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FACTORS ASSOCIATED WITH TEACHER KNOWLEDGE OF READING AT THE SECONDARY LEVEL*

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Though widespread use is made of nonprint media to enrich and supplement teaching, most academic learning takes place through the study of printed materials. The secondary school relies heavily on textbooks for its daily work in the classroom. Secondary teachers are, therefore, expected to teach reading skills in their particular content areas. Most colleges and universities offer one or more classes in reading instruction for teachers in training. Bader (1975) indicates that more and more institutions in the United States are requiring prospective secondary teachers to take at least one course in reading as a part of their certification requirements.

Several studies have identified the variables associated with teacher knowledge of reading at the *elementary level*. Wade (1960) administered a test of teacher skills used in the teaching of reading. He found that inservice teachers scored higher than preservice teachers.

Sabin (1973) administered the *Teaching Tasks in Reading—Form C* to 345 teachers and prospective teachers enrolled in a reading methods course at Ball State University. He found that the relationship between the amount of teaching experience and instructional competencies in reading was negligible. He further found that females scored higher than males.

Kingston, Brosier and Hsu (1975) administered the *Inventory of Teacher Knowledge of Reading* to undergraduate students, teachers, and reading specialists. The mean score of the reading specialists was the highest and that of the undergraduate students without reading course(s) was the lowest. The differences between the mean scores of the reading specialists, elementary teachers, and secondary teachers were also found to be highly significant.

Vanroosendaal (1975) also used the *Inventory of Teacher Knowledge of Reading* and found no significant difference in the mean total score between the primary and intermediate teachers.

PROBLEM

This study was an attempt to examine the status of teacher knowledge of reading at the secondary level and to investigate the fac-

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tors which may have contributed to that knowledge. Factors selected were: inservice, amount of experience, level of teaching, coursework in reading, field of specialization, and sex.

METHOD

Instrument

The Test of Teacher Knowledge of Reading (TTKR) consisting of 45 multiple-choice items covering the following topics was used:

- I. GENERAL BACKGROUND
 - A. Reading and Reading Problems
 - B. Nature and Difficulty of Material
- II. READING SKILLS
 - A. Word Recognition and Vocabulary
 - B. Comprehension
 - C. Study Skills
- III. INSTRUCTIONAL STRATEGIES
 - A. Motivational Techniques
 - B. Lesson Plans and Study Guides
- IV. MEASUREMENT AND EVALUATION
 - A. Reading Tests
 - B. Informal Techniques
 - C. Test Interpretation

The procedure for test construction and validation has been presented elsewhere (Narang, 1976).

Subjects

The Test of Teacher Knowledge of Reading (TTKR) was administered to 188 persons enrolled in eight graduate and undergraduate classes at the University of Oregon during the first week of the 1976 summer session. Subjects were asked to provide background information and their major subject area of preparation. The four most frequently mentioned areas were: English (44), Social Studies (29), Physical Education (20), and Music (15).

RESULTS

The test scores ranged from 11 to 40 with a mean of 24.5. The standard deviation was 6.3 and the standard error of measurement was 3.03.

Comparison 1

The mean scores of inservice teachers and preservice teachers were compared using the t-test to determine if the difference between the two groups was significant. The results were presented in Table 1.

The obtained t-value was significant at the 0.05 level of confidence. Inservice teachers on the average scored significantly higher than preservice teachers.

TABLE 1
COMPARISON OF INSERVICE TEACHERS AND
PRESERVICE TEACHERS SCORES

Groups	N	Mean	t-value
Inservice Teachers	124	25.4	2.42*
Preservice Teachers	64	23.1	

*p .05

Comparison

In order to determine if reading course(s) taken by the subjects in this study was related to performance on the Test of Teacher Knowledge of Reading, the mean score of those with a reading course(s) was compared with the mean score of those with no reading course. Table 2 presents the results.

TABLE 2
COMPARISON BETWEEN PERSONS WITH
AND WITHOUT A READING COURSE(S)

Groups	N	Mean	t-value
Persons with reading course	91	26.7	4.79*
Persons without reading course	97	22.5	

*p .05

The t-value obtained was significant at the 0.05 level of confidence. Persons who had taken a reading course(s) achieved significantly higher than those without course work in reading.

Comparison 3

The performance of male and female pre- and inservice teachers was compared using the t-test. The data is presented in Table 3.

TABLE 3
COMPARISON BETWEEN MALES AND FEMALES

Groups	N	Mean	t-value
Male	92	24.3	.60
Female	96	24.8	

The results show no significant difference between the two groups in their knowledge of reading.

Comparison 4

The junior and senior high school teachers were compared on the basis of their performance on the test. (Those who had taught at both levels were not included.) The results are presented below in Table 4.

TABLE 4
PERFORMANCE OF JUNIOR AND SENIOR
HIGH SCHOOL TEACHERS

Teachers	N	Mean	t-value
Junior High	56	26.0	1.66
Senior High	40	23.9	

The obtained t-value is less than the tabular value of t. Thus, there was no significant difference between the junior and senior high school teachers in terms of their knowledge of reading.

Comparison 5

A comparison by means of one-way ANOVA was made between the teacher groups based on their teaching experience. There were 90 teachers who had taught from one to five years, 20 teachers from six to ten years, and 14 teachers for 11 or more years. Table 5 presents the summary of analysis of variance.

TABLE 5
ANOVA COMPARING TEACHER SCORES
GROUPED BY EXPERIENCE

Source	N	Sum of Squares	MS	F
Between groups	2	19.88	9.94	0.252
Within groups	121	388.31	39.49	

The F ratio obtained was not significant. Thus, it seems that experience does not contribute to the variance in teacher knowledge of reading.

Comparison 6

In order to determine if the major teaching field of the persons taking the test had any influence on their scores on the Test of Teacher

Knowledge of Reading, three groups, each representing at least 10% of the population, were compared by one-way ANOVA. These groups were: English (44), Social Studies (29), Physical Education (20). The summary of analysis of variance is presented in Table 6 below:

TABLE 6
ANOVA COMPARING TEACHER SCORES
GROUPED BY TEACHING FIELD

Source	N	Sum of Squares	MS	F
Between groups	2	120.31	60.29	1.46
Within groups	90	3716.23	41.29	

The F-ratio obtained was not significant. It was, therefore, concluded that the teaching field or the content area of teachers did not contribute to their knowledge of reading.

DISCUSSION

The findings of comparisons # 1, 2, 4, and 5 are in agreement with previous studies involving *elementary teachers* reported earlier. The finding of comparison #3 is contrary to what Sabin (1973) found. In his study females scored significantly higher than males. However, he cautions that the small number of males in his study (25 males vs. 221 females) may be a factor limiting the generalizability of his finding to a large population in which males would be represented in large numbers. The finding of comparison #6 is contrary to expectation. This may have occurred because the subject-matter categories in this study consisted of both inservice and preservice teachers.

The finding of comparison #2 suggests that a reading course adds to the teacher knowledge of reading. This is perhaps not surprising in view of the nature of the instrument used. One would hope that a course in reading would aid teachers in understanding the reading process and in applying reading skills in their content areas, thereby increasing student competence in dealing with the printed materials. Any conclusion concerning the relationship between high school teacher scores on the TTKR, and teacher effectiveness in dealing with reading problems in the field must, however, await further study.

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