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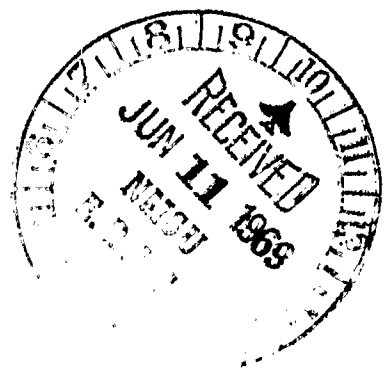
Teaching beginning reading using the Initial Teaching Alphabet (i.t.a.) was experimented with in a project which had the dual purpose of (1) providing educators with the opportunity to observe the use of i.t.a., and (2) determining the effectiveness of i.t.a. with Mexican American bilingual children. Twenty i.t.a. demonstration classes representing various socioeconomic levels were established in the Stockton Unified School District and Tracy Public Schools in California allowing educators to observe the program. The second objective was accomplished by establishing 18 i.t.a. experimental classes and 20 Traditional Orthography (T.O) control classes. The same basal readers were used by both groups and both were administered the same array of tests. Results of the experimental i.t.a. group showed achievement significantly above the T.O. control group. However, it was concluded that it was to early to make any definitive conclusions regarding the use of i.t.a. with bilingual disadvantaged children and that a second year of the project should provide more definitive information. Tables are included depicting the results. This project was funded under Title III of the Elementary and Secondary Education Act. (CM)



THE TEACHING OF BEGINNING READING BY USE OF THE INITIAL TEACHING ALPHABET

by

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This past school year, 1966-67, the Stockton Unified School District had the opportunity of working with Dr. Jack Holmes, Professor of Educational Psychology at the University of California, Berkeley. Dr. Holmes was co-director of the i.t.a. reading project described below. Dr. Holmes established the research for the project and was in the midst of writing this report when his untimely death prevented the completion of this paper. Since this project was one of Dr. Holmes's last major contributions, this paper is offered as a tribute to one of the Nation's leading educators, Dr. Jack Holmes.

The Stockton Unified School District was awarded an ESEA Title III grant to experiment with the teaching of beginning reading using the Initial Teaching Alphabet (i.t.a.) during the 1966-67 school year. The project had two major purposes. The first purpose was to provide educators with the opportunity of observing i.t.a. in use in the classroom and the second purpose was to determine the effectiveness of i.t.a. with Mexican-American bilingual children.

Numerous studies, including those by Mazurkiewicz (1967) and Downing (1967), were concerned with the teaching of beginning reading using i.t.a. The findings from these studies favored the i.t.a. groups and the results generated widespread interest in this approach to teaching reading. Being aware of this need, the Stockton Unified School District established demonstration classes to afford educators the opportunity to observe an i.t.a. program in operation.

A review of the related literature showed no studies had previously been made to determine the effectiveness of i.t.a. with the Mexican-American bilingual child. Mexican-American children present a special learning problem to educators. While these children might be classified as culturally different, they do have a strong cultural heritage and many traditions. This rich culture sometimes acts in conflict with the mainstream of American society especially when children enter school with Spanish as their first language, often knowing little or no English.

Anything which can be done to improve the education of these children should benefit not only educational systems but society as well, for the stigma of second-class citizenship could be erased with better educational attainment. Recent legislation in California permits initial instruction in the native language for Spanish speaking children. This procedure may benefit children who lack fluency in any language. However, they must also learn to speak and read in English.

The problem of learning to read may be compounded when the learner's native language is not English. The Initial Teaching Alphabet is one of the more successful new reading programs currently being used with disadvantaged children. Consequently, the research portion of this project represents an attempt to find improved methods for teaching the Mexican-American child how to read. More specifically, the research was designed to answer the question: Is i.t.a. more effective than the T.O. (traditional orthography) method of teaching beginning reading to bilingual Mexican-American children?

Procedures

To accomplish the first major purpose, providing educators with the opportunity to observe the use of i.t.a., 20 i.t.a. demonstration classes representing various socio-economic levels were established in the Stockton Unified School District and

Tracy Public Schools. Educators from throughout the State of California were invited to observe these classes to gain firsthand knowledge of i.t.a. in action.

Eighteen i.t.a. experimental classes and 20 T.O. control classes were established to determine the effectiveness of i.t.a. with Mexican-American bilingual children. The research design called for the careful matching of these classes with respect to sex, ethnic background and teachers' estimates of reading potential, socio-economic level, social maturation, and motor coordination. The 18 experimental and the 20 control classes were selected from the Stockton Unified School District, Tracy Public Schools, and the Catholic Diocese of Stockton. The Catholic Diocese of Stockton had one class in the experimental group and one in the control group. First grade teachers having classes with more than 30% bilingual enrollment were surveyed to find out if they would teach either i.t.a. or traditional orthography. There were 45 first grade classes in the Stockton Unified School District and five classes in the Tracy Public Schools which met this criterion. From these available classes, 18 experimental groups and 20 control groups were selected using the matching variables. Each of the classes was assigned to use i.t.a. or traditional orthography on a random basis. For those teachers who volunteered to participate in the project, each was given a preference to teach i.t.a. or T.O. It was believed that to arbitrarily assign teachers would have been unrealistic and would have introduced another variable into the research.

The 18 experimental i.t.a. classes and 20 control T.O. classes used the same basal reading series, the Scott-Foresman readers. This provided control over a most important variable. The linguistic stimuli did not differ for each student in the study except for the alphabet used.

Each student in the research and control groups was administered the following array of tests:

Name of Test	Date Given
Lorge-Thorndike, Level I Form B	September 1966
Lee-Clark Readiness	September 1966
Lee-Clark Reading Primer	February 1967
Stanford Achievement Test, Primary I Form W	May 1967

Using the combined sum of scores on post-reading achievement tests as the criterion, a Wherry-Doolittle multiple correlation was run against M.A., chronological age, Lee-Clark Reading Readiness Test, teacher experience, and the variables used in the matching aspect of the design. The variables were tested and the pattern of data was found to be sufficiently linear for use in conjunction with the statistical procedures employed. The multiple correlation produced differential weights for each of the variables, and those which were found to make independent contributions to the variance in the final criterion (post-reading scores)

were used as control variables in a subsequent analysis of covariance.

Results

Available for the analysis were, for the i.t.a. research group, 393 students from 18 classrooms representing 11 different schools. For the traditional orthography group, 20 classrooms representing 12 different schools, with a total of 418 subjects upon which sufficient data was available, constituted the sample. Table 1 summarizes the means and standard deviations for all tests administered. (See page 4.) The table reflects the careful matching of the experimental and control groups.

Table 2 lists those variables found to make independent contributions to variance using the Stanford Achievement Test total as criterion. (See page 5.)

Table 3 summarizes raw scores adjusted for initial differences in the two populations and conversion to commonly used standard scores. For convenience, the Q_1 and Q_3 grade equivalent scores for both populations are included.

Table 3

STANFORD ACHIEVEMENT TOTAL READING SCORES
FOR i.t.a. AND T.O. RESEARCH GROUPS
IN LOWER SOCIO-ECONOMIC AREAS
Stockton Study, 1966-67

Total Reading	Total Adjusted Mean Raw Score*	Converted Grade Scores		
		Mean	Q1	Q3
i.t.a.	35	1.7	1.4	1.9
T.O.	28	1.6	1.4	1.7

*Difference significant at .01 level

The question the research was designed to answer may be stated as follows: Is there a difference in reading achievement of the i.t.a. experimental group and the T.O. control group at the end of one year's instruction? This hypotheses was tested in the null form. The experimental i.t.a. group showed achievement significantly above the T.O. control group at the .01 level of confidence.

The demonstration classes were observed by 374 visitors. The visitors observed the classes from October 1966 through June 1967.

Although the demonstration classes were not carefully matched with control groups as were those in the research portion of the project, the demonstration population and all other district first grade classes were given the same array of tests administered

Table 1

MEANS AND STANDARD DEVIATIONS FOR i.t.a. EXPERIMENTAL GROUP
AND TRADITIONAL ORTHOGRAPHY CONTROL GROUP
Stockton First Grade Study, 1966-67

	i.t.a. Research Group, N = 393		T.O. Research Group, N = 418	
	Mean	Standard Deviation	Mean	Standard Deviation
Lorge-Thorndike Beginning of Year				
Chronological Age in Months	71.76	6.60	73.08	9.53
Test I	13.62	3.02	14.00	2.84
Test II	13.42	3.57	13.45	3.31
Test III	9.25	3.19	9.00	3.34
Total	36.20	7.91	36.31	7.45
Lee-Clark Readiness Beginning of Year				
Letter Symbols	18.80	5.34	18.63	5.41
Concepts	16.90	2.22	16.90	2.06
Word Symbols	11.95	5.83	12.64	5.41
Total	47.60	11.11	48.05	10.75
Lee-Clark Primary Mid-Year				
Audio Stimuli	9.73	3.97	8.99	3.34
Visual Stimuli	3.98	3.28	3.85	2.80
Following Directions	4.33	3.30	4.37	3.00
Total	18.06	9.52	17.27	7.69
Stanford Achievement End of Year				
Vocabulary	19.12	9.17	15.35	6.61
Comprehension	15.49	9.78	13.08	7.58
Total	34.61	18.16	28.42	13.33

Table 2

TOTAL CONTRIBUTIONS TO VARIANCE IN
STANFORD TEST TOTAL FOR i.t.a. AND T.O. RESEARCH GROUPS
Stockton First Grade Study, 1966-67

E X P E R I M E N T A L

Criterion
Stanford Achievement Test
Total

Control Variable	Unadjusted Means - %	Adjusted Means - %
Lee-Clark Word Symbols	11.34	11.07
Lorge-Thorndike Mental Age 1	9.91	9.67
Lorge-Thorndike Mental Age 2	5.87	5.72
Lee-Clark Letter Symbols	6.44	6.28
Chronological Age in Months	1.08	1.06
(R^2) Total	34.64	(R^2)33.80

C O N T R O L

Criterion
Stanford Achievement Test
Total

Control Variable	Unadjusted Means - %	Adjusted Means - %
Lee-Clark Letter Symbols	8.88	8.64
Lorge-Thorndike Mental Age 1	6.70	6.52
Lee-Clark Word Symbols	5.96	5.81
(R^2) Total	21.54	(R^2)20.97

to the research group. Additionally, all District first graders were randomly assigned to a class using the technique established for the research groups. These provisions made it possible to make reasonable comparison between the demonstration classes and other groups with like ability. An analysis of covariance was also used to correct for initial differences between the demonstration and compared T.O. classes. The difference in the adjusted means for the post-reading scores favored the i.t.a. groups and were significant at the .01 level of confidence.

Table 4 lists the adjusted mean score for the two groups. The data are included in this report because of interest in i.t.a. classes which represent normal school populations. Although these statistics seem to confirm Downing (1967), Mazurkiewicz's (1967), and other studies that i.t.a. is effective with students of "average" ability, there is no way to determine the "halo" effect derived from the visitors to the demonstration classes.

Table 4

STANFORD ACHIEVEMENT TEST SCORES
FOR i.t.a. DEMONSTRATION AND OTHER
T.O. CLASSES IN THE STOCKTON UNIFIED SCHOOL DISTRICT
Stockton Study, 1966-67

	Vocabulary Adjusted Mean Raw Score*	Comprehensive Adjusted Mean Raw Score*	Total Adjusted Mean Raw Score*	Total Converted Grade Score
i.t.a.	28.3	24.7	53.0	2.1
T.O.	17.6	16.7	34.3	1.7

*Difference significant at 1% level

Conclusions

It is too early to make any definitive conclusions regarding the use of i.t.a. with bilingual disadvantaged children. Although the difference in raw scores was statistically significant in favor of the i.t.a. population when the raw scores were converted to grade equivalents, the difference represented only one month reading achievement. Consequently, the difference was not enough to predict that i.t.a. solves the reading problems of this special population. It will be noted from Table 3 that the Q_1's for the two research groups were approximately the same whereas the Q_3's for the two groups differed even greater than the mean. These facts tend to indicate that children ready to learn to read make faster progress when the writing code is systematic but that slower children are not materially helped by i.t.a. during the first grade program. This seems to indicate that if i.t.a. is to be of value to slower children, two years in the program will be

required. A second year, currently in operation, should provide more definitive information.

The test results for the demonstration i.t.a. classes also seem to indicate that a systematic code enhances the reading progress of children from middle socio-economic backgrounds. Again, the results must be tempered in light of the uncontrolled side effects which some of the observed increased reading skill may be attributed. Nevertheless, the beginning advantage attained by the i.t.a. classes indicates that i.t.a. may be a useful approach for improving reading programs.

Implications

Teachers beginning to use i.t.a. should heed the warning that transfer from i.t.a. to T.O. is not automatic at the end of the first grade. This is particularly true of children termed "disadvantaged." Observations made during the study indicated that teachers should expect no more than 15%-20% of each class located in deprived areas to make the transfer from i.t.a. during the first school year. (In the Stockton Study, 15% of the experimental i.t.a. research classes made the transfer to the traditional alphabet.) In fact, it is the judgment of the authors that if appreciably greater percentages transfer during the first year, the children may have been moved too fast and serious re-adjustment may be required in the second year. Schools in lower socio-economic neighborhoods implementing i.t.a. should expect a majority of their students to continue i.t.a. into the succeeding year. It is during this second year that most of these children will make the transfer from i.t.a. to T.O. although some children may need i.t.a. in the third year.

With average classes it may be expected that approximately 50% will make the transfer to the traditional alphabet during the first year. Some of the claims made by advocates of i.t.a. are unrealistic. School personnel who transfer children before they have attained fluency may not find i.t.a. to be superior to T.O. In addition, great harm can be done to children. It must be kept in mind that the goal is to develop fluency in reading. This fluency can more nearly be attained if the child remains with i.t.a. for a sufficient period. It is hoped that these cautions, clearly justified by the observations made during this experiment, will prevent school districts from trying to transfer students using other than performance standards.

cls
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