

THE RELATIONSHIP BETWEEN READING COMPREHENSION AND INTELLECTUAL FACTORS FOR PHONETICALLY DEFICIENT FOURTH GRADE STUDENTS

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Cognizance of continued interest by educators in two important areas led to a recently completed study in North Carolina. These areas are: (a) the nature of intelligence as evidenced by continuous psychological research which indicates a multi-phasic constitution of mental ability and (b) phonics and its function in the teaching and improvement of reading instruction. Although previous research has shown the relatedness of phonetic knowledge to reading and spelling, no study has used phonetic deficiency and normal intelligence or above-normal intelligence as controls for a study group.

Problem

The study attempted to find if any components of intelligence appear to be more relevant for good readers who have a phonetic deficiency.

Procedure

The first step consisted of selecting phonetically deficient students. This was done by administering the McKee Inventory of Phonetic Skills tests to all the fourth grade students in the city of Raleigh. Fourth-graders were selected because most of the basic phonetic skills are usually taught during or before the fourth year of school. The study group was taken from those showing an over-all phonetic skill handicap. This group was further reduced to seventy-four by eliminating students of below normal general intelligence as indicated on school records.

The study group was administered a reading test and an intelligence test. Reading achievement, computed in terms of grade norms, was measured by the Durrell-Sullivan Reading Achievement Tests, Form A. The Primary Mental Ability Test, Form AH, which distinguishes nine areas of intelligence, was also administered to the test group. Scores from these tests were correlated to determine the degree of relationship between the intellectual factors and measures of reading achievement.

Analysis of Data

Table 1 shows the distribution of median percentile scores made on the intelligence tests. The reference percentile distribution was that supplied by the test authors which was based on a representative sample of fourth-grade students.

Table 1

Distribution of Median Percentile Scores on Primary Mental Abilities tests made by seventy-four phonetically deficient fourth-grade students

Primary Mental Ability	Median Percentile Score
Word Meaning	64
Picture Meaning	55
Total Verbal Ability	65
Space	58
Word Grouping Ability	54
Figure Grouping	66
Total Reasoning	61
Perception	75
Number	73

The students involved in the study had a grade placement of 4.7 at the time the reading achievement score was 5.3. This median reading achievement score suggests that phonetically deficient students of normal or above-normal intelligence can read much better and with greater understanding than their grade placements might indicate.

To determine the relatedness of separate measures of mental ability to reading achievement, reading scores were correlated with each of the nine measures of primary mental ability.

Table 2 shows the correlations between reading achievement and aspects of intelligence. The data indicate that picture meaning, total verbal ability, and word grouping are highly related to reading achievement among phonetically deficient students.

Table 2

Correlations between Reading Achievement and
Primary Mental Ability of phonetically
deficient fourth-grade students

Tests of Primary Mental Ability	r
Words	.80 *
Pictures	.63 *
Total Verbal	.79 *
Space	.38 *
Word Grouping	.62 *
Figure Grouping	.13
Total Reasoning	.45 *
Perception	.40 *
Number	.33 *

* Significant at .05 level

Conclusions

Among the conclusions drawn from the data, these seem significant:

Reading achievement beyond the grade norms for a group of fourth-graders is not dependent upon a profuse knowledge of phonetic word attack devices even though there is ample evidence to show phonetic knowledge is positively related to reading achievement.

Mental abilities as measured by tests of word meaning, picture meaning, and word grouping tests, appear to be the most important to phonetically deficient fourth-graders for successful reading. The implication seems to be that intelligence reflecting an ability to see and visualize words and forms in their entirety minimizes the need for dependence upon phonetic instruction for reading with meaning and understanding.