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Integrating Language Activities into Reading Instruction

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This study determines if second grade children, who have been identified as having possible listening comprehension problems and language deficiencies, demonstrate improved reading performance with an integrated reading-language treatment approach. A quasi-experimental design included sixteen children in the experimental group and nineteen subjects in the control group. Six operationally defined language behaviors were studied during eleven weeks of treatment. The data were interpreted to imply that certain aspects of an integrative reading-language approach were effective for reading instruction.

Factors basic to the process of learning to read are adequate linguistic skills, cognitive abilities, perceptual skills, supportive socio-cultural factors, and past experiences (Sawyer & Lipa, 1981). Increasingly, it is being reported that the process of becoming a proficient reader is related to an individual's competency in language skills—the rules governing phonology, morphology, semantics, and syntax. Research documents that major aspects of language development are integral components to a reading program (Anastasiow, 1970; Goodman, 1974; Magee & Newcomer, 1978; McDonnell 1975; Monroe & Rogers, 1964; Snyder, 1981; Vogel, 1977; Wiig & Semel, 1976). Children with deficient language abilities are likely to experience difficulty when presented with a printed code as in the case of reading print. Such children may be unable to build meaning from sound patterns; develop appropriate propositions, utilize given and new information, match the new information with the given information in long term memory storage, and subsequently store the new information in memory (Clark & Clark, 1977).

It was the purpose of this study to determine if second grade children who were low readers and who had been identified as having possible comprehension problems and possible language deficiencies demonstrated improved performance with an integrated reading-language approach. It was speculated that the experimentally treated children would show more gains in reading than the children in the control subgroups, because of the integrated reading-language approach, a procedure employed to incorporate morphological, syntactical and semantic language skills with reading instruction.
Review of Related Literature

Mattingly (1972) emphasized that reading is dependent upon language, and viewed reading as a deliberately acquired language-based skill. Errors produced during oral reading often conform to individually acquired linguistic rules (Weuer, 1970), and readers employ their knowledge of linguistic structures in the identification of words. Frequently, beginning readers expect the orthography to conform to structural patterns similar to their acquired language system. Therefore, a major deterrent to becoming a proficient reader is a language system at variance with the syntactic configurations of the reading material (Wiener & Cromer, 1967). Ryan & Semel (1969) contend that the same linguistic competency used for listening and speaking is used for decoding printed material, and good readers generally correct errors that interfere with the grammatical structure of a sentence while ignoring those which conform to the context. As they synthesize the sentence, they derive the appropriate semantic representation and understand the message.

Illustrative of research on the relationship between language and reading is Berger's (1978) study on listening and reading comprehension. Berger's data were interpreted to suggest that poor readers also were poor listeners and likely to have a reduced ability for comprehending spoken language. Additionally, Semel & Wiig (1975) reported that poor reading skills were accompanied by quantitative delays in syntactic structures. To enhance reading instruction, teachers need to understand language development, integrate selected language-based activities into reading lessons, and help children understand the printed text (Anastasiow, 1970; Doehring, Trites, Patel, & Liedorowicz, 1981; Lundsteen, 1977; Monroe & Rogers, 1964; Semel & Wiig, 1975). The need for documented data on reading instruction is urgent and warrants consideration because of its influence upon academic, social, and vocational advancement.

Method

Subjects

The subjects were 35 middle-class Caucasian second graders who were identified as low readers by their classroom teachers according to criteria established in the school district during the semester preceding the study. Sixteen children were involved in the two experimental subgroups and nineteen in the control subgroups. Of these subjects, there were eighteen girls and seventeen boys, between 84 and 101 months of age. None of the subjects was identified as handicapped and, therefore, none received any special services. Second graders were chosen for this study because it was believed they would have progressed beyond the earliest stages of reading instruction. Furthermore, because there tends to be an increasing number of inflected forms in second-grade reading material (Brittian, cited in Vogel, 1977), it was hypothesized that if the subjects had not mastered the morphological rules of their language, they might have difficulty fully utilizing syntactic and semantic written contextual clues in their reading texts.
Procedures

This study was implemented with a quasi-experimental design involving intact experimental and control subgroups in two schools. Each school had an experimental and control group from two different second grade classes, and each group had a different teacher. For statistical purposes the experimental and control subgroups in the two schools were combined to form one main experimental and one main control group. Eleven weeks of treatment were implemented by the two experimental classroom teachers. A 90-minute workshop was conducted to train them on procedures and treatment, which consisted of the following six language activities integrated with the subjects' Houghton-Mifflin reading texts: following verbal directions (listening and following directions); understanding action in pictures (matching verbally described activity to the pictures); describing objects or pictures (provide descriptions); defining words (explain words with emphases on function, shape, size, color, composition, synonyms, part-whole, comparison, and categorization); using correct grammatical structures (use of correct forms and sentences); and retelling stories (listening and retelling stories).

Test Procedure. The two dependent measures used for pre- and posttesting the effectiveness of the experimental treatment included the Informal Reading-Language Test (Lange, Sanger & Stick, 1983) and the Test of Language Development (TOLD) (Newcomer & Hammill, 1977). The five principal subtests used from the TOLD were picture vocabulary, oral vocabulary, grammatic understanding, sentence imitation, and grammatic completion.

Observational Records. Observational data were collected in the form of a continuous event frequency count from both the experimental and control subgroups over an eleven-week period for twenty-minute reading sessions. The purpose for charting was to determine the presence or absence of the treatment specifications, to control for extraneous variables affecting the experiment, to control for the presence of a Hawthorne or John Henry effect, and to provide information to assist the experimental classroom teachers to plan individualized instruction. A master record form included color-coded observations and was given to the two experimental teachers throughout the treatment period to provide them with a visual means to readily interpret the behaviors charted. The information helped the experimental teachers to understand quickly and easily the observed behaviors from their students participating in the experiment.

It is important to note that charting occurred in the two control groups; however, these teachers were not given feedback on the results. The two teachers in the control subgroups were only provided positive verbal reinforcement for implementing their conventional reading instruction.

Results and Discussion

Observational research data and informal interviews conducted after the treatment was terminated supported the position that the training workshop was beneficial. The training workshop helped the experimental teachers understand the relationship of the lin-
guistic aspects of morphology, syntax and semantics to reading and how the two areas could be combined in an integrated manner to improve reading skills. The data in Table 1 shows that both experimental subgroup teachers initiated more integrated behaviors than did the control teachers. The primary activity the control teachers implemented, despite the fact they had not received the training, was following directions. However, the anecdotal records accompanying the charting revealed that teacher manuals for the children's texts were used as guides to develop the commands and yes-no questions, and the information contained lengthy and complex linguistic structures.

Table 1
Event Observation Recordings of the
Behavioral Language Responses of 39
Second Grade Subjects in 17 Sessions

<table>
<thead>
<tr>
<th>Groups</th>
<th>Following Directions</th>
<th>Understanding Action in Pictures</th>
<th>Describe Objects or Pictures</th>
<th>Define Words</th>
<th>Use Correct Grammatical Structures</th>
<th>Recall Stories</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>1616</td>
<td>143</td>
<td>305</td>
<td>224</td>
<td>201</td>
<td>328</td>
<td>2817</td>
</tr>
<tr>
<td>(N = 18)*</td>
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<tr>
<td>Combined</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1466</td>
<td>13</td>
<td>36</td>
<td>43</td>
<td>23</td>
<td>110</td>
<td>1691</td>
</tr>
<tr>
<td>(N = 21)*</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*There were two additional children in the experimental and control groups who were not included in the data analysis of the study because of selection criteria. An analysis of each of the four subjects' behavioral data did not reflect any unusual or unequal variance to spuriously alter the interpretation of the observational data.

Observational data, descriptive and inferential statistics were used to evaluate the effectiveness of the experiment. It was believed that the treatment and not extraneous variables accounted for the changes in scores noted between the pre- and post-testing. Threats to the study's internal validity controlled for included: history, maturation, testing, instrumentation, statistical regression, and experimental mortality. The major threat to the study's internal validity was differential assignment of subjects because intact groups were used. The major threats controlled for, that could have affected the study's internal validity were: pre- and posttest sensitization, novelty and disruption, the Hawthorne effect, the experimenter effect, interaction of history and treatment effect, and measurement of the dependent variable.

The analysis of covariance procedure helped control for
possible initial differences between the (E) and (C) sample groups by adjusting for initial differences in the pretest means. The results were interpreted to mean that there was no statistically significant difference between the combined (E) and (C) groups on the total TOLD (E = Pretest \( \bar{X} = 74.81, SD = 13.08; \) Posttest \( \bar{X} = 82.63, SD = 12.76; \) and C = Pretest \( \bar{X} = 80.26, SD = 10.09; \) Posttest = 85.26, SD = 9.36), or the total score of the informal measure (E = Pretest \( \bar{X} = 34.75, SD = 12.10; \) Posttest \( \bar{X} = 42.69, SD = 9.34 \) and C = Pretest \( \bar{X} = 31.79, SD = 8.59; \) Posttest = 37.42, SD = 8.38). Although the main (E) group showed greater raw score point gains than did the main (C) group, between the pre- and posttest scores on both the total TOLD scores and the informal measure, the mean differences were not large enough to warrant statistical significance (TOLD E \( F = 0.17; \) df = 1,34; \( p > .05 \) and informal measure \( F = 2.36; \) df = 1,34; \( p > .05 \)).

Five possible reasons for the findings are: (a) the differences between the results obtained on pre- and posttesting for the experimental and control group might have been too small and the significance test not powerful enough to detect those small differences, (b) the size of the sample possibly was too small, (c) the duration of the treatment might have been too short to reveal the impact of the treatment, (d) the dependent measures might have been insensitive to measuring the effect of the integrative language-reading treatment, and (e) the language problems evidenced by the experimental subjects were not obvious; therefore, the effect of the treatment was characterized by small gains. Despite the point that statistically significant differences were not found between the combined experimental subgroups and combined control subgroups on the total scores of the two dependent measures, there were gains made by the combined experimental group when results were examined on specific subtests of the dependent measures. Descriptive statistics revealed positive trends for the main experimental group when compared to the main control group on the following subtests of the dependent measures: Story I, Recall and Sequencing of Verbal Material, the total score for the Informal Reading-Language Test, and TOLD subtests of Picture Vocabulary, Grammatic Understanding, Grammatic Completion, and the TOLD scores.

Also, it is important to note that when the data was analyzed according to each teacher in the four subgroups, there was a statistically significant difference (.05 level) in the scores of the four subgroups on the informal measure subtest Recall and Sequencing of Verbal Material. One experimental teacher accounted for the source of variation which resulted in significant gains between the pre- and posttest scores.

Table 1 illustrates marked differences in responses from the subjects within each group on retelling stories. Probably that was a direct reflection of the teacher.

At this point, the effectiveness of five of the six integrative language behaviors in teaching reading cannot be conclusively substantiated by this research data. Those language behaviors include following verbal directions, understanding action in pictures, describing objects or pictures, defining words, and using correct grammatical structures. However, the treatment
variable, retelling stories, was beneficial as demonstrated by the growth made by children in one of the experimental subgroups.

Informal interviews were conducted with the two teachers from the experimental classrooms to determine their reactions to the charting component of the experimental, and to gain their overall impressions of the treatment approach. They reported the following:

1) The treatment increased their awareness of the importance of linguistic skills in teaching reading;

2) The six integrated language activities realistically could be developed by teachers and incorporated into the children's reading lessons with minimal planning;

3) The activity of retelling stories was perceived as being the most beneficial language behavior for improving reading skills;

4) The treatment was considered beneficial and would be voluntarily continued;

5) The children in the (E) groups demonstrated the greatest improvement in their attending, listening, and verbal skills.

Based upon the results from this research, the author concludes the following:

1) Effective procedures were designed and used to train the experimental classroom teachers to implement the integrated approach, and the study increased the (E) teachers' awareness of the importance of linguistic skills in reading instruction;

2) The classroom teacher was an important variable for teaching the skill of recalling and sequencing verbal material, and retelling stories was considered to be the most beneficial treatment activity for improving reading skills;

3) The (E) teachers who were given special training provided considerably more opportunities for children in reading groups to use a variety of linguistic structures and learn vocabulary and concept development with their reading lessons;

4) Following verbal directions was the primary integrated language activity initiated by the control classroom teachers, even though they were not trained to implement the language behaviors which constituted the treatment.

Although more research is needed to document the effectiveness of an approach of this type, it is believed to be a promising procedure to use with children who have reading problems that presumably are language based.

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