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A study designed to identify specific reading skill development among children generally described as disadvantaged is reported. In October 1966 1,057 children in grades 3 through 6 from two New Orleans elementary schools were tested in intact classroom groups using the reading subtest of the Metropolitan Achievement Test (MAT), the Silent Reading Diagnostic Tests (SRDT), and the California Test of Mental Maturity (CTMM), Long Form. Computer histogram analyses of raw score data were made by class and grade level for each school and for the combined schools and were then considered in terms of the percentage of pupils in each grade scoring at or above grade placement level on the SRDT. Findings showed that visual analysis skills tended to develop at a rate consistent with normal growth, while other skills developed more slowly. The most severe disabilities were found in the area of phonetic knowledge at the higher grade levels. It was concluded that disadvantaged children were not necessarily retarded in all areas of reading skill development and that specific diagnosis was necessary for prescription of instructional strategy. References and tables are included. (MD)

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## SPECIFIC READING DISABILITIES OF DISADVANTAGED CHILDREN

Research Report: Specific Reading Abilities and Needs

### Purpose of the Study

Among the most pressing concerns in the education of disadvantaged children are those learnings which fall in the general area of language development. From the standpoint of specific classroom instruction, reading is generally regarded as being most singularly crucial.

The emphasis upon the individual nature of learning has extended the concept of diagnosis from clinical concern for children with specific instructional disabilities to the general area of classroom learnings. Unfortunately, the label "disadvantaged", which has been adopted to describe an accumulation of varied characteristics, is too freely used to identify individuals who may in fact possess only a limited number of these characteristics. Thus, individuals or groups manifesting only the most obvious learning behaviors attributed to the "disadvantaged" are frequently considered to have all possible characteristics of this nature.

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Through the same illogical reasoning, individuals or groups which have developed a given level of competence in terms of general reading achievement are frequently considered to have reached equivalent levels of growth in all aspects of reading skill development. In addition to being inconsistent with research findings, this is, of course, incompatible with a diagnostic approach to the teaching-learning situation.

In an attempt to clarify at least one aspect of the larger problem, a study was designed to identify specific reading skill development among children generally described as disadvantaged.

#### Procedures

The population for this study consisted of 1,057 children in grades 3-6 in two elementary schools in New Orleans, Louisiana.<sup>1</sup> During the month of October, 1966, each subject was given an appropriate level of the Reading Subtest of the Metropolitan Achievement Test (MAT) and the Silent Reading Diagnostic Tests (SRDT) by Bond, Clymer, and Hoyt, as well as the California Test of Mental Maturity (CTMM), Long Form. Since each of these instruments is intended for group administration, the subjects were tested in intact classroom groups.

The California Test of Mental Maturity is designed to determine the rate and scope of mental development of five factors: logical reasoning, verbal concepts, spatial relationships, numerical reasoning, and memory. Within

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<sup>1</sup>The New Orleans Education Improvement Project (NOEIP) provided the setting for this research. This project, funded by the Ford Foundation, was established as a compact of schools and colleges to improve the education of disadvantaged children in two intact elementary schools in New Orleans. The authors served as consultants to this project at the time during which the research reported in this paper was conducted.

these factors, the test units are grouped into two sections, Language and Non-Language. The Reading Subtest of the Metropolitan Achievement Test provides a measure of general ability in reading comprehension, while the Silent Reading Diagnostic Tests are designed to evaluate specific areas of word recognition. The SRDT provides information concerning the location within a word where the child tends to make errors in silent reading as well as measures of ability to recognize words in isolation and in context, to locate root words and other word elements, to syllabify, and to synthesize words. In addition, knowledge of word elements, beginning sounds, rhyming sounds, and letter sounds are also evaluated.

#### Analysis of the Data

Computer histogram analyses of the raw score data obtained from this testing were made by class and grade level for each school and for the combined schools.<sup>2</sup> This type of analysis was selected because it provided a methodology for the visual as well as statistical examination of (1) score distributions; (2) means, quartiles and ranges; (3) comparisons among classes at a given grade level; and (4) individual pupil disabilities and strengths. It was therefore useful to the project teachers as well as to the investigators. For purpose of analysis, data obtained from the eleven subtests which comprise the SRDT were combined into the five diagnostic categories suggested in the test manual: Recognition Pattern (Words in Isolation, Words in Context); Orientation

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<sup>2</sup>The New Orleans Education Improvement Project began its first operational school year in September, 1966. During the Fall of 1966, attention was also directed to the collection of base line data concerning pupil demographic, aptitude, and general achievement variables. Statistical analyses of these data revealed that the pupil populations of the two NOEIP schools were drawn from a homogeneous economic, social, and ethnic population and that these populations were equally homogeneous in terms of academic performance. No significant differences were found between the means of the two school populations in any variable tested.

(Reversible Words in Context); Visual Analysis (Locating Elements, Syllabication, Locating Root Words); Phonetic Knowledge (Word Elements, Beginning Sounds, Rhyming Sounds, Letter Sounds); and Word Synthesis. (Due to limitations of space, the computer histograms are not included here. Sample copies may be obtained from the authors upon request.)

These data were then considered in terms of the percentage of pupils in each grade scoring at or above grade placement level on the SRDT. Reading expectancy levels based on IQ.'s obtained through the administration of the CTMM were computed for each grade group.<sup>3</sup> From these data, the percentages of expectancy level achievement were computed for mean grade scores on the Reading Subtest of the MAT and the five subtest categories of the SRDT.

### Findings

Data presented in Table I show that Visual Analysis skills tended to develop at a rate consistent with relatively normal growth for these pupils. However, development in all other areas decelerated, as indicated by the successively smaller percentages of children who met the grade level criteria for reading achievement.

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<sup>3</sup> Expectancy levels were computed based on the formula: (Years in school: x IQ.) + 1.0, as suggested by Guy L. Bond and Miles A. Tinker in Reading Difficulties-Their Diagnosis and Correction, New York: Appleton-Century-Crofts, 1957, p. 78.



TABLE I  
 PERCENTAGE OF PUPILS SCORING AT OR ABOVE GRADE LEVEL  
 NORMS ON SILENT READING DIAGNOSTIC TESTS (SRDT)

Subtest Category (SRDT)	Grade			
	III	IV	V	VI
Recognition Pattern (Tests 1 and 2)	36	31	20	05
Orientation (Test 3)	35	26	27	21
Visual Analysis (Tests 4, 5, 6)	47	37	43	44
Phonetic Knowledge (Tests 7, 8, 9, 10)	24	09	10	04
Word Synthesis (Test 11)	60	17	07	03

As shown in Table II, the mean grade equivalent score obtained on the Reading Subtest of the MAT at each grade level was not only lower than the chronological grade equivalent score but also lower than the reading expectancy level.

TABLE II  
 EXPECTANCY LEVELS, MEAN READING SUBTEST SCORES (MAT),  
 PERCENTAGE OF EXPECTANCY LEVEL ACHIEVED

Grade	Expectancy	Mean Grade Equivalent	Percentage of Expectancy Level Achieved
		<u>Reading Subtest</u> (MAT)	
III	2.8	2.5	89
IV	3.6	3.1	80
V	4.3	3.5	81
VI	5.4	4.4	80

\*Based on Formula: (Years in School x I.Q.) ÷ 1.0

While pupils at the third grade level were not generally retarded in any silent reading skill, Table III indicates the extent to which disabilities in specific diagnostic categories became increasingly severe at succeeding grade levels. The single exception involved those skills concerned with the ability to use visual approaches to word recognition (Visual Analysis).

TABLE III  
PERCENTAGES OF EXPECTANCY LEVELS ACHIEVED  
ON SUBTEST CATEGORIES (SRDT)

Subtests Category (SRDT)	Grade			
	III	IV	V	VI
Recognition Pattern (Tests 1, 2)	100	92	77	68
Orientation (Tests 3)	100	86	74	68
Visual Analysis (Tests 4, 5, 6)	104	100	93	93
Phonetic Knowledge (Tests 7, 8, 9, 10)	93	80	81	74
Word Synthesis (Test 11)	110	92	83	74

In the general area of word recognition techniques, the greatest strengths were found in the area of visual analysis, and the most severe disabilities were found in the area of phonetic knowledge. It would also appear that those visual analysis skills which were acquired were not sufficient for effective word recognition, word synthesis, or comprehension.

From these findings, it is clear that disadvantaged children with restricted levels of competence are not necessarily retarded in all areas of reading skill development. In fact, they frequently possess specific

strengths in reading skills. It is equally clear that specific diagnostic information must be obtained if appropriate instructional strategies and effective remedial prescriptions are to be developed for children classified as disadvantaged.