A study was conducted in six Indiana elementary schools to determine whether there was a significant difference between the scores of remedial reading students on three evaluative tests as applied to the skill-content, guidance, and combination approaches of teaching reading. The skill-content approach was aimed directly at teaching reading skills. The guidance approach did not specifically include or exclude skills typically included in teaching children in special reading classes; it was concerned with answering pupil questions about reading skills, understanding self, or social and emotional adjustment. The combination approach combined these two methods. The results of the evaluative tests used—the California Reading Test, the Gray Oral Reading Test, and a special reading teacher rating scale—suggested that focusing on guidance provides experiences for students in special reading classes that lead to initially higher performance on reading achievement tests. This student enthusiasm for reading presumably can be followed profitably by the direct teaching of necessary reading skills. Statistical procedures and tables are included in two appendixes. (BS)
Dr. Joseph M. Lillich, Indiana University

RESEARCH: Comparison of Achievement in Special Reading Classes Using Guidance, Skill-Content, and Combination Approaches.

PURPOSE: The purpose was to determine whether significant differences existed between scores obtained by pupils with reading difficulty on study's instruments as applied to skill-content, guidance, and combination approaches of teaching special reading classes.

CONCLUSION: Focusing on guidance provides experiences for pupils which lead to initially higher performance on reading tests.

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of the study was to determine whether there was a significant difference between the scores obtained by pupils on the study's evaluative instruments as applied to the skill-content, guidance, and combination approaches of teaching reading in special reading classes to children who have reading difficulty.

The hypothesis involved four basic procedures: (1) the analysis of variance and t tests of the mean gains of scores obtained by pupils within the guidance and skill-content approaches; (2) the analysis of variance and t tests of the mean gains of scores obtained by pupils within the guidance and combination approaches; (3) the analysis of variance and t tests of the mean gains of scores obtained by pupils within the skill-content and combination approaches; and (4) the analysis of variance and t tests of the mean gains of ratings obtained by pupils in each approach on a special reading teacher rating scale.

The guidance approach (as used in this study) identified factors of emotional and social adjustment, and provided activities designed to aid in pupil growth. Reading skills typically included in teaching children in special reading classes were not recommended for inclusion in class nor were they identified. It was recognized that the special reading teachers had background and training oriented toward traditional reading instruction rather than guidance techniques, and the guidance approach did not exclude direct reading instruction or utilization of

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reading materials. In fact, wide reading of an independent nature was encouraged and pupil questions were given attention whether related to reading skills, understanding self, or social and emotional adjustment to environment.

The skill-content approach involved activities aimed at teaching directly the skills used in reading such as building a sight vocabulary, phonetic analysis, structural analysis, use of context clues and comprehension development.

The combination approach combined the guidance approach and the skill-content approach. Time was shared equally in class presentation.

Four Indiana school corporations participated in the study. Population centers were located in six elementary school buildings. The population consisted of three hundred sixty children from the intermediate grades. The pupils were from varied socio-economic backgrounds and their intellectual quotients ranged from 87 to 115. Students designated as eligible to participate in special reading classes were more than one year below the reading achievement of their current grade placement. A reading expectancy grade level was determined for each child. The California Reading Test and the Gray Oral Reading Test were used to determine reading levels and achievement. These tests were administered on the first, sixtieth, and one hundred twentieth day of the study. A special reading teacher rating scale was completed on each of the pupils at the completion of the study.
Conclusions

1. The null hypotheses of the study were rejected because the F Ratio was significant at the .01 level of confidence.

2. There was a significant difference in achievement on the California Reading Test, the Gray Oral Reading Test, and the special reading teacher rating scale at all intervals between the mean gains at the .01 level of confidence in favor of the guidance approach over the skill-content approach, and the combination approach over the skill-content approach.

3. There was no significant difference in achievement on the California Reading Test in the mean gains of the guidance approach and the combination approach between the first and sixtieth day and the first and one hundred twentieth day of the study.

4. There was a significant difference in achievement on the California Reading Test between the mean gains at the .05 level of confidence in favor of the guidance approach over the combination approach between the sixtieth and one hundred twentieth day of the study.

5. There was a significant difference in achievement on the Gray Oral Reading Test and the special reading teacher rating scale at all evaluative intervals between the mean gains at the .01 level of confidence in favor of the guidance approach over the combination approach.

6. It would appear that focusing on guidance by the special reading teacher provides experiences for students in special reading
classes which lead to initially higher performance on reading achievement tests in the segments of time utilized in this study. It seems that this initial "freedom to try" which was acquired from the guidance approach by the child would be profitably followed by the direct teaching of reading to the child.

Recommendations

1. This study represents one of the exploratory investigations utilizing a specifically designed guidance approach in the school setting to aid in the social and emotional adjustment of children to their environment. Further basic research with children in this area is strongly recommended. The possibility of utilization of similarly directed guidance approaches for children who are achieving below expectations in academic areas other than reading, or the utilization of the guidance approach in the regular classroom should be investigated.

2. A similar study using different population samples based on different types of environmental stratification would broaden understanding of the possibilities of appropriate guidance approach use.

3. Studies should be expanded beyond the scope of this investigation to include the utilization of additional standardized and informal testing for both reading achievement and personality rating.

4. Studies might well expand the rationale framework of the guidance approach to incorporate teacher judgments of materials and lesson frameworks, and a coordination of all materials for a consistency of quality.
5. A longitudinal study could be undertaken to determine the lasting effects of the guidance approach upon children as they cope with their reading difficulties. It is suggested that such a study be of sufficient length to follow pupils from grades four through nine. This would provide evidence regarding both initial and long-range impact on pupil achievement of such an instructional program. Evidence may be gathered indicating the most appropriate grade level, time length, and extent of total curriculum commitment for such guidance oriented approaches.

6. Further investigation in time period combination may help to determine the appropriate balance of the direct teaching of reading and utilization of specifically designed guidance approaches.

7. It is strongly suggested that undergraduate and graduate teacher training programs include experiences which would enable teachers effectively to incorporate the understanding of guidance procedures into their teaching.
STATISTICAL PROCEDURES

The data were analyzed by analysis of variance and subsequent t tests. The null hypothesis was tested at the .01 and .05 levels of confidence.

The F Ratio, derived from analysis of variance, refutes the null hypothesis for means by demonstrating differences which would be unlikely to have occurred by chance. The test assumes normality of the sample and that the groupings within the sample have equal variance. The F Ratio was used to indicate differences in means obtained on seven variables by the three teaching approaches.

The t tests evaluated mean differences obtained on the seven variables between the three teaching approaches when the F Ratio had refuted the null hypothesis.

Examination of the Null Hypothesis

Null Hypothesis 1. There are no significant differences between the means of the scores achieved on the California Reading Test and the Gray Oral Reading Test between the first and sixtieth days, the sixtieth and one hundred twentieth day, and the first and one hundred twentieth day of the study by pupils in:

a. Guidance approach sections and skill-content approach sections.

b. Combination approach sections and guidance approach sections.

c. Skill-content approach sections and combination approach sections.

The null hypothesis was rejected because the F Ratio was significant at the .01 level of confidence. (See Table 8)

The t tests were utilized to analyze mean differences pair-wise among the three teaching approaches. The t of critical difference was employed. (See Table 9) The critical difference formula, $d = t \sqrt{\frac{2m_{sw}}{n}}$, was used. Conclusions based on the t tests follow:

1. Mean gains by approach sections on the California Reading Test between the first and sixtieth day of the study were:

a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, and the combination approach over the skill-content approach.

b. Not significant between the guidance and the combination approaches.
2. Mean gains by approach sections on the California Reading Test between the sixtieth and one hundred twentieth day of the study were:
   a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, and the combination approach over the skill-content approach.
   b. Significant at the .05 level of confidence in favor of the guidance approach over the combination approach.

3. Mean gains by approach sections on the California Reading Test between the first and one hundred twentieth day of the study were:
   a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, and the combination approach over the skill-content approach.
   b. Not significant between the guidance approach and the combination approach.

4. Mean gains by approach sections on the Gray Oral Reading Test between the first and sixtieth day of the study were:
   a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, the combination approach over the skill-content approach, and the guidance approach over the combination approach.

5. Mean gains by approach sections on the Gray Oral Reading Test between the sixtieth and one hundred twentieth day of the study were:
   a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, the combination approach over the skill-content approach, and the guidance approach over the combination approach.

6. Mean gains by approach sections on the Gray Oral Reading Test between the first and one hundred twentieth day of the study were:
   a. Significant at the .01 level of confidence in favor of the guidance approach over the skill-content approach, the combination approach over the skill-content approach, and the guidance approach over the combination approach.

Null Hypothesis 2. There are no significant differences between the means of the special reading teacher scale ratings obtained by pupils in:
   a. Guidance approach sections and skill-content approach sections.
   b. Combination approach sections and guidance approach sections.
   c. Skill-content approach sections and combination approach sections.
The null hypothesis was rejected because the F Ratio was significant at the .01 level of confidence. (See Table 8)

The t tests indicated that there was a significant difference in means at the .01 level of confidence in favor of the guidance approach over the skill-content approach, the combination approach over the skill-content approach, and the guidance approach over the combination approach. (See Table 9)
TABLE 8

TESTS OF THE SIGNIFICANCE OF DIFFERENCES IN MEANS OF THREE TEACHING APPROACHES OF EACH EVALUATION INSTRUMENT USING ANALYSIS OF VARIANCE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F. Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>California Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>4.1304</td>
<td>2.0652</td>
<td>11.2392*</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>65.5983</td>
<td>0.1837</td>
<td>11.2392*</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>359</td>
<td>69.7286</td>
<td></td>
<td></td>
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<td><strong>California Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>1.2301</td>
<td>0.6150</td>
<td>16.6103*</td>
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<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>13.2186</td>
<td>0.0370</td>
<td>16.6103*</td>
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<tr>
<td></td>
<td>Total</td>
<td>359</td>
<td>14.4486</td>
<td></td>
<td></td>
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<tr>
<td><strong>California Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>9.7101</td>
<td>4.8550</td>
<td>28.5710*</td>
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<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>60.6645</td>
<td>0.1690</td>
<td>28.5710*</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>359</td>
<td>70.3746</td>
<td></td>
<td></td>
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<tr>
<td><strong>Gray Oral Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>24.0127</td>
<td>12.034</td>
<td>30.0777*</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>142.5066</td>
<td>0.392</td>
<td>30.0777*</td>
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<tr>
<td></td>
<td>Total</td>
<td>359</td>
<td>166.5193</td>
<td></td>
<td></td>
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<td><strong>Gray Oral Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>4.0041</td>
<td>2.0020</td>
<td>26.9051*</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>26.5646</td>
<td>0.0744</td>
<td>26.9051*</td>
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<td></td>
<td>Total</td>
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<td>30.5686</td>
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<td></td>
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<td><strong>Gray Oral Reading Test</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>44.5502</td>
<td>22.2751</td>
<td>62.0950*</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
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<td>128.0653</td>
<td>0.3537</td>
<td>62.0950*</td>
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<td></td>
<td>Total</td>
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<td>172.6156</td>
<td></td>
<td></td>
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<td><strong>Special Reading Completed on one hundred twentieth day</strong></td>
<td>Between Groups</td>
<td>2</td>
<td>2723.4941</td>
<td>1361.7470</td>
<td>85.2637*</td>
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<tr>
<td></td>
<td>Within Groups</td>
<td>357</td>
<td>5701.6486</td>
<td>15.9710</td>
<td>85.2637*</td>
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<tr>
<td></td>
<td>Total</td>
<td>359</td>
<td>8425.1426</td>
<td></td>
<td></td>
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</tbody>
</table>

*F-ratio significant at .01 level.
TABLE 9

TESTS OF SIGNIFICANCE OF PAIR-WISE DIFFERENCES IN MEANS OF THREE TEACHING APPROACHES ON EACH EVALUATION INSTRUMENT USING THE CRITICAL DIFFERENCE METHOD FOR t

<table>
<thead>
<tr>
<th>Variable Evaluation Instrument</th>
<th>Variable Gain Period</th>
<th>Skill Content Combination Guidance</th>
<th>Differences in Means Pair-Wise</th>
<th>Critical Difference</th>
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</thead>
<tbody>
<tr>
<td>California Reading Test</td>
<td>1st to 60th</td>
<td>.387</td>
<td>.222*</td>
<td>.01    .1419  .10780</td>
</tr>
<tr>
<td></td>
<td>60th to 120th</td>
<td>.152</td>
<td>.083*</td>
<td>.01    .06192 .04704</td>
</tr>
<tr>
<td>California Reading Test</td>
<td>1st to 120th</td>
<td>.547</td>
<td>.299*</td>
<td>.01    .13674 .10388</td>
</tr>
<tr>
<td>Gray Oral Reading Test</td>
<td>1st to 60th</td>
<td>.512</td>
<td>.383*</td>
<td>.01    .21156 .16072</td>
</tr>
<tr>
<td></td>
<td>60th to 120th</td>
<td>.264</td>
<td>.111*</td>
<td>.01    .09030 .06860</td>
</tr>
<tr>
<td>Gray Oral Reading Test</td>
<td>1st to 120th</td>
<td>.793</td>
<td>.477*</td>
<td>.01    .19866 .15092</td>
</tr>
<tr>
<td>Special Reading Teacher Rating Scale</td>
<td>Completed 120th day</td>
<td>3.282</td>
<td>2.2256*</td>
<td>.01    1.3297 .10094</td>
</tr>
</tbody>
</table>

* t test significant at .01 level.
** t test significant at .05 level.