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ABSTRACT

A questionnaire that had been devised to measure teacher attitudes toward reading instruction, their perceptions of others' expectations that they will incorporate reading skills instruction into their classes, and their knowledge of reading instruction methods was administered to 253 secondary school content area teachers and to 51 preservice teachers in various subject areas. The content area teachers were from eight different schools, one of which was engaged in a year-long program of inservice training in reading instruction. Of the preservice teachers, 20 were enrolled in a course in reading in the secondary school. Analysis of their responses revealed that teachers in the inservice program and preservice teachers in the reading class scored higher than their colleagues in working knowledge of reading instruction methods and had more positive attitudes toward reading and reading instruction. These teachers were also more likely than their untrained colleagues to perceive others as expecting them to be involved with reading instruction. (FL)

READING IN CONTENT AREAS:

A COMPARATIVE STUDY OF ATTITUDES, PERCEPTIONS, AND PRACTICES OF PRESERVICE AND INSERVICE SECONDARY TEACHERS

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READING IN CONTENT AREAS: A COMPARATIVE STUDY OF ATTITUDES, PERCEPTIONS, AND PRACTICES OF PRESERVICE AND INSERVICE SECONDARY TEACHERS

Development of reading skills does not end when a child leaves elementary school. Demands of secondary education, rather, require that the students begin to generalize those skills to a wide variety of content areas. Teaching reading in secondary schools continues to be important, although the emphasis shifts from global skills of word recognition and comprehension to the specialized skills incorporated into the study of each content area.

However, we know that secondary teachers often have little or no training in teaching reading (Braam & Walker, 1973; Wilson, 1978). Traditionally, and understandably, they have seen their task as that teaching content and concepts specific to their discipline. Their attitudes toward incorporating reading skills in their classes have been assessed and found to vary across disciplines (Vaughan, 1977; Usova, 1978), and between teachers with and without training (O'Rourke, 1980). Perceptions of their own skills in teaching reading have also been examined (Wilson, 1978), as have the effects of training on attitudes and practices (Askov, Dupuis, & Lee, 1978; Lapp, Lamson, & Duefer, 1978).

Unexplored, but critical, issues remain: (a) What are the correlative relationships among attitudes, knowledge of reading skills, and teachers' perceptions of <u>others'</u> expectations that they will incorporate reading skills into content classes? (b) Will the expectations of others make them change their minds, seek training, or use new skills? (c) How should

training be offered? (c) When should training be attempted? With these questions as focus and inspiration, the present study was developed to begin to find preliminary answers with local implications for preservice and inservice teacher training.

Procedure

The investigators developed a questionnaire to examine three aspects of reading in the secondary schools. The first aspect, teachers' attitudes toward teaching reading, was measured by the Vaughan Attitude scale (Vaughan, 1977). The investigators used an instrument to measure the other two aspects: perceptions of who, if anyone, expects teachers to teach reading skills and how much they know and use techniques for teaching reading in their classrooms.

The questionnaires were distributed to all secondary-level teachers in a suburban school district at three high schools (Schools 1, 2, and 3) and five junior high schools (Schools 4, 5, 6, 7, and 8). Teachers in the school identified as School 1 were engaged in a year-long program of teacher inservice in reading at the time the instrument was administered. Other schools had little or no inservice in reading. Of the surveys sent to inservice teachers, 253, or 54 per cent, were returned.

The questionnaire was also distributed to 51 preservice teachers at the University of Washington. Twenty of these students were taking a course in

reading in the secondary school at the time of administration; the remaining 31 were aware that they would take this required course within the next two quarters.

A numerical score was derived for each aspect of the instrument, each of which was considered separately. The results, analyzed through factor analysis and analysis of variance, follow. Because of its intensive program of inservice, School 1 was used as the point of comparison for each of the seven secondary schools and for the University of Washington preservice teachers for each portion of the discussion. Scheffe's test of significance was also used to analyze each factor. This test examines any and all comparisons between the schools rather than examining the relationship of each school only to School 1. Scheffe's test was especially useful for the items on which School 1 teachers did not score the highest mean. Results are reported for this analysis only when significance was shown.

Comparison by Schools

Attitude Scale

Two factors were identified through factor analysis from the first fifteen items on the instrument, which were taken from the Vaughn Attitude Scale. The first factor consisted of all items; a high score on this factor indicates a more favorable disposition to the notion of reading skills being taught in content classes than those with low scores. On this

measure, all groups except School 4, School 6, and the preservice teachers differed significantly (p. 5) from the School 1 teachers. This indicates that the attitudes of the teachers in these three groups were as favorable toward reading in the content areas as those of the group that received the most training, although the School 1 teachers still produced the highest group mean (40.9159; see Table 1).

Table 1
Attitudes: Total Scale

School	Mean	P
School 1	40.9159	
School 2	37.9536	.031*
School 3	37.6132	.037*
School 4	39.7287	.474
School 5	35.5027	.001*
School 6	38.4492	.133
School 7	37.3706	.022*
School 8	35.5158	.000*
Preservice	39.4633	.296

* Significant; $p < .05$

The second factor consisted of items that are basically "negative" to reading instruction, with the heaviest factor loadings on items #3, 5, 7, and 9. A low score on these items indicates that teachers feel that content teachers should be primarily responsible for content, while reading and language arts teachers should be concerned about reading instruction. A high score indicates an attitude of shared responsibility for reading instruction. Again, School 1 teachers had the highest group mean (4.9885).

At this time, only one school, School 5, differed significantly from this mean. This indicates that the teachers at the latter school may perceive reading instruction as outside their area of responsibility; more separation between the roles of the content and reading teachers on the part of this latter group can be interpreted from these results (see Table 2).

Table 2
Attitudes: Factor 1

School	Mean	P
School 1	4.9885	
School 2	4.6485	.275
School 3	4.6354	.323
School 4	4.7909	.599
School 5	4.2281	.037*
School 6	4.7117	.456
School 7	4.7229	.446
School 8	4.5061	.148
Preservice	4.7510	.451

* Significant; $p < .05$

Taken together, these two factors indicate that School 1 teachers display the most favorable attitudes toward teaching reading and the greatest receptivity toward shared responsibility. They are not completely alone in these attitudes, but for them, these trends are more consistent and pronounced.

Expectations of Others

The second section of the instrument was designed to find out if teachers perceive others to expect them to teach reading; and, if they have these perceptions, to whom they attribute the expectations. In the first analysis, total scores were examined. All groups scored relatively low on this section, with School 1 teachers again scoring the highest ($\bar{X}$ = 17.4793; highest possible score = 49). All other groups scored significantly lower than this mean except for School 3 and the preservice teachers (see Table 3). On this item, Scheffe's test indicated significant

Table 3
Perceptions--General: All Items

School	Mean	P
School 1	17.4793	
School 2	15.1729	.014*
School 3	15.8825	.135
School 4	15.0039	.028*
School 5	14.2735	.003*
School 6	15.1929	.040*
School 7	14.4587	.004*
School 8	12.9441	.000*
Preservice	15.7484	.068

* Significant; $p < .05$

differences between School 1 and School 8. Some of the preservice teachers were receiving training in teaching reading during the time the questionnaire was administered; a reasonable conclusion that is also supported

intuitively is that any kind of training leads one to think that someone expects the behavior to occur.

Through factor analysis, the perception items loaded onto two factors. These were identified as the expectations of authority figures, with the heaviest loadings on school administrators, local university education professors, local university content-area professors (items #18, 19, and 20), and proximate figures, with the heaviest loadings on local university education professors, local content-area professors, and teachers of the same sorts of classes (items #19, 20, and 21). Results differed among groups on these two factors. On the authority factor, the preservice teachers scored the highest mean (3.7163); Scheffe's test found significant differences between this group and the teachers at School 8. School 1 teachers scored the second highest mean (3.4770); analysis of variance found School 2, School 6, and School 8 scoring significantly lower than this mean (see Table 4). Since School 1 was the point of comparison for all other groups, comparisons were not made between the preservice teachers and the others, even though they scored the highest on this factor.

The results for the proximate-figure factor are quite different. The School 1 teachers again scored the highest mean (4.7174), indicating that they feel the greatest degree of expectation from proximate figures to teach reading skills. This result is not surprising since training took place in this building. On this factor, every group except the School 6

Table 4

Perceptions--Factor 1: Au[illegible]y (Items 18, 19, 20)

School	Mean	P
School 1	3.4770	
School 2	2.8852	.044*
School 3	3.0543	.207
School 4	3.1096	.297
School 5	3.0569	.219
School 6	2.7683	.043*
School 7	3.1033	.257
School 8	2.6029	.006*
Preservice	3.7163	.421

* Significant; $p < .05$

teachers scored significantly lower than the School 1 teachers (see Table 5). Scheffe's test showed significant differences between School 1 and School 8, the group with the lowest mean.

The preservice teachers stand out from the other groups on this portion of the instrument. Results from them must be considered from a different perspective. For this group, the proximate figures are not school administrators, but the local university professors, who were included in what was identified as the authority group for inservice teachers. At the same time, the proximate figures for inservice teachers are not significant factors to first-quarter teacher trainees for they have had little contact with public-school personnel at this stage of their training.

Table 5
Perceptions--Factor 2: Proximity (ITEMS 19, 20, 21)

School	Mean	P
School 1	4.7174	
School 2	4.1618	.021*
School 3	4.1503	.040*
School 4	3.9548	.009*
School 5	3.7065	.000
School 6	4.1875	.065
School 7	3.8052	.001*
School 8	3.6786	.000*
Preservice	3.9098	.001

* Significant; $p < .05$

Knowledge of Reading Skills Instruction

The final section of the instrument was intended to measure how knowledge of reading instruction was implemented in classroom practice. Three factors were identified through factor analysis. For the preservice teachers, a built-in bias operated: Because they were not yet teaching, they could not possibly score as high as the inservice teachers. In fact, the highest possible total score for the preservice group was nine points lower than that for the inservice groups, and three points lower for each of the three identified factors. In spite of this, three inservice groups scored below the mean of the preservice group on the first factor, with heaviest loading on the teaching of skimming and understanding words through context, scanning, surveying, and SQ3R (items #1, 2, 3, and 6):

Schools 8, 5, and 7. On this measure, School 6 scored the highest mean (2.4867), while School 1 scored second highest on this factor (see Table 6). The only group to score significantly lower than the School 1 group was School 8.

Table 6
Knowledge Factor 1 (Items 1, 2, 3)

School	Mean	P
School 1	2.4741	
School 2	2.3389	.451
School 3	2.2975	.391
School 4	2.3987	.727
School 5	2.2154	.217
School 6	2.4867	.953
School 7	2.2639	.295
School 8	2.0832	.042*
Preservice	2.2916	.315

* Significant; $p < .05$

The second factor on this portion of the instrument was derived from procedures less easily identifiable as reading instruction: teaching parts of a book and the two vocabulary items (items #4, 5, and 6). The School 1 group scored the highest mean (3.8374), as was expected. On this factor, four groups scored significantly lower than the School 1 teachers: Schools 3, 4, 8, and the preservice teachers, who again could not score as high as the inservice groups (see Table 7). This indicates that, while the School 1 teachers are the most likely to teach the items in this factor, other teachers from some other schools with less training are doing so also.

Table 7
Knowledge Factor 2 (Items 4, 5, 6)

School	Mean	P
School 1	3.8374	
School 2	3.5533	.072*
School 3	3.2671	.002*
School 4	3.3991	.022*
School 5	3.5062	.073
School 6	3.6017	.211
School 7	3.5229	.076*
School 8	3.5087	.052*
Preservice	3.3071	.001*

* Significant; $p < .05$

The third factor identified in this category consisted of knowledge of concept development models (items #7, 8, and 9). The preservice teachers, again at a disadvantage in scoring, did, however, produce the highest mean. This indicates that such knowledge may be a greater concern in their university classes. No group differed significanty from the School 1 teachers (see Table 8), but preservice teachers differed significantly from all other groups.

Comparison by Content Areas

In a final analysis, comparisons were made between teachers in different content areas grouped across schools. The point of comparison in this analysis was reading teachers (group 4), as measured against teachers in

Table 9
Attitudes: Total Scale

Group		Mean	P
4	Reading	45.8344	--
1	Language Arts/Social Studies	38.6685	.000*
2	Math/Science	36.9951	.000*
3	All Others	36.7870	.000*

* Significant; $p < .05$

the total scores, reading teachers were significantly more inclined to see reading instruction as a shared responsibility than the other three groups (see Table 10) who followed in descending order of mean size: language

Table 10
Attitudes Factor 1

Group		Mean	P
4	Reading	5.9667	--
1	Language Arts/Social Studies	4.7263	.052*
2	Math/Science	4.7193	.054*
3	All Others.	4.3626	.017*

* Significant; $p < .05$

arts/social studies, math/science, all other content areas. Scheffe's test showed significant differences between the reading teachers and the group consisting of all other content areas (group 3). This is interesting because the very groups being asked to convey content through reading are the ones displaying the least favorable attitudes toward doing it. The

Table 8
Knowledge Factor 3 (Items 7, 8, 9)

School	Mean	P
School 1	2.3689	
School 2	2.0440	.119
School 3	2.1614	.386
School 4	2.0086	.158
School 5	2.0977	.266
School 6	2.1121	.302
School 7	2.3563	.957
School 8	1.9763	.079
Preservice	2.4312	.768

language arts/social studies (group 1), math/science (group 2), and all other subjects such as foreign languages, business, physical education, and vocational education (group 3). Scheffe's test was used again for this portion of the analysis so that relationships between each pair of groups could be examined as well.

Attitude Scale

On the first factor (positive attitude items toward teaching reading in content area settings), all groups scored significantly lower than reading teachers (see Table 9). They followed, in descending order of mean size: language arts/social studies, other content areas, math/science. Scheffe's test also indicated significant differences between the reading teachers and each other group. On negative attitude items, the factor derived from

reading teachers indicated that they see reading more as a shared responsibility, but those with whom they wish to share it are less inclined to do so.

Expectations of Others

On the total scores concerning perceptions of the expectations of others about the teaching of reading skills, there were no significant differences between the reading teachers and the other groups (see Table 11).

Table 11
Perceptions--General: All Items

Group		Mean	P
4	Reading	15.4644	--
1	Language Arts/Social Studies	15.0882	.795
2	Math/Science	14.9093	.710
3	All Others	15.0770	.788

This result was not expected. It reflects either a more pessimistic perception of the status of reading instruction from the reading teachers or a more favorable view from the content teachers. The relatively low scores from all groups, however, point more strongly toward the former conclusion. A combination is, of course, also possible, but from the data, it is unclear why this result occurred. The order of mean score, in descending order, was reading teachers, language arts/social studies, "other," and math/science.

The means for the two other factors, authority and proximity, reveal similar results. No significant differences were found between the reading teachers and other groups on either factor (see Table 12). For Factor 1,

Table 12

Perceptions - Factor 1: Authority - Factor 2: Proximity

	Factor 1		Factor 2	
Group	Mean	P	Mean	P
4 Reading	3.1067	--	3.9667	--
1 Language Arts/Social Studies	3.3301	.613	3.9072	.871
2 Math/Science	3.0361	.877	3.8891	.837
3 All Others	3.0143	.833	4.1171	.679

authority, language arts/social studies teachers produced the highest mean score (3.3301), indicating, although not to a statistically significant level, that they perceive authority figures to expect them to teach reading to a greater degree than the other groups. They were followed by reading teachers, math/science, and all other groups. On Factor 2, proximity, the other content area group, produced the highest mean (4.1171). Since this group scored the lowest on the first two knowledge factors, perhaps this feeling about authority figures is likely to produce anxiety about perceived responsibilities that they know little about. They were followed by reading teachers, language arts/social studies, and math/science.

For the investigators, who are all involved in inservice and preservice teacher training, low mean scores on these items were rather

disheartening. Unsolicited comments revealed that some of the teachers feel that methods and content professors neither know nor care what occurs at their levels.

Knowledge of Reading Skills Instruction

Not surprisingly, the results from the first two knowledge factors showed significant differences between reading teachers and each of the other groups (see Table 13). The reading teachers, of course, scored the highest means (3.5833 and 4.1711 for factors 1 and 2, respectively). On both factors, the other groups were ranked in descending order: language arts/social studies, math/science, and all other groups. On Scheffe's test, a more complicated set of comparisons resulted. The reading teachers scored significantly higher than each other group on the first knowledge factor. The language arts/social studies teachers, then, scored significantly lower than the reading teachers, but significantly higher than the other two groups. On the second knowledge factor, the reading teachers differed significantly from math/science and "all other" content areas, but not from language arts/social studies teachers. This latter group scored significantly higher than teachers in all other content areas.

For the concept development factor, however, no significant differences were found between reading teachers and the other groups (see Table 14). Basically, the teachers in the sample were relatively unfamiliar with these models, at least by name. The questions do not, of course, tap working

Table 13
Knowledge: Factors 1 and 2

Group	Factor 1 Mean	Factor 1 P	Factor 2 Mean	Factor 2 P **
4 Reading	3.5833	--	4.1711	--
1 Language Arts/Social Studies	2.5600	.000*	3.6708	.000*
2 Math/Science	2.2123	.000*	3.4793	.000*
3 All Others	2.0257	.000*	3.3012	.000*

* Significant; $p < .05$
** Separate variance used instead of pooled variance

Table 14
Activity - B: Concept Development

Group	Mean	P
4 Reading	2.4844	--
1 Language Arts/Social Studies	2.4193	.827
2 Math/Science	1.9900	.109
3 All Others	2.0084	.110

knowledge of such instructional strategies for which the teachers might not have a label, but for which the concept may be clear enough for them to use.