DOCUMENT RESUME

ED 024 449 PS 001 293

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An Evaluation of the Language Arts Program of the District of Columbia. Final Report.

George Washington Univ., Washington, D.C.
Spons Agency-District of Columbia Public Schools, Washington, D.C.
Pub Date Nov 65
Note-8p.
EDRS Price MF-$0.25 HC-$0.50
Descriptors-Class Size, Comparative Testing, Control Groups, *Elementary Schools, Factor Analysis, Family Income, *Kindergarten, Kindergarten Children, *Language Arts, *Program Evaluation, Reading Tests, School Size, Standardized Tests, Story Telling, Teacher Experience, Verbal Ability
Identifiers-District of Columbia Public Schools

In an evaluation of a language arts program for oral and written facility and comprehension among children of an urban culture, 262 children in kindergarten comprised the experimental group, and 369 students served as controls. Children in both groups were presented with three pictures and instructed to tell a story about each. Observers rated speech facility and overall verbalization. Pretests and posttests were given to both groups. The results showed that students in experimental schools do significantly better in word meaning, language facility, picture vocabulary, and the Merrill-Palmer Scale and relatively better on English Error Score and in reading than their readiness score predicted. They made significantly fewer errors on the Dailey Language Facility Test. School characteristics and school success were compared with data from another study. It was found that teachers' salaries, teachers' experience, number of books in the school library, and per-pupil expenditure are more closely related to school success than are school size, average class size, age of building and suburban location. Family income was most closely related. The language arts program was found to be needed and successful and should be extended to the prekindergarten level. A reevaluation should be made in a few years. (JS)

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AN EVALUATION OF THE LANGUAGE ARTS PROGRAM OF THE DISTRICT OF COLUMBIA

Final Report
on
Contract N.S. 2682
Government of the District of Columbia

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November, 1965

PS 001293

The George Washington University
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November, 1965

An Evaluation of the Language Arts Program of the District of Columbia

Final Report

A. Introduction

The Language Arts Program of the District of Columbia Public Schools was designed to develop the oral and written language facility and comprehension of culturally different children in the kindergarten, junior primary, first, second, and third grade levels from 1961 to 1964-65 in fourteen elementary schools in the District of Columbia. This included the establishment of summer educational centers for primary children. For one summer, weak first and second graders were enrolled for strengthening in the area of language development. Another year the program enrolled weak kindergarten children, who, after a year in that grade, were considered to be poor risks for first grade. During the past two summers, it consisted of a preschool language-oriented program for boys and girls who were registered for kindergarten or grade one of the next school year. The major emphasis was placed on the development of a language arts program that would overcome the severe language deficiency characteristic of culturally different children. Its purpose, essentially, is to teach English to those children who, in effect, speak an urban dialect and not standard English.

B. The Procedure

An evaluation study of the Language Arts Program has been carried out by the Education Research Project of The George Washington University. There were approximately 600 children in kindergarten in seven schools which comprised the Language Arts Program during the school year of 1961-62. The 262 students from this group who were still enrolled in program schools comprised the experimental group. For the control group the students in eight similar District of Columbia elementary schools have been studied. In these schools there were 369 students who were similar to the experimental group in that they had been in that school since kindergarten in 1961-62. The control schools were selected using the variables developed by Mr. Harry B. Merican for use in his Impact Aid Study of the D.C. Public Schools.

The following test scores and other variables were available on students in both the experimental group and the control group: (1) Metropolitan Reading Readiness Test; (2) Metropolitan Achievement Test; (3) Stanford Achievement Test; (4) Teacher ratings on quality of homework, motivation, getting along with other children, and how the home situation affected the student's work.

In program schools the total scores and sub-scores were also available for the Gates Reading Tests on students in grades 1, 2, and 3. In addition, the Dailey Language Facility Test was administered to the students in both the control group and the experimental group. This test requires students to tell stories about or describe a series of three pictures. It measures proficiency in oral use of language and is scored in two different ways. The first score is independent of vocabulary, information, grammar, or pronunciation and measures on a nine-point scale how well the student can use the language or dialect he learned at home. The other scoring system measures the extent to which he speaks standard English. Separate measures are obtained of the frequency of 24 types of major errors in pronunciation or usage.

The Dailey Language Facility Test was developed as a test for evaluating growth in language facility in preschool programs. It was designed for obtaining a standardized sample of speech in ten minutes or less, and can be administered and scored by personnel with a minimum of training. It is relatively insensitive to the sex or cultural group of the examiner. The subject is asked to tell a story about each of three pictures of the series. Each story or description is then scored on a nine-point scale as follows:

STORY SCORE SCALE

Score	Description
9	A good story with imagination and creativity
8	In between
7	A complete story with some elements of past or future action or intention
6	A detailed description of what is happening, but no story about past or future action or intentions
5	More than one sentence with some elements of interpretation of movement or action
4	More than one sentence, but no interpretation of movement or action
3	A sentence that makes sense
2	Compound responses, two or more words at a time, a single word describing action, or more than one single-noun response
1	One single-noun response
0	No response -- garbled speech, or only points at picture

The scale values are completely independent of vocabulary, information, and grammar. Length of response is not a factor at level six and above. The scale levels recapitulate the chronological development of language facility. Independent scorings by scoring clerks with two hours of training correlate in the vicinity of .90 for a score based on three pictures.

The protocols can also be scored for frequency of each major type of error in pronunciation or grammar according to the code as follows:

STANDARD-ENGLISH SCORING SCALE

Code	Description of Error	Examples of Error	
A	Simple verb, wrong number	she want; they sees	A
B	Auxiliary verb, wrong number	he have waited; she are going	B
C	Auxiliary verb omitted	he running	C
D	Wrong past participle	wore (worn); came (come); flew (flown)	D
E	s on plural not ending in s	chilluns (children); geeses	E
F	Incorrect irregular plural	shelfs	F
G	a for an	-	G
H	got for have or has	-	H
I	Letters interchanged (t for d, d for t)	boddle (bottle); laty (lady)	I
J	g on ing pronounced	-	J
K	in' for ing	runnin'	K
L	picture mispronounced	pitcher	L
M	airplane mispronounced	arruplane; erroplane	M
N	Consonants slurred	chillun (children)	N
O	Unaccented vowel slurred	fam'ly; an'mal	O
P	Verb tense changed in sentence	She is getting up and then she got dressed.	P
Q	Number of verb agreeing with incorrect subject	The duck and the gull is flying.	Q
R	they for there or their	they shoes	R
S	d, t, or v for th	nuttin' (nothing); muddah (mother)	S
T	s on possessive noun omitted	lady' watch	T
U	r, l omitted	litta gir'; gi'l	U
V	ĕ for ă, ûr for âr, ôr	bleck (black)	V
W	diphthongized vowels	bayid (bed)	W
X	Elongated, distorted vowels	tăhde (tired); bāde (bed)	X
Y	Other comments (please specify):		Y

The Peabody Picture Vocabulary Test and a verbal subtest from the Merrill-Palmer Action Agent Scale were also administered to sub-samples of 100 students each in the experimental and control schools.

C. Findings

1. Table 1 below compares the performance of children in the experimental school with those in the control schools. It can be seen that the control schools have slightly higher income and as a result tend to do better on some of the tests. However, the right-hand column "adjusted 'z' score" shows comparisons where the effect of the income difference has been removed. This represents the only legitimate comparison of the measures. It can be seen that the experimental schools exceed the control schools in word meaning, language facility, picture vocabulary, and Merrill-Palmer Scale. The experimental schools do relatively better in reading than their original reading readiness would have indicated. The experimental schools particularly excel on the English Error Score.

2. The students in the Language Arts Program Schools made significantly fewer errors in their speech samples on the Dailey Language Facility Test than did the control group. This was true at the levels (high, medium, and low) of language facility as measured by the nine-point scale on the test. When the experimental and control groups were compared on the incidence of eight major categories of speech errors at each of three levels of language facility, the experimental group did better in 18 out of 24 comparisons. This is significant at the one percent level.

3. A factor analysis was carried out relating the regular language facility scale score on the tests and the various error scores to such variables as sub-scores on the Metropolitan Readiness Test, the Peabody Picture Vocabulary Test, sub-scores on the Stanford Achievement Test, teacher ratings on quality of homework, motivation, getting along with other children, effect of home situation, as well as grade, sex, and age. Three factors emerged from the speech sample. One was defined by the nine-point language facility scale score, one appeared to be a cluster of errors in pronunciation, and the third appeared to be a cluster of errors in structure or grammar. With further refinement the error code should become quite useful in measuring different aspects of dialects and for evaluating various methods of dialect transformation.

School Characteristics vs. School Outcomes

With Project Talent* data several studies have been made of the relationships between many school practices and many school outcomes. It is not possible to obtain absolute proof of cause and effect relationships from Project Talent data nor any other similar statistical data based on relating past measures of behavior with each other. For example, it is not possible to prove unequivocally by statistical survey methods that higher teacher salaries

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*John T. Dailey, "Study of the Relationships between Characteristics of Project Talent Schools and the Amount of Impact Aid Received," Entitlements for Federally Affected School Districts under Public Laws 874 and 815, by Robert G. Spiegelman, et al., for U.S. Department of Health, Education, and Welfare. (Menlo Park, California: Stanford Research Institute, May, 1965)

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PS 001293

The George Washington University
Education Research Project
15 November 1965

Table 1

LANGUAGE ARTS PROGRAM EVALUATION

	Experimental Schools			Control Schools					
	N	Mean	S.D.	N	Mean	S.D.	Diff.	"z"* Score	Adj. "z" Score
Income**	263	$3642	$302	367	$3806	$661	$164	-.25	00
Met. Reading Readiness	263	44.452	10.46	362	47.762	9.74	-3.310	-.34	-.09
Stan. Ach. Para. Meaning	159	29.566	10.59	236	31.640	8.18	-2.074	-.25	+.00
Stan. Ach. Word Meaning	159	25.491	7.94	236	26.809	5.72	-1.318	-.23	+.02
Total Language Facility (DLFT)	263	15.635	3.41	366	16.178	3.35	-0.543	-.16	+.09
Peabody Picture Vocabulary	90	64.111	7.05	96	64.938	7.30	-0.827	-.11	+.14
Merrill-Palmer Scale	98	18.092	1.44	102	18.275	2.01	-0.183	-.09	+.16
English Error Score (DLFT)	263	25.217	13.69	356	27.228	14.04	-2.011	+.14	+.39

*A negative "z" score indicates that the control school scores higher than the experimental schools. "z" scores based upon the standard deviation of the control schools.

**Based upon the median income of the census tract in which the schools are located.

cause higher school achievement. On the other hand, it is possible to do analyses that make it appear quite likely that these higher salaries may be one of the most important factors in obtaining higher achievement. At the same time, it is possible to use equivalent methods to indicate that it seems very unlikely that size of school as such is a necessary prerequisite for high achievement because there is no associational evidence at all in this direction when all factors are considered. A given factor is extremely unlikely to be a causative factor if it shows no unique association with measures of school performance in a comprehensive set of data where the other important factors are being held constant.

The Project Talent data to date seem to indicate that four school factors most closely and uniquely associated with school outcomes such as achievement and going to college and staying in school are:

Teacher salaries
Teacher experience
Number of books in the school library
Per-pupil expenditure

It should be cautioned that we cannot conclude for sure that these factors are causing the differences in school outcomes. It may be that they are caused by some outside factors which are just being mirrored or reflected by these above measures. Nevertheless, their relationship is substantial even after as many as 30 of the most important school and community characteristics have been held constant in mathematical analyses.

On the other hand, we can be much more confident in concluding that many other factors are not likely to be prime causes of school excellence since they do not have any sizable unique correspondence with school outcomes. The data in Project Talent indicate that some school characteristics seem very unlikely to be prime causes of school excellence of output. Among these seem to be:

School size
Average size of classes
Age of building
Suburban location

A similar study was made of the 129 elementary schools in the District of Columbia. It was found that the variable which was most closely related to school performance was the median family income for the census tract in which the school was located. The higher the median income the higher the achievement, and the lower the income the lower the achievement. This variable stood out above all others. The school performance was measured by the percentage of the fourth-grade students scoring below the national norm in the Reading Test of the Metropolitan Achievement Battery in 1963-64. The second most important factor which contributed to high performance when all other variables were held constant is low rate of non-promotion within schools. Among the other variables the ones most closely related to reading were the presence of a librarian and having participated in the Language Arts Program.

In addition, similar analyses were made to predict achievement in Word Knowledge, Arithmetic, and Total Language performance, all of which yielded similar patterns, with high median income coming out first, followed to a much lesser degree by low rate of non-promotion within the school.

One of the least useful variables in this study was median years of education of the adult population in the census tract. This is to be expected since many studies, particularly Project Talent, have shown that high schools differ tremendously in their levels of achievement. This makes grade completed a very inaccurate measure of the actual level of education.

It is of considerable interest that in this study ethnic data about the composition of the student body or the school staff were not needed to predict achievement with a high degree of accuracy. The use of the median family income level by itself predicts performance about as well as any combination of all the available socio-economic and educational variables. Such factors as gross expenditure rate in each specific school and degree of overcrowding in the school bore little relationship to school achievement in schools with the same levels of parental income. This was also true of the age of the school building. The general pattern of the findings was extremely similar to those in the studies of the national samples of high schools in Project Talent.

D. Conclusions

1. The Language Arts Program appears to be an effective way of helping culturally different children increase their language skills and learn to use standard English with greater accuracy. It should be continued and intensified. Instead of one extra teacher, there should be two or more. As it has been operating, the child has been exposed to the new learning experiences only a small part of his time. In the remainder of his time, he has been reinforced in his dialect by hearing it continuously spoken by the other children and by adults outside of school. An expanded Language Arts Program should be an excellent investment and it is recommended that it be given high priority.

2. However, even an expanded Language Arts Program cannot by itself fully solve the problem of teaching standard English to these culturally different children. By the kindergarten age they have so thoroughly learned and over-learned all the wrong ways of using English that it is most difficult for many of them to un-learn their mistakes and then learn standard English later in the regular school program. There should be a pre-kindergarten program for these children starting at the earliest possible age and stressing the types of experiences offered in the Language Arts Program. The primary objective of the preschool program should be to help the children to learn to speak standard English. If this can be done, it will greatly simplify their later problems in reading, English expression, and writing.

3. The experimental group should again be evaluated in the sixth grade to see how the effects of having been in the Language Arts Program have held up at higher levels. It would also be worthwhile to locate and test those who started in the program and are no longer in the program schools.