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ABSTRACT

This program provided small groups of educationally disadvantaged children with language stimulation in an attempt to increase IQ and language ability. The children were all Negro first-graders, ranging in age from six years one month to eight years two months, enrolled in the only elementary school in Auburn with all-Negro students. The curriculum of the program consisted of the experimental edition of the Peabody Language Development Kit, supplemented by stories used to stimulate the children's language development. Activities emphasized story-making, classifying, following directions, looking, counting, describing, and remembering. The language stimulation lessons lasted ten weeks during the 1964-65 school year. The results of a battery of tests indicated statistically significant gains of the program children over the control group in intellectual and language development, and in reading skills. These tests were made over a year and a half later when the children were in third grade. A third posttest was administered when pupils were in the fourth grade. Data are held to indicate that, nearly three years after the end of treatment, the program children had maintained their superiority over the control children. Tables and charts illustrative of the test data are included. (RJ)

LANGUAGE STIMULATION PROGRAM Auburn, Alabama

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FOREWORD

This project report is part of an independent study of selected exemplary programs for the education of disadvantaged children completed by the American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif., under contract with the U.S. Office of Education.

The researchers report this project significantly improved the educational attainment of the disadvantaged children involved. Other communities, in reviewing the educational needs of the disadvantaged youngsters they serve, may wish to use this project as a model - adapting it to their specific requirements and resources.

**Bureau of Elementary and Secondary
Education**

LANGUAGE STIMULATION PROGRAM
AUBURN, ALABAMA

Introduction

This program provided language stimulation lessons to small groups of educationally disadvantaged children in an attempt to increase IQ's and language ability.

Auburn is a small (16,000), rural, university town with Negro population (about 35%) concentrated in a few pockets. Most heads of families work in domestic and janitorial occupations, or as laborers. Except for a Federal housing project completed over 15 years ago, housing in the neighborhood surrounding the school is very dilapidated and typical of a rural southern Negro community. The school board at first was reluctant to allow the program to be introduced due to racial tensions in the South at the time. However, the school's principal, a Negro, convinced the board that the black community would not object to the program to the degree that the board feared--that indirectly such programs might help black children to compete educationally with white children (a prerequisite for successful school integration). The children were all Negro first-graders (ranging in age from 6-1 to 8-2 with a mean of 6-9) enrolled in the same school. The school was one of five elementary schools in Auburn, and had the only all-Negro enrollment.

The program children (N=32), as well as the comparison children (N=32), came from lower socioeconomic status families (as measured by the McGuire-White Index of Social Status). The mean IQ of these children was 75 with a range of 62 to 91. As measured by the Illinois Test of Psycholinguistic Abilities (ITPA), the language development of these children was almost two years below their age level.

The language stimulation lessons lasted ten weeks during the 1964-65 school year. At the end of this time, and over a year and a half later (the children were in the third grade and 26 matched pairs were still available), the results of a battery of tests indicated statistically significantly greater gains of the program children over the control group in intellectual and language development and in reading skills. As a further measure of the long-range effects of the Language Stimulation Program, a third posttest was administered when pupils were in the fourth grade (and 22 matched pairs remained). Preliminary examination of the data indicates that, nearly three years after the end of treatment, the program children had maintained their superiority over the control children.

Personnel

A. Program Director

A doctoral candidate at the University of Texas and a faculty member of the Auburn University Special Education staff, the program director made the Language Stimulation Program the subject of his dissertation. His previous experience included four years as an instructor at a State teachers college in Louisiana, where he also performed evaluations of learning problems of pupils in nearby schools through testing and diagnostic procedures. His program duties, which were part-time and voluntary, included supervision of the special Peabody teachers and psychological examiners. He also managed program planning and evaluation.

B. Special Peabody Teachers

Both women were certificated teachers with some elementary classroom teaching experience. One was the wife of the program director, and therefore had some contact with special education; the other was working towards a master's degree in special education under the advisorship of the program director. Both of these special Peabody teachers volunteered to spend two hours a day, four days a week, instructing program pupils who were taken out of class for these language stimulation lessons. Some additional time was required to plan supplementary lesson activities and to administer group tests (for the pretest and the immediate posttest).

C. Psychological Examiners

For the pretest and first posttest the three examiners, all male, were volunteers from the staff of the Auburn University Psychology Department. They carried out all the individual testing of the experimental and control group children. For the second and third posttests, these personnel changed, but individuals were still all male specialists in test administration (volunteers from university, hospital, or school for deaf staff). Test administrators were not aware of which children belonged to experimental and control groups.

The school's principal, although not directly associated with the program, is given credit for securing approval for the program by the board of education. (See Introduction.)

Methodology: General

The basic assumption on which the Language Stimulation Program was founded was that many minority-group children start school at a severe disadvantage compared with children from middle-class homes and that this retardation is due, at least in part, to their poor environment. This retardation may be remedied if intervention is started at an early age.

The stated objectives of this program were "to determine to what extent a systematic language development program will augment mental age and language age scores of Negro educationally disadvantaged first grade children" (Carter, 1967). It was specifically hypothesized that the program would enhance language age scores, mental age, and reading ability of the experimental group over the control group.

The curriculum of the program consisted of the experimental edition of the Peabody Language Development Kit developed by Dunn and Smith of George Peabody College for Teachers. The kit consists of 280 lesson plans. During the 40 days of treatment, the first 40 lessons were presented. These were supplemented during each session by selected activities beyond Lesson 40 in the kit and by the reading of a story.

The 32 experimental children were randomly placed into one of four groups without regard for their regular classroom assignment. These groups met, one group at a time, in a vacant classroom which had been assigned to the program. Sessions for each group (N=8) lasted about 1 hour, beginning at 8:00 in the morning, 4 days a week. Thus, the two Peabody teachers each worked with two of the groups, 1 hour per group per day. Because the experimental pupils had been randomly assigned to the four groups, each first-grade classroom had some children absent from the room for treatment sessions almost every hour in the morning. Since control pupils received 1 hour of reading instruction each morning as part of normal class procedures, experimental pupils missed some of their regular reading instruction during the 10-week program.

The Peabody Kit was donated to the program by the publisher, and since the four sessions were held at different times, the two special teachers could use the same kit. The supplementary stories chosen for each session were mostly in books in the personal libraries of the project staff. All of the language stimulation activities involved the total group, that is, a teacher-pupil ratio of 1:8. As control classes were not observed, no assumptions are made about teaching methods and materials used in the comparison group. Average class size was estimated to be between 30 and 35, with varying numbers of experimental pupils out of the room each hour in the morning.

Planning activities were carried out in staff meetings. At these weekly meetings, the program director and the two Peabody teachers discussed pupil behavior and teaching techniques, and planned activities.

Methodology: Specific

The Peabody materials and supplementary stories were used to stimulate the children's language development. To this end activities emphasized story-making, classifying, following directions, looking, counting, describing, and remembering. Examples of these activities include the following:

A. Story-making

The teacher presents a "space scene" picture to the group and asks the children to make up a story about the picture. The teacher makes a tape recording of the story and plays it back for the class. Different children tell different stories as time permits.

B. Classifying

Five chairs are placed at the front of the room. A People Card is placed on each chair. (People Cards might include pictures of a mother, father, boy, girl, and baby.) Clothing Cards are distributed among the children. Children come up one at a time and place their cards on the correct chair; for example, if a card shows clothing a baby would wear, the child places the card on the chair with the baby card.

C. Following Directions

The teacher gives oral directions for the group to follow in unison. For example, stand up, touch your hair, touch your shoulder, sit down. Or, in later lessons, directions might include touch your nose with your left hand, put your right hand on your left ear, put your left hand on your right shoulder.

D. Looking

The children are asked to look around the room very carefully. The teacher asks them to name as many things (objects) as they can. Each child is asked to name one object and to tell what it is used for.

E. Counting

The teacher presents Number Cards and asks the group to name them (numbers) in unison. The children are guided to name the cards first in sequence and then in random order. Each pupil is asked to count to ten.

F. Describing

Describing activities frequently serves multiple goals. For example, in one such activity, Color Cards are placed on the chalk tray (red, orange, yellow, green, and blue). Picking up one card, the teacher asks children whose clothes are the color of the card to stand up. Each child who stands up tells the others what he is wearing of that color. The teacher asks some pupils to give a complete description of their clothing. This particular activity gives children practice in naming and classifying (colors) in addition to developing complete sentences for their oral descriptions.

G. Remembering

The teacher reads a simple poem to the children. She repeats the poem, letting the children complete the last word in each line. The teacher asks the children to recall some information emphasized in the

poem. After prompting the group by reading the first half of a line from the poem, the teacher asks individual children and, finally, the group in unison to complete the line correctly. (A regular remembering activity was developed around the supplementary story read by the teacher at the end of each lesson. Not only would children answer questions about the story immediately after hearing it read, but also they would be asked questions about the story the following day.)

H. Listening

Of course, listening was integral to all of the activities illustrated above. However, specific training in listening skills may be illustrated by the following activity: The teacher reads word lists, having told the children to clap their hands when they hear the name of a number (dive-five-hive-ton-ten).

The tape recorder was used almost daily. A typical lesson (about 50 minutes) might begin with a tape recorded story of, say, The Three Bears. The children would be asked to recall the names of the characters. The teacher would retell the story, stopping after the word, "said," to let individual children take the parts of the story's characters and finish their sentences. The next activity might involve classifying and naming pictures on cards, perhaps making up a story about some of the pictures or describing characteristics of the pictured objects. The third activity in the day's lesson might be a counting game in which a few of the children are given one number card each. As the teacher calls out a number, the child holding that number card stands up, says his number out loud, and calls another number. If the child fails to stand up when his number is called, he loses his card to a child who does not have one and the game continues. The fourth activity in the day's lesson might be a following-directions game, followed by the final daily activity, "Story Time." The daily story was usually preceded by questions about the previous day's story and followed by questions on the story just read.

As indicated earlier, the ten-week Language Stimulation Program covered the first 40 lessons in the Peabody Language Development Kit. A daily lesson, such as described above, would cover one of these Peabody lessons and additional activities pulled from Peabody lessons 41-280, and the supplementary story which the teacher selected from a variety of sources. These stories might be fairy tales (Sleeping Beauty) or stories from other cultures (Blaze and the Indian Cave), or stories about careers (I Want to be a Teacher), and so on.

Evaluation

A. Measures of Achievement

For clarity, the following is a brief summary of the sequence of procedures followed from the time the children were pretested until the delayed posttest was administered. A pretest battery was administered to educationally disadvantaged Negro children about one-third of the way

through their first year in school. (No routine testing program was followed by the school.) Two groups were matched on the following variables: McGuire-White Index of Social Status (based on occupational level, educational attainment, and source of income of "status parent"); Stanford-Binet, Form LM, IQ and MA; chronological age, and language age (ITPA LA). Speech and hearing tests were used to identify children with significant speech or hearing impairments, and these children were omitted before matching. Each child in a matched pair was randomly placed in one of two groups. Then one group was randomly designated as experimental; the second group, as control. In all, there were 32 matched pairs with equal numbers of boys and girls in each group.

The effects of the ten-week Language Stimulation Program were examined both in terms of immediate results (Posttest 1) and long-range results (Posttest 2). For Posttest 1, the pretest battery was readministered immediately after termination of treatment, and results indicated statistically significant gains for the experimental group over the control group in IQ, mental age, and language age (Carter, 1967). These immediate results will not be discussed further here because the long-range effects of the Language Stimulation Program demonstrated by Posttest 2 scores have more dependable educational implications.

The Posttest 2 battery was administered to 26 of the original 32 pairs about 20 months after Posttest 1 (end of treatment), or when the children had completed about three-fourths of the third grade. Essentially the same results were obtained. That is, mean differences between the two groups on measures of IQ, mental age, and language age were statistically significant in favor of the experimental group (based on the direct difference t test for matched groups). In addition, a new difference emerged. The experimental group scored significantly higher than the control group on measures of reading ability, although this difference did not appear in the Posttest 1 comparison. Finally, the test battery was again administered about one year later, when the children had completed nearly three-fourths of the fourth grade. For this test (Posttest 3) 22 of the original matched pairs remained. Although data analyses are still underway, and no levels of significance have been established for differences between groups, preliminary indications are that the experimental group has maintained its superiority over the control group on measures of IQ, language age, and reading ability (although measured reading ability for both groups is below grade level). The claims of success for the program are based on the following tests: The Stanford-Binet Form LM, the Illinois Test of Psycholinguistic Abilities, the California Reading Test, and the Durrell Analysis of Reading Difficulty. Although a statistically significant difference was shown for Stanford-Binet results between experimental and control children, the amount of the difference (about 5 IQ points) may not reflect changes of fundamental educational importance. It is encouraging, however, that the Stanford-Binet results were supported by those obtained for achievement tests. Table 1 summarizes means for experimental and control groups on these tests for Pretest, Posttest 1, and Posttest 2 and compares differences between the groups on Posttest 2. Trends are shown graphically in Figures 1, 2, and 3 on pages 8 and 9.

TABLE 1
Comparison of Pretest, Posttest 1, and Posttest 2 Mean Scores
for Experimental and Control Groups, Language Stimulation Program

Tests	Experimental Means			Control Means			Posttest 2 Difference Between Means	P
	Pretest (1.3) ¹ N=32	Posttest 1 (1.7) ¹ N=32	Posttest 2 (3.7) ¹ N=26	Pretest (1.3) ¹ N=32	Posttest 1 (1.7) ¹ N=26	Posttest 2 (3.7) ¹ N=26		
Stanford-Binet IQ	74.6	83.4	86.8	74.2	76.8	81.4	5.4	<.05
ITPA Total Language Age in months	57.8	67.0	76.9	58.6	56.8	72.0	4.9	<.01
Lee-Clark	.6	.8		.5	.8			
Calif. Reading Test: Total ²			3.2			2.8	.35	<.05
Vocabulary ²	-	-	3.1	-	-	2.8	.24	-
Comprehension ²	-	-	2.9	-	-	2.8	.12	-
Durrell Analysis of Reading Diffic: ²								
Oral ²	-	-	3.0	-	-	2.4	.6	<.05
Silent ²	-	-	2.4	-	-	1.9	.5	<.01
Listening Comprehension ²	-	-	2.8	-	-	2.3	.5	-

¹Grade level of pupils at time of testing.

²Scores reported in grade level.

[Source: Tables 3 and 4 (Carter, 1967)].

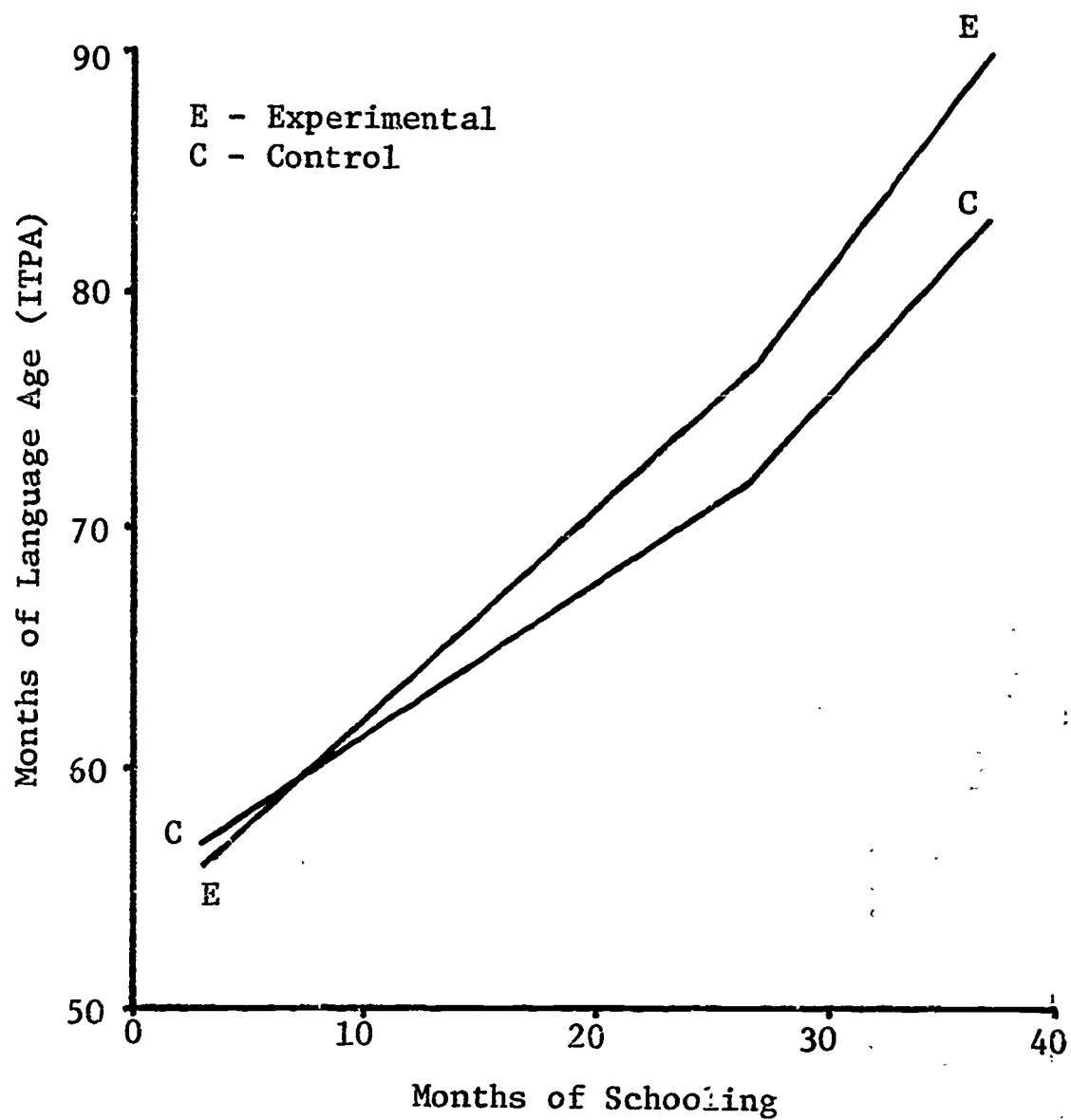


Fig. 1 . Mean change in language age over time as measured by the ITPA, Language Stimulation Program

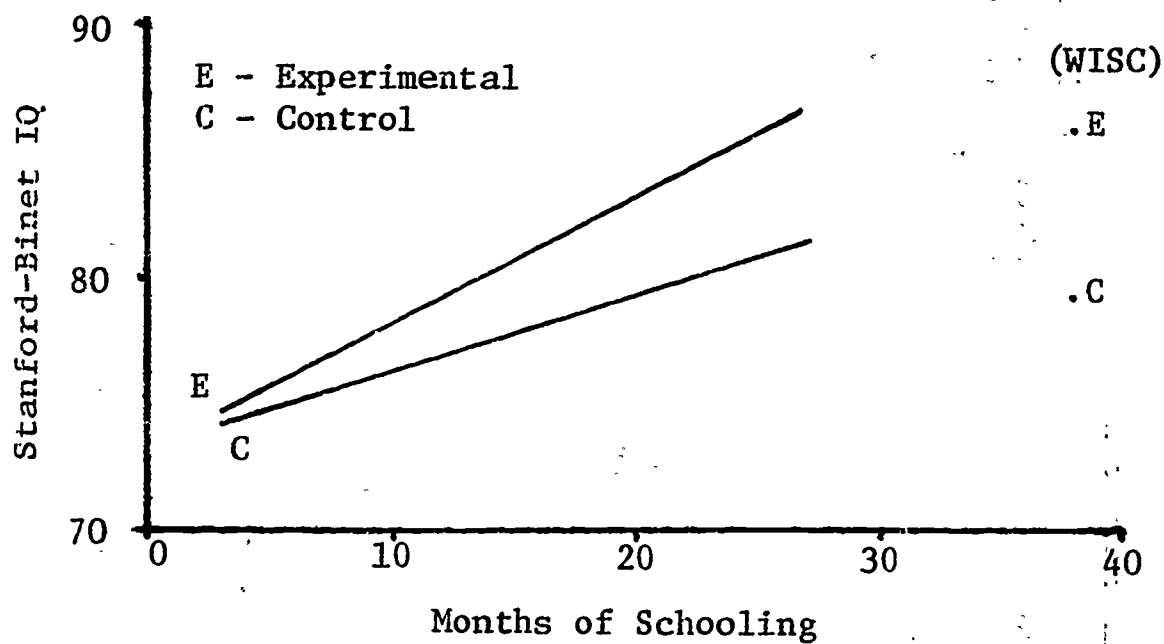


Fig. 2 . Mean change in IQ over time as measured by the Stanford-Binet Form LM, Language Stimulation Program.

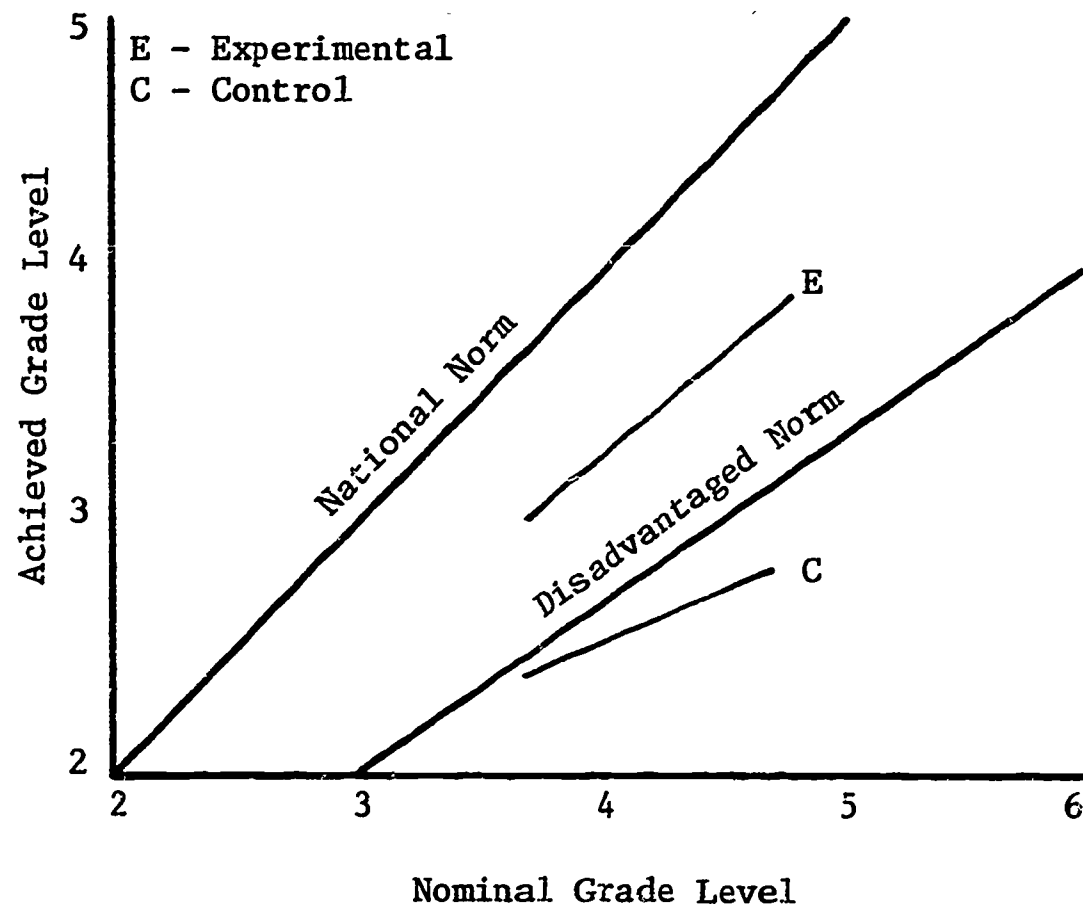


Fig. 3. Mean gain in oral reading over time as measured by the Durrell Analysis of Reading Difficulty, Language Stimulation Program.

B. Other Evaluation Indices

No other objective evaluation indices were used to measure the effectiveness of the Language Stimulation Program. However, the program director commented that of the original sample, eight control pupils are now in "special education" classes at the school. Only one of the original program pupils is in such a class.

Budget

From the pretest through the immediate posttest, the program cost was virtually nil because the two special Peabody teachers and psychological examiners donated their services, and the publisher of the Peabody Language Development Kit donated the Kit. The Posttest 2 and Posttest 3 follow-ups were supported by two \$7,500 grants from the U.S. Office of Education.

Quoted Sources

Carter, J. L. The long-range effects of a language stimulation program upon Negro educationally disadvantaged first grade children.
Houston, Texas: University of Houston, May 1967.

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