie were given the former (Primary Test), those who scored  $=$  or  $> 3.5$  the latter (Intermediate Test). At the Plympton school some children were given assistance with word recognition or were given the Primary Test orally if their reading was very poor. For these children, the test is considered a listening comprehension test. Both tests consisted of questions that measured four reading skills. The number of questions for each skill on Primary and Intermediate tests were: 1) Main Idea - 8; 2) Stated Detail - 16; 3) Inference - 8; 4) Sequence - 8; and 5) Total Test - 40. Therefore, five scores were obtained for each pupil tested. The same test was employed for pre- and posttesting.

A test of phonics knowledge was used. Two forms were used for pre- and posttesting, each consisting of identical phonics information. Four scores were obtained: 1) Single Consonants (18 items); 2) Consonant Blends (19 items); 3) Consonant Digraphs (5 items); and 4) Vowels (10 items).

The American Book Company Mathematics test was administered at a total of six levels. The test yielded three scores and a total score. The areas tested were arithmetic concepts, computation skills, and problem solving. Each child was pre- and posttested on the same test.

A Motor Fitness Screening Test was prepared by the physical education specialist. Items consisted of 1) throw and catch, 2) bounce and catch, 3) accuracy throw, 4) balance, and 5) running and stopping. Children were pre- and posttested. Results of total test performance are reported below.

Preschool children as well as children in grades 1-5 were given the Motor Fitness Screening Test. Preschool children also were pre- and posttested on a Test of Basic Language Abilities and on the Metropolitan Readiness Test. At the end of the program these children were tested on a Preschool Academic Readiness Checklist constructed by the evaluator and the teachers of the preschool children.

#### Analysis of Data

Where pre- and posttest scores were obtained, that is on all tests except the Academic Readiness Checklist, t tests for correlated observations were applied to the data. Significance was set at the .05 level using a two-tailed test. This means that gain or loss that could occur less often than one time in twenty as a result of chance was accepted as significant. Each table shows the mean and standard deviations of the pre- and posttest scores, and the level of significance of the difference between pretest and posttest means. If the difference is not significant it is noted with NS.

Data are analyzed by grade, with schools combined, where appropriate, and by each school separately. In general, significant results were often obtained with data from the four schools combined although not obtained when schools were analyzed separately because of fewer subjects in each group in the latter case.



Reading Achievement

As shown in Table 1, significant gain was made by the following grades (schools combined) on the total score (score 5) of the reading test: grade 1, Primary Test; grade 2, Primary Test; grade 3, Primary and Intermediate Tests; grade 4, Primary and Intermediate Tests; and grade 5, Intermediate Test. Six of these seven groups made significant progress on subtest 2 (Stated Details). At least two groups made significant gains on each of the remaining subtests. Data arranged by school is less impressive, largely because of the small number of cases in each group. In fact, one of the two significant changes in Halifax is a loss. In Pembroke, where n remains large in grades 1, 2, and 3, significant gain is noted. No significant gains were made where the Primary Test was administered as a test of Listening Comprehension at Plympton (Table 5).

Analysis of phonics test data shows several significant gains and no significant losses at each school. Where data of the four schools are combined (Table 6) significant gains are found in grades 1, 2, 3, and 5. Grade 1 made significant gains in knowledge of single consonants, blends, and digraphs; grade 2 in knowledge of consonant digraphs and vowels; grade 3 in all four subtests; and grade 5 in knowledge of vowels.

TABLE 1  
COMPARISON OF PRETEST AND POSTTEST  
MEANS IN READING, SCHOOLS  
COMBINED BY GRADE\*

Score	Pretest Mean	SD	Posttest Mean	SD	Level of Signif. of Difference
Grade 1, Primary Test, N = 49					
1	1.18	1.67	2.27	2.04	<.001
2	2.29	3.38	5.10	4.32	<.001
3	1.14	1.59	2.22	1.90	<.001
4	1.53	1.92	2.51	1.78	<.01
5	6.14	7.65	12.10	9.01	<.001
Grade 2, Primary Test, N = 56					
1	5.61	2.14	5.96	1.79	NS

TABLE 1 (Cont.)

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
2	11.07	4.72	12.65	3.92	<.01
3	5.37	2.30	5.72	1.96	NS
4	3.96	2.09	5.04	1.91	<.001
5	26.07	10.04	29.37	8.47	<.001
	Grade 2, Intermed. Test, N = 1 (Plympton only)				
1	3.00		1.00		
2	11.00		10.00		
3	2.00		3.00		
4	4.00		3.00		
5	20.00		17.00		
	Grade 3, Primary Test, N = 16				
1	5.75	1.88	6.50	1.41	NS
2	12.19	3.90	14.69	1.89	<.01
3	6.44	1.09	6.38	1.78	NS
4	5.88	1.67	5.50	1.67	NS
5	30.94	7.31	33.06	5.37	<.05
	Grade 3, Intermed. Test, N = 31				
1	3.71	1.40	4.68	1.35	<.01
2	9.35	3.16	11.39	3.06	<.001
3	3.39	1.71	4.13	1.71	<.05
4	3.48	1.61	4.48	1.79	<.05
5	19.94	6.03	24.68	5.66	<.001
	Grade 4, Primary Test, N = 5				
1	6.40	1.52	7.00	.71	NS
2	14.40	1.14	15.40	.51	NS
3	6.60	.51	6.80	.45	NS
4	3.60	2.07	6.60	1.14	<.05
5	31.00	2.92	36.00	1.41	<.05
	Grade 4, Intermed. Test, N = 19				
1	5.37	2.11	5.79	1.58	NS
2	11.21	3.01	13.21	2.20	<.01
3	4.53	1.43	4.95	1.51	NS
4	4.47	1.81	5.00	1.53	NS
5	25.58	6.68	28.95	5.62	<.01
	Grade 5, Primary Test, N = 2 (Kingston only)				
1	5.50	.71	6.50	.71	NS
2	16.00	.00	15.50	.71	NS
3	7.00	.00	7.00	.00	NS
4	6.50	.71	6.00	.00	NS
5	35.00	1.41	35.00	.00	NS
	Grade 5, Intermed. Test, N = 18				
1	4.83	1.62	5.17	1.15	NS
2	11.94	2.41	13.17	1.69	<.05
3	4.78	1.31	5.22	1.48	NS
4	4.94	1.43	4.89	1.23	NS
5	26.50	5.24	28.44	3.29	<.05

\*Excludes results of Primary Test administered orally to several children at Plympton. Those results entered in Table 5 as Listening Test data.



TABLE 2

COMPARISON OF PRETEST AND POSTTEST  
MEANS IN READING AT HALIFAX

Score	Pretest Mean	SD	Posttest Mean	SD	Level Signif. of Difference
	Grade 1, Primary Test, N = 8				
1	1.88	1.64	2.00	1.31	NS
2	3.38	2.88	5.25	3.24	NS
3	2.13	1.55	1.25	1.28	NS
4	.88	1.73	2.13	1.46	NS
5	8.25	5.80	10.63	6.26	NS
	Grade 2, Primary Test, N = 8				
1	6.13	1.46	6.25	1.91	NS
2	12.75	3.81	12.13	3.94	NS
3	6.13	2.30	6.25	1.75	NS
4	4.75	2.19	4.38	2.07	NS
5	28.88	9.01	29.00	9.13	NS
	Grade 3, Primary Test, N = 4				
1	6.50	.58	6.50	1.29	NS
2	15.25	1.50	15.50	.58	NS
3	7.25	.50	7.50	.58	NS
4	7.25	.96	5.50	1.73	NS
5	36.25	2.36	35.00	2.45	NS
	Grade 3, Intermed. Test, N = 2				
1	4.00	.00	3.00	1.41	NS
2	13.00	2.83	15.50	.71	NS
3	6.50	2.12	5.00	1.41	NS
4	5.00	1.41	5.50	.71	NS
5	28.50	2.12	29.00	4.24	NS
	Grade 4, Primary Test, N = 3				
1	6.67	.58	7.33	.58	NS
2	14.67	1.53	15.33	.58	NS
3	6.67	.58	6.67	.58	NS
4	4.33	2.52	6.67	.58	NS
5	32.33	2.52	36.00	.00	NS
	Grade 4, Intermed. Test, N = 4				
1	5.00	1.41	5.25	1.50	NS
2	12.00	1.63	13.00	1.15	NS
3	4.25	1.50	4.50	.53	NS
4	4.00	1.63	5.00	1.15	NS
5	25.25	3.20	27.75	.96	NS
	Grade 5, Intermed. Test, N = 6				
1	5.17	1.60	5.00	1.55	NS
2	12.67	1.97	13.67	1.97	<.05
3	5.83	1.17	4.50	1.38	<.05*
4	5.00	1.26	5.50	.84	NS
5	28.67	5.05	28.67	3.50	NS

\*Change is in negative direction, posttest mean is significantly less than pretest mean.

TABLE 3

COMPARISON OF PRETEST AND POSTTEST  
MEANS IN READING AT KINGSTON

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
Grade 1, Primary Test, N = 11					
1	1.91	1.51	4.45	1.63	<.001
2	4.55	4.08	9.27	3.95	<.01
3	1.91	1.45	4.09	1.70	<.01
4	2.18	1.99	3.91	2.07	NS
5	10.54	7.94	21.73	7.27	<.001
Grade 2, Primary Test, N = 9					
1	6.44	1.67	6.33	1.22	NS
2	13.00	3.35	13.78	3.07	NS
3	6.33	1.87	6.00	1.50	NS
4	4.44	1.74	5.44	1.01	NS
5	30.22	7.90	31.56	5.41	NS
Grade 3, Primary Test, N = 11					
1	5.64	2.16	6.64	1.50	NS
2	11.36	4.08	14.55	2.16	<.05
3	6.27	1.10	6.18	1.89	NS
4	5.36	1.69	5.55	1.81	NS
5	29.64	7.78	32.91	6.02	<.05
Grade 3, Intermed. Test, N = 6					
1	4.00	1.10	4.83	1.72	NS
2	11.67	2.16	12.83	1.94	NS
3	3.50	1.38	4.17	2.14	NS
4	4.17	2.32	5.83	1.47	NS
5	23.33	4.68	27.67	5.65	NS
Grade 4, Primary Test, N = 2					
1	6.00	2.83	6.50	.71	NS
2	14.00	.00	15.50	.71	NS
3	6.50	.71	7.00	.00	NS
4	2.50	.71	6.50	2.12	NS
5	29.00	2.83	36.00	2.83	NS
Grade 4, Intermed. Test, N = 8					
1	6.00	1.85	6.13	1.81	NS
2	11.50	2.20	13.88	2.64	<.05
3	5.25	1.04	5.38	1.30	NS
4	5.38	1.77	5.50	1.69	NS
5	28.13	4.22	30.88	6.60	NS
Grade 5, Primary Test, N = 2					
1	5.50	.71	6.50	.71	NS
2	16.00	.00	15.50	.71	NS
3	7.00	.00	7.00	.00	NS
4	6.50	.71	6.00	.00	NS
5	35.00	1.42	35.00	.00	NS
Grade 5, Intermed. Test, N = 8					
1	4.25	1.91	5.13	.83	NS
2	12.13	2.23	13.13	1.13	NS
3	4.25	.71	5.38	1.51	NS
4	5.13	1.46	4.75	.89	NS
5	25.75	4.95	28.38	3.58	NS

TABLE 4

COMPARISON OF PRETEST AND POSTTEST MEANS IN READING AT PEMBROKE

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
Grade 1, Primary Test, N = 30					
1	.73	1.62	1.53	1.78	<.01
2	1.17	2.76	3.53	3.71	<.001
3	.60	1.45	1.80	1.67	<.001
4	1.47	1.93	2.10	1.52	NS
5	3.97	7.32	8.97	7.81	<.001
Grade 2, Primary Test, N = 35					
1	5.43	2.29	5.77	1.99	NS
2	10.23	5.05	12.49	4.22	<.01
3	4.89	2.36	5.51	2.20	NS
4	3.63	2.21	5.17	2.01	<.001
5	24.46	10.51	28.94	9.26	<.001
Grade 3, Intermed. Test, N = 23					
1	3.61	1.53	4.78	1.20	<.01
2	8.43	2.94	10.65	3.04	<.001
3	3.09	1.53	4.04	1.66	<.01
4	3.17	1.34	4.04	1.74	<.05
5	18.30	5.64	23.52	5.48	<.001
Grade 4, Intermed. Test, N = 4					
1	4.00	2.83	5.50	1.91	NS
2	8.25	4.50	11.75	2.50	NS
3	3.00	1.63	4.00	2.58	NS
4	2.75	1.50	3.75	1.71	NS
5	18.00	9.90	25.00	6.98	NS
Grade 5, Intermed. Test, N = 4					
1	5.50	.58	5.50	1.29	NS
2	10.50	3.32	12.50	2.38	NS
3	4.25	1.71	6.00	1.41	NS
4	4.50	1.91	4.25	2.06	NS
5	24.75	6.40	28.25	3.30	NS

TABLE 5

COMPARISON OF PRETEST AND POSTTEST MEANS IN READING OR LISTENING AT PLYMPTON

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
Grade 2, Primary Test, N = 5					
1	4.60	2.51	6.20	1.10	NS
2	10.80	5.17	12.60	3.78	NS
3	5.80	2.28	5.30	1.30	NS
4	4.20	1.48	4.40	2.30	NS
5	25.40	11.30	29.00	7.62	NS
Grade 2, Intermed. Test, N = 1					
1	3.00		1.00		
2	11.00		10.00		
3	2.00		3.00		
4	4.00		3.00		
5	20.00		17.00		

TABLE 5 (Cont.)

Score	Pretest Mean	SD	Posttest Mean	SD	Level of Signif. of Difference
Grade 3, Primary Test, N = 1					
1	4.00		5.00		
2	9.00		13.00		
3	5.00		4.00		
4	6.00		5.00		
5	24.00		27.00		
Grade 4, Intermed. Test, N = 3					
1	6.00	2.65	6.00	1.00	NS
2	13.33	2.08	13.67	1.15	NS
3	5.00	.00	5.67	.58	NS
4	5.00	1.00	5.33	.58	NS
5	29.33	3.79	30.67	2.08	NS
Listening (Primary Test Administered Orally)					
Grade 1, N = 3					
1	3.67	1.53	5.67	1.53	NS
2	9.67	4.51	12.33	3.21	NS
3	4.33	3.21	6.00	1.00	NS
4	5.67	2.08	4.00	2.65	NS
5	23.33	11.06	28.00	7.81	NS
Grade 2, N = 1					
1	5.00		6.00		
2	14.00		15.00		
3	8.00		7.00		
4	7.00		5.00		
5	34.00		33.00		
Grade 3, N = 6					
1	6.83	1.17	6.17	1.47	NS
2	13.50	2.07	13.83	1.94	NS
3	6.17	1.17	6.17	1.47	NS
4	4.50	1.05	5.00	2.37	NS
5	31.00	2.53	31.17	5.04	NS
Grade 4, N = 4					
1	5.75	.50	7.00	.82	NS
2	15.50	.58	15.50	.58	NS
3	6.75	.50	6.50	1.29	NS
4	5.75	1.50	6.50	1.29	NS
5	33.75	1.71	35.50	2.52	NS

TABLE 6

COMPARISON OF PRETEST AND POSTTEST MEANS IN PHONICS KNOWLEDGE, SCHOOLS COMBINED BY GRADE

Score	Pretest Mean	SD	Posttest Mean	SD	Level of Signif. of Difference
Grade 1, N = 50					
1	13.50	4.18	14.90	3.70	<.01
2	7.96	6.13	11.22	6.13	<.001
3	.26	.75	.80	1.21	<.001
4	5.74	2.82	6.22	2.63	NS

TABLE 6 (Cont.)

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
	Grade 2, N = 57				
1	16.61	1.76	16.96	1.19	NS
2	15.53	4.31	16.05	4.33	NS
3	2.33	1.71	3.37	1.80	<.001
4	8.63	1.68	9.16	1.28	<.05
	Grade 3, N = 50				
1	16.82	1.24	17.52	.61	<.001
2	16.70	3.24	17.82	2.14	<.05
3	2.80	1.65	4.20	1.25	<.001
4	8.44	2.27	9.04	1.50	<.05
	Grade 4, N = 30				
1	17.60	.56	17.53	.73	NS
2	17.20	4.23	18.37	.96	NS
3	4.10	1.40	4.50	.63	NS
4	9.20	1.32	9.53	1.33	NS
	Grade 5, N = 20				
1	15.45	5.08	17.50	.69	NS
2	17.45	3.35	18.55	.83	NS
3	4.25	1.29	4.80	.41	NS
4	9.15	1.63	9.90	.45	<.05

TABLE 7

COMPARISON OF PRETEST AND POSTTEST MEANS IN PHONICS KNOWLEDGE BY SCHOOL AND GRADE

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
	Halifax, Grade 1, N = 8				
1	16.13	1.64	15.38	1.51	NS
2	8.38	6.09	11.38	6.52	NS
3	.25	.71	1.13	1.36	<.05
4	7.13	1.55	7.38	1.51	NS
	Halifax, Grade 2, N = 8				
1	17.75	.46	17.50	.53	NS
2	17.25	1.04	15.25	4.33	NS
3	3.50	1.60	3.13	1.89	NS
4	9.63	.52	9.50	.76	NS
	Halifax, Grade 3, N = 4				
1	17.25	.96	17.25	.96	NS
2	18.75	.50	18.50	1.00	NS
3	3.25	.96	3.75	1.26	NS
4	9.50	.58	9.25	.96	NS
	Halifax, Grade 4, N = 8				
1	17.63	.52	17.38	.74	NS
2	18.13	1.64	18.13	1.13	NS
3	4.75	.71	4.13	.64	NS
4	9.88	.35	8.88	2.42	NS
	Halifax, Grade 5, N = 6				
1	13.17	7.49	17.50	.55	NS
2	18.83	.41	18.67	.52	NS
3	5.00	.00	4.67	.52	NS
4	9.83	.41	10.00	.00	NS

TABLE 7 (Cont.)

Score	Pretest Mean	SD	Posttest Mean	SD	Level of Signif. of Difference
Kingston, Grade 1, N = 10					
1	15.20	2.70	16.70	1.49	<.05
2	10.70	6.86	12.60	4.40	NS
3	.10	.32	.50	.71	NS
4	6.40	1.96	5.60	1.78	NS
Kingston, Grade 2, N = 8					
1	16.75	1.58	16.50	1.31	NS
2	16.88	1.89	18.25	1.04	NS
3	2.88	1.73	4.13	.99	<.01
4	9.00	1.31	9.75	.46	NS
Kingston, Grade 3, N = 16					
1	16.81	1.47	17.56	.63	<.05
2	17.25	2.02	18.00	1.10	NS
3	2.81	1.87	3.56	1.75	<.05
4	8.63	1.93	8.88	1.54	NS
Kingston, Grade 4, N = 11					
1	17.82	.40	17.45	.93	NS
2	18.27	1.42	18.45	.93	NS
3	4.64	.67	4.91	.30	NS
4	9.00	1.41	9.82	.40	<.05
Kingston, Grade 5, N = 10					
1	16.00	4.16	17.50	.71	NS
2	18.30	.67	18.50	1.08	NS
3	3.90	1.29	5.00	.00	<.05
4	9.20	1.62	10.00	.00	NS
Pembroke, Grade 1, N = 29					
1	11.83	4.49	13.93	4.47	<.01
2	6.59	5.75	10.52	6.63	<.001
3	.31	.89	.86	1.36	<.05
4	4.79	3.04	6.07	3.13	NS
Pembroke, Grade 2, N = 34					
1	16.56	1.76	17.06	1.25	NS
2	15.15	4.49	16.18	4.33	NS
3	1.97	1.70	3.29	1.93	<.001
4	8.50	1.40	8.85	1.50	NS
Pembroke, Grade 3, N = 23					
1	16.70	1.18	17.61	.50	<.01
2	16.44	3.94	18.04	2.12	NS
3	2.87	1.79	4.74	.54	<.001
4	8.30	2.70	9.48	.95	<.05
Pembroke, Grade 4, N = 4					
1	17.75	.50	17.75	.50	NS
2	10.00	8.91	18.75	.50	NS
3	2.50	2.38	4.75	.50	NS
4	9.25	.96	9.25	.96	NS
Pembroke, Grade 5, N = 4					
1	17.50	1.00	17.50	1.00	NS
2	13.25	6.29	18.50	.58	NS
3	4.00	2.00	4.50	.58	NS
4	8.00	2.45	9.50	1.00	NS
Plympton, Grade 1, N = 3					
1	17.00	1.73	17.00	1.00	NS
2	11.00	6.08	13.00	6.93	NS
3	.33	.58	.33	.58	NS
4	9.00	1.00	6.67	1.53	NS



TABLE 7 (Cont.)

Score	Pretest		Posttest		Level of Signif. of Difference
	Mean	SD	Mean	SD	
	Plympton, Grade 2, N = 7				
1	15.43	2.30	16.43	1.13	NS
2	13.86	6.82	13.86	5.98	NS
3	2.14	1.46	3.14	1.86	NS
4	7.71	3.25	9.57	.79	NS
	Plympton, Grade 3, N = 7				
1	17.00	1.15	17.29	.76	NS
2	15.14	3.44	16.29	3.73	NS
3	2.29	.95	4.14	.90	<.01
4	7.86	2.12	7.86	2.48	NS
	Plympton, Grade 4, N = 7				
1	17.14	.69	17.71	.49	<.05
2	18.57	.53	18.29	1.11	NS
3	3.43	1.40	4.14	.69	NS
4	8.71	1.89	10.00	.00	NS

#### Achievement in Mathematics

Because of differences in mathematics test procedures and in kinds of scores reported from school to school, mathematics data of the four schools were not combined. As shown in Table 8, significant gain was made in total mathematics scores (score 4) at Halifax school in grades 1, 2, 3, and 5. At Kingston, significant gains in total mathematics scores occurred in grades 1, 3, and 4. At Plympton, no grades made significant gains in total scores, but fourth graders made significant gains in score 3 (problem solving). At Pembroke, total scores were not reported, but significant gains are noted in several subtests at grades 2 and 3. No significant losses occurred. Therefore, there is evidence of growth in mathematics ability at each of the four schools.

#### Results of the Physical Education Program

The physical education program was conducted by aides trained by the physical education specialist at a workshop. The specialist supervised the program weekly. Each class contained about seven children per aide. The staff reported observed improvement by children in the program. The following summarizes the results on the

TABLE 8  
COMPARISON OF PRETEST AND POSTTEST  
MEANS IN MATHEMATICS

School	Grade Level	Math. Test Level	N	Score	Pretest Mean & SD	Posttest Mean & SD	Level of Signif. of Difference
Halifax	1	1	8	1	31.25 4.77	38.25 2.71	<.01
				2	21.75 3.92	28.75 1.83	<.01
				3	28.13 5.30	29.06 2.65	NS
				4	80.88 11.33	96.01 4.39	<.01
	2	2	8	1	30.38 4.87	35.38 4.53	<.05
				2	25.00 6.50	26.25 4.20	NS
				3	24.38 10.42	28.13 5.30	NS
				4	79.75 19.27	89.74 13.37	<.05
	3	3	6	1	24.67 5.79	25.50 7.40	NS
				2	23.92 9.55	25.67 6.77	NS
				3	5.17 3.82	10.17 7.38	NS
				4	53.75 17.62	61.33 20.54	<.05
	4	4	8	1	17.00 4.43	19.56 4.92	NS
				2	17.63 4.00	20.13 4.39	NS
				3	7.50 5.07	12.00 3.21	NS
				4	42.13 10.85	51.69 9.75	NS
	5	5	6	1	22.25 7.71	27.58 5.84	<.01
				2	19.42 5.12	22.17 4.67	NS
				3	10.00 5.40	12.17 6.97	NS
				4	51.67 14.25	61.92 15.66	<.01
Kingston	1	1	10	1	14.20 1.87	17.30 .67	<.001
				2	11.80 3.08	13.30 1.57	NS
				3	3.10 1.45	3.70 .48	NS
				4	29.10 5.13	34.30 2.21	<.01

TABLE 8 (Cont.)

School	Grade Level	Math. Test Level	N	Score	Pretest Mean & SD	Posttest Mean & SD	Level of Signif. of Difference
Kingston	2	3	8	1	29.88 3.60	31.00 2.88	NS
				2	27.75 1.98	28.50 .93	NS
				3	29.06 2.65	26.25 8.01	NS
				4	87.38 3.62	85.75 7.60	NS
	3	3	20	1	16.75 7.23	23.35 7.92	<.001
				2	16.58 10.48	22.53 6.66	<.001
				3	9.40 7.67	15.20 7.04	<.01
				4	42.88 21.70	61.08 18.65	<.001
	4	5	1	1	10.00	18.00	
				2	21.00	10.00	
				3	0.00	0.00	
				4	31.00	28.00	
	4	6	9	1	16.17 8.07	18.22 9.33	NS
				2	15.00 7.09	16.28 6.62	NS
				3	6.67 6.91	7.56 6.50	NS
				4	36.72 17.78	42.06 21.47	<.05
	5	5	7	1	14.29 1.75	19.21 4.13	<.05
				2	18.43 3.21	21.00 4.51	NS
				3	9.00 5.20	8.57 5.32	NS
				4	41.71 7.63	48.79 11.86	NS
	5	6	3	1	19.17 1.53	21.50 1.73	NS
				2	17.33 3.78	20.67 2.31	NS
				3	5.33 4.16	6.33 7.51	NS
				4	41.83 8.62	48.50 10.58	NS

TABLE 8 (Cont.)

School	Grade Level	Math. Test Level	N	Score	Pretest Mean & SD	Posttest Mean & SD	Level of Signif. of Difference
Pembroke	1	1	26	1	33.92 7.14	33.92 4.47	NS
				2	15.08 7.18	15.77 8.20	NS
				3	17.31 11.38	20.48 11.92	NS
	2	2	32	1	32.66 4.27	35.88 3.45	<.001
				2	26.75 3.62	28.69 2.52	<.001
				3	27.42 4.90	27.66 3.53	NS
	3	3	21	1	21.43 5.52	27.57 6.79	<.001
				2	20.14 5.94	20.52 7.12	NS
				3	1.67 1.24	2.00 1.61	NS
	4	4	4	1	21.00 8.08	30.00 6.16	NS
				2	13.25 7.37	18.75 7.46	NS
				3	2.25 1.25	2.50 2.38	NS
	5	5	4	1	23.25 4.86	32.00 8.41	NS
				2	12.75 7.41	22.75 4.79	NS
				3	3.00 2.16	4.50 2.38	NS
Plympton	1	1	3	1	36.00 3.46	34.00 5.29	NS
				2	18.00 5.29	20.00 7.21	NS
				3	17.50 15.61	20.00 17.32	NS
				4	71.50 23.40	74.00 26.91	NS
	2	2	7	1	30.00 5.63	33.29 6.58	NS
				2	28.00 2.31	27.14 2.79	NS
				3	30.00 0.00	28.93 2.83	NS
				4	88.00 7.09	89.36 10.58	NS
	3	2	1	1	26.00	32.00	
				2	26.00	26.00	
				3	30.00	30.00	
				4	82.00	88.00	

TABLE 8 (Cont.)

School	Grade Level	Math. Test Level	N	Score	Pretest Mean & SD	Posttest Mean & SD	Level of Signif. of Difference
Plympton	3	3	6	1	23.00 5.10	25.83 3.54	NS
				2	19.00 6.99	18.00 8.25	NS
				3	9.17 8.68	11.50 6.60	NS
				4	51.17 17.58	55.33 15.38	NS
	4	4	7	1	26.00 6.38	24.79 5.51	NS
				2	23.14 4.85	21.29 5.74	NS
				3	9.00 4.90	14.57 4.72	<.05
				4	58.14 10.40	60.64 12.66	NS

Motor Screening Test on which children were pre- and posttested by the aides.

Table 10 shows the results at each school. Table 9 shows the results of schools combined by grade. The latter is more revealing since the number of cases is sufficient to indicate significant gains. Significant growth occurred on total scores in grades 1, 3, 4, and 5 and in the ABC (preschool) group at Pembroke.

TABLE 9

COMPARISON OF PRETEST AND POSTTEST MEANS ON PHYSICAL EDUCATION MOTOR SCREENING TEST, SCHOOLS COMBINED BY GRADE

Grade	N	Pretest (Total Score)		Posttest (Total Score)		Level of Signif. of Difference
		Mean	SD	Mean	SD	
ABC	19	18.11	4.37	21.63	3.86	<.01
1	48	19.48	3.61	20.75	2.63	<.01
2	50	21.04	1.95	21.44	1.51	NS
3	48	20.88	2.38	22.38	1.93	<.001
4	30	21.47	1.78	22.73	1.70	<.01
5	19	22.32	1.70	23.37	1.89	<.05

TABLE 10  
 COMPARISON OF PRETEST AND POSTTEST MEANS ON  
 PHYSICAL EDUCATION MOTOR SCREENING TEST  
 BY SCHOOL AND GRADE

Grade	N	Pretest (Total Score)		Posttest (Total Score)		Level of Signif. of Difference
		Mean	SD	Mean	SD	
<u>Halifax</u>						
1	8	20.38	1.69	21.00	1.60	NS
2	6	21.17	1.33	21.67	1.21	NS
3	7	20.57	1.27	22.86	1.07	<.01
4	6	20.67	1.37	21.00	1.10	NS
5	5	22.00	1.41	21.40	2.19	NS
<u>Kingston</u>						
1	4	20.50	2.08	21.50	1.91	NS
2	8	19.75	2.55	21.13	1.64	NS
3	18	21.83	2.28	22.22	2.26	NS
4	9	21.56	1.51	23.44	2.13	NS
5	14	22.43	1.83	24.07	1.21	<.01
<u>Pembroke</u>						
ABC	19	18.11	4.37	21.63	3.86	<.01
1	33	18.94	4.09	20.42	2.93	<.05
2	29	21.41	1.88	21.24	1.43	NS
3	15	19.53	2.47	22.60	1.76	<.001
4	8	20.88	2.23	22.50	1.07	NS
<u>Plympton</u>						
1	3	21.67	2.08	22.67	1.53	NS
2	7	20.86	1.57	22.43	1.81	NS
3	8	21.50	2.20	21.88	2.17	NS
4	7	22.71	1.38	23.57	.98	NS



## Art

Pupil inventory profiles were kept on children in the art program by teacher aides. These were essentially of anecdotal and checklist format. Unfortunately, information recorded on these profiles was not compiled in any way for the evaluator's use. The profiles were to be sent along to the childrens' teachers in the Fall.

The art program was conducted by teacher aides under the supervision of the art specialist. Twenty-six aides had attended an art media workshop before the program began. It was apparent to the evaluator that the aides seemed well-prepared and supervised, and that the children profited from the experiences. It was unfortunate that quantifiable information was not compiled.

## Results of the Speech Therapy Program

The number of children seen in each town was: Pembroke - 13; Halifax - 8; Plympton - 6; and Kingston - 2; or a total of 29. The types of speech problems treated were: articulation - 21; delayed speech and language - 4; stuttering - 2; cleft palate - 1; and hard of hearing - 1.

Twenty-two children enrolled in the Pembroke ABC (preschool) program were screened for speech problems. Of the twenty-two, eight were found to have speech problems that will require therapy in the Fall of 1972.

The therapist judged that many of the children in the speech therapy program made progress toward the goal of correct speech. Progress reports were sent to parents and were placed on file in each child's folder.

### Results of the Guidance Program

When test information was needed for evaluation purposes, or requested by the principle, WISC's were given. A total of eleven were administered. The breakdown is as follows: Kingston - 1; Halifax - 1; Pembroke ABC program - 5; and Plympton - 4.

Guidance sessions were conducted for twenty-one children, six at Kingston, seven at Halifax, and eight at Pembroke. Nineteen of these children were involved in weekly individual counseling sessions of 30-35 minutes, and two participated in weekly group counseling sessions of 30 minutes. Goals specific to the individual were set up. These goals included such areas as strengthening self-concept, increasing the level of maturity, encouraging self-confidence, improving peer group relations, and developing ability to communicate effectively. Progress reports were placed in the pupils' folders with suggestions for teachers and administrators. The guidance counselor judged that counseling sessions were very successful.

### Preschool Program

Children at the Pembroke ABC (preschool) program were tested on a Test of Basic Language Abilities and on the Metropolitan Readiness Test. Table 11 shows that significant gain occurred on the Metropolitan Readiness Test but not on the Test of Basic Language Ability. However, it should be noted that a possible score of 10 can be obtained on the latter, and the mean pretest score was already 9.3. The mean posttest score was 9.9. It would seem that the language abilities tested were virtually mastered when the pretest was given, and little additional progress could be expected.

The Academic Readiness Checklist was administered at the conclusion of the program. Only ability to identify numerals ap-

TABLE 11

COMPARISON OF PRETEST AND POSTTEST MEANS OF  
PEMBROKE ABC (PRESCHOOL) CHILDREN ON  
BASIC LANGUAGE ABILITY TEST AND  
METROPOLITAN READINESS TEST

Test	N	Pretest		Posttest		Level of Signif. of Difference
		Mean	SD	Mean	SD	
BLA	23	9.30	2.10	9.91	1.70	NS
MRT	23	23.78	8.67	32.91	7.93	<.001

peared to be too difficult for most of the children. Nine children passed fewer than nine items; three passed fewer than five items. Each child's performance should indicate to his first grade teacher important areas of needed instruction. With the exception of item 2 (identification of numerals) the group as a whole seems well-equipped in the remaining areas. (See Table 12).

As reported in the section on the results of the physical education program, the preschool children made significant gains on the Motor Fitness Screening Test.

TABLE 12

RATINGS OF TWENTY-THREE PRESCHOOL CHILDREN  
ON ACADEMIC READINESS CHECKLIST

Item	Number Passed	Percent Passed
1. Counting to ten.	17	74
2. Identification of numerals.	5	22
3. Identification of one's own name.	16	70
4. Identification of colors.	18	78
5. Use of grammatical sentences.	18	78
6. Knowledge of teacher's name.	16	70
7. Left and right hand and foot.	14	61
8. Left side of paper.	16	70
9. Knows <u>behind</u> , <u>next to</u> .	15	65
10. Knows <u>up</u> , <u>down</u> .	18	78
11. Knows <u>over</u> , <u>under</u> .	15	65
12. Compares two things (e.g. higher, lower)	18	78

TABLE 12 (Cont.)

Frequency distribution of number of items passed	
<u>Number of items passed</u>	<u>Number of children</u>
11 - 12	4
9 - 10	10
7 - 8	3
5 - 6	3
3 - 4	2
1 - 2	1

### Teachers' Comments

Comments were solicited from teachers with respect to several aspects of the program. In general, these indicate that many teachers felt a need for the following:

1. Greater care in the preparation and duplication of test materials.
2. Greater care in the selection of mathematics tests and levels of tests to assure correlation with the curriculum and the validity of subtests (e.g. one teacher reported that a test of word problems provided the equation for each problem, making it unnecessary for the children to read the problem).
3. At Pembroke, greater availability of teaching materials.
4. In some instances, greater direction and supervision and contact with specialists.
5. Encouragement of better attendance by pupils. Family vacation plans sometimes conflicted with the program.

### Summary and Conclusions

The Summer 1972 Title I Program of the Silver Lake Regional School District was conducted at four schools and reached children who completed grades 1 - 5 and one preschool group in Pembroke. The program offered instruction in reading, mathematics, physical

education and art, with supplementary speech therapy and guidance.

Test results indicate that significant gains were generally obtained in reading comprehension and phonics knowledge. There was evidence of progress in mathematics ability despite some lack of correlation between test content and curriculum. Significant gain was generally made in the physical education test of motor fitness. Quantitative data on art were not compiled for the evaluator's use, but observations by the evaluator and comments of the art specialist suggest the program was effective in introducing children to creative use of art media.

Children in the Pembroke ABC program made significant gains in reading readiness. The majority performed successfully on all but one task on a twelve item academic readiness checklist at the conclusion of the program. There were no significant gains on a test of basic language abilities, but the children had near-perfect performance on both pre- and posttests.

Speech and guidance specialists report childrens' progress in overcoming speech and adjustment problems. Valuable speech screening of ABC children, and WISC testing of children referred for it, were conducted during the Summer.

#### Recommendations

1. Procedures followed in teaching reading during the Summer of 1972 may serve as a model for successful programs in the future.
2. More careful preparation of tests is necessary and, in mathematics, tests of higher curricular validity should be selected.
3. Quantifiable data should be compiled indicating pupil attainment of art objectives.
4. The Test of Basic Language Abilities is probably unnecessary for entering first grade children. In any future summer program,

the Academic Readiness Checklist could be used on both a pre- and a posttest basis.

5. The problem of availability of teaching materials should be resolved before the program begins. Apparently, this was not at all a problem in some classrooms, but was a significant one in others.