This study examined the effects of individualized, integrated language arts as a reading approach on struggling readers’ comprehension scores obtained from oral narrative, silent narrative, and silent expository passages at three levels: below-grade, on-grade, and above-grade levels. Students (N = 93) in grades four through eight, who were reading below grade level, participated in the study. Treatment group students (n = 51) received individualized, integrated language arts as a reading approach once a week in place of basal reading instruction. Comparison group students (n = 42) received basal reading instruction for the duration of the study. Multivariate analysis of covariance was used to analyze posttest Analytical Reading Inventory (ARI) comprehension scores. Several statistically significant (p < .001) differences in comprehension performance were found for on-grade-level scores and for above-grade-level scores, but few differences were found between treatment and comparison groups on below-grade-level scores. All statistically significant differences favored students in the treatment group. The findings of the study strongly suggest that the use of individualized, integrated language arts as a method for teaching reading is an effective approach for improving the reading comprehension performance of struggling readers.
The debate over which instructional reading approach best promotes reading comprehension continues. Historically, the debate has focused on traditional approaches versus holistic, student-centered approaches. Holistic approaches for teaching reading are characterized by instruction that integrates “...speaking, listening, writing, and reading into a unified approach to literacy instruction ...to make conscious the connection between the student’s emotional and personal life and the materials being presented” (Harris & Hodges, 1995, p. 108), while traditional approaches center around the use of a commercially produced program, such as a basal reading program, which usually includes graded student texts (readers), workbooks, teaching manuals, and supplemental materials for use in developmental reading instruction.

Proponents of holistic, student-centered reading instruction view reading as a meaning-making process (Goodman, 1984; Weaver, 1990). Also, the National Reading Panel, who assessed the status of reading research as well as the impact of various approaches used to teach children to read, emphasized that reading is a meaning-making process since comprehension “...requires an intentional and thoughtful interaction between the reader and the text” (National Institute of Child Health and Human Development [NICHD], 2000, p. 13.). Although holistic, student-centered pedagogy is rooted in a strong tradition supported by reading research (Goodman, 1989; Stephens, 1990), empirical evidence from comparative studies of holistic approaches and basal reading programs has not consistently favored holistic approaches over basal reading programs, and vice versa, in terms of students’ reading performance (Stahl, McKenna, & Pagnucco, 1994; Stahl & Miller, 1989). In truth, both traditional approaches and holistic, student-centered approaches have enjoyed equally modest advantages in different contexts (Bottomley, Truscott, Marinak, Henk, & Melnick, 1999).

In 1997, a panel funded by the NICHD issued a report entitled *Preventing Reading Difficulties in Young Children* (Snow, Burns, & Griffin, 1998). The report called for a “balanced approach” to reading instruction, which is currently referred to as comprehensive reading instruction. Literacy educators who support a balanced approach claim that it combines the best practices from both traditional approaches and holistic, student-centered approaches for teaching reading (Blair-Larsen & Williams, 1999).
As a proponent of balanced reading instruction, Adams (2001) urges teachers to help students learn to read “through reading, and writing, and spelling, and language play, and conceptual exploration, and all manner of engagement with text, in relentless enlightened balance” (pp. 314–315). Teachers wishing to follow Adams’ advice need a clear understanding of what constitutes a balanced approach to reading instruction. Unfortunately, agreement among educators on a single definition of the balanced approach does not exist. Nevertheless, educators do have a set of principles to inform their use of balanced reading instruction. In 1993, the International Reading Association’s Balanced Reading Instruction Special Interest Group adopted seven principles of balanced instruction (Blair-Larsen & Williams, 1999). A close examination of the principles reveals the embodiment of most of the components of an integrated language arts approach to literacy instruction as well as holistic strategies, such as the use of trade books as well as published teaching materials; the use of authentic assessments in addition to norm-referenced standardized tests; the integration of all the language arts processes (i.e., listening, speaking, reading, writing, viewing, and visual representation) within the context of reading instruction; the need for teacher flexibility; and the importance of individualizing instruction to meet the needs of each student (Blair-Larsen & Williams, 1999).

Despite the fact that balanced reading instruction is supported by the International Reading Association, some schools have shifted toward direct instruction characterized by teacher-centered reading approaches and the use of standardized, norm-referenced assessments. Holistic, student-centered approaches, such as the integrated language arts approach to teaching reading, are often dismissed or ignored as a result of pressures from high-stakes testing and teacher overload, largely because student-centered approaches are viewed as placing more demands on teachers’ preparation time and requiring more instructional time than do streamlined, direct approaches. A review of the literature related to the use of integrated language arts as an approach for teaching reading suggests that it may be an effective alternative to traditional approaches especially for students who struggle to read (Clary, 1992; Eldredge & Butterfield, 1986; Thames & Reeves, 1994; Walmsley & Walp, 1990), but empirical
research is needed to determine the extent to which such an approach may, or may not, influence reading comprehension performance.

It may be that stronger interest in using student-centered approaches for reading instruction would be stimulated by research that identifies ways in which data from informal measures may be used to both inform and assess instruction that is student-centered. The Informal Reading Inventory (IRI), which has a long-standing tradition in reading assessment (Jongsma & Jongsma, 1981), has received minimal attention as a measure of reading comprehension in published studies designed to examine the effects of instructional approaches on reading comprehension. An IRI provides information about the reader’s “. . . strengths, weaknesses, and strategies in word identification and comprehension” based on both oral and silent reading performance (Harris & Hodges, 1995, p. 116). When the goals of classroom reading instruction are (a) to determine reading levels of students so that texts of suitable difficulty can be selected for instruction; (b) to evaluate individual progress in reading so that specific abilities and instructional needs of students may be identified; and (c) to determine which students may be grouped together for small-group instruction that focuses on their particular literacy needs, the data obtained from IRIs will be of great value to the classroom teacher (Anderson, 1977a; Caldwell, 1985; Gerke, 1980; Helgren-Lempesis & Mangrum, 1986; Henk, 1987; Jongsma & Jongsma, 1981). Although teachers often choose to make their own IRIs by using passages from basal texts, commercially prepared instruments are available, and according to Anderson (1977b), commercial IRIs provide “more valid, more reliable, and potentially more useful diagnostic information than teacher-made IRIs” (p. 99). Among the advantages of commercial IRIs are the inclusion of multiple reading selections for each grade level, evaluation of the student’s prior knowledge about the topic, evaluation of the student’s recall and understanding of a passage through retelling, and evaluation of the student’s ability to answer specific kinds of comprehension questions (ranging from literal to inferential comprehension).

Because there is a large population of poor readers (Fletcher & Lyon, 1998), many of whom are being taught with traditional approaches, such as basal reading instruction, and because few instructional programs are using diagnostic information from IRIs
to inform instruction, there is a need for research studies which explore the effects of using individualized (student-centered), holistic approaches to literacy learning based on diagnostic information. Further, few empirical studies have been located that focus on improving the reading performance of student samples, particularly samples comprised primarily of African American students, by using assessment information for the purpose of informing literacy instruction via integrated language arts as a reading approach. It appears that studies designed to examine the effectiveness of individualized (student-centered), holistic approaches to literacy learning, using diagnostic information both to inform and to assess the impact of such approaches, are needed.

The purpose of this study was to determine the effects of using individualized, integrated language arts as a reading approach on the comprehension performance of struggling readers as measured by the Woods and Moe (1999) sixth edition of the Analytical Reading Inventory (ARI). It was anticipated that the individualized, integrated language arts approach would improve the comprehension scores of students who comprised the treatment group. Our specific research questions were (a) What are the effects of an individualized, integrated language arts approach to reading on struggling readers’ total comprehension scores obtained from oral narrative, silent narrative, and silent expository passages at three levels: below-grade, on-grade, and above-grade levels? and (b) What are the effects of an individualized, integrated language arts approach to reading on struggling readers’ comprehension scores for each of four types of comprehension questions at three levels: below-grade, on-grade, and above-grade levels?

Individualized, integrated language arts as a reading approach, as used in this study, is defined as literacy instruction that engages students in reading, writing, listening, speaking, viewing, and visual representation activities designed to meet their individual reading needs, using selected trade books and expository texts related to the topical interests of the students. Basal reading instruction, which was used exclusively with the comparison group in this study, is defined as teacher-directed lessons based on a collection of student texts and workbooks, teacher’s manuals, and supplemental materials designed to teach developmental reading in the elementary grades.
Method

Participants

Prior to the study, 110 students in grades four through eight were randomly selected from a list of students identified by classroom teachers as being in the lowest quartile in reading performance based on results from the reading subtest of the norm-referenced assessment mandated by the state. The 110 students were randomly assigned to treatment and comparison groups. At the end of the study, complete data were not available for 17 students so their data were excluded from analysis. Thus, a total of 93 students remained in the study for its duration.

The treatment group (n = 51) consisted of 24 females and 27 males; 49 of the students were African American and two were European American. The comparison group (n = 42) consisted of 13 males and 29 females; 26 of the students were African American students, 8 were European American, and racial identification was not designated for 8 students. The distribution by gender and ethnicity across grade levels was similar for the treatment and comparison groups.

The predominately African American sample attended a low-socioeconomic neighborhood school located in the southeastern region of the United States. One additional student, in grade five, came from a nearby school. By grade level, 25.8% of the students were in grade four, 29.0% were in grade five, 21.5% were in grade six, 10.8% were in grade seven, and 12.9% were in grade eight. At the time of this study, basal reading instruction was being used in the schools.

Instrument

This study used students’ scores on comprehension passages from the Analytical Reading Inventory (ARI), developed by Woods and Moe (1999), as pre- and post-measures. The ARI is a comprehensive assessment instrument used to measure the reading performance and behaviors of students in grades one through nine. Administered individually, the ARI is designed to allow the examiner to observe, analyze, and record data about a reader’s word recognition performance (word lists), reading miscues, comprehension of
narrative and expository passages, fluency, and personal behaviors exhibited during assessment. In this study, only the comprehension data from the ARI were used.

Forms A, B, and C of the ARI are alternate forms that may be used to assess narrative reading, with the form selected to assess oral narrative reading being eliminated as a choice for assessing silent narrative reading (e.g., if Form A is used for the oral reading assessment, then Form B or C is used for the silent reading assessment). Forms S and SS of the ARI are alternate forms that may be used to assess expository reading related to science and social studies topics, respectively, with each form containing graded expository passages ranging in difficulty from Level 1 to Level 9. For all forms of the ARI, each narrative and expository passage is followed by six to eight comprehension questions designed to assess four types of comprehension: Retells in Fact (RIF), Puts Information Together (PIT), Connects Author and Reader (CAR), and Evaluates and Substantiates (EAS). The RIF questions are literal and the answers require explicitly stated facts from the text. An example of a RIF question is “Who are the characters in the story?” The PIT questions are both literal and implied. To answer them correctly, the reader must combine two or more explicitly stated facts located either next to one another or in different places in the passage. Also, PIT questions may require the reader to put together explicitly stated facts with information implied in the passage. An example of a PIT question is “What is John’s problem?” To answer the CAR questions correctly, the reader must combine her prior knowledge with the author’s choice of words and phrases used in the passages. An example of a set of CAR questions is “What do you know about the word sympathy? What does sympathy have to do with the story?” To answer the EAS questions correctly, the reader must make a judgment, generate an opinion, generate an emotional response, or make a prediction based upon inference drawn from the passage. Also, the reader must substantiate her response with explicit information from the passage. An example of a set of EAS questions is “How do you think Mark’s grandmother felt? You think this because...?” Each type of comprehension question is represented one or more times following each passage, so that all four types of comprehension are assessed after the reader has completed reading the passage.
Before the student reads an entire ARI passage (for both oral and silent reading assessments), the proctor tells the student to read the title and the first two sentences of the passage, and then the proctor asks the student to predict what the rest of the passage will be about. After the student finishes reading a passage (for both oral and silent reading assessments), the proctor says to the student, “Retell everything that you can remember from the passage, and I will write down what you say.” The retelling is followed by the proctor asking a set of six to eight comprehension questions, representing RIF, PIT, CAR, and EAS types of comprehension; the proctor marks on his or her copy a plus sign (+) beside questions answered correctly, a minus sign (−) beside questions answered incorrectly (as well as writing the student’s incorrect response to the question), and writes 1/2 beside two-part questions when half of the question is answered correctly. Scores for comprehension are obtained by counting the number of incorrect responses to questions; a scoring guide for each passage is provided to indicate the designated number of incorrect responses associated with each of three reading comprehension levels: independent (0–1 incorrect response), instructional (1–2 incorrect responses), and frustration (3–4+ incorrect responses).

For the purposes of our study, the modified version of the ARI described by Woods and Moe (1999) was used to assess reading comprehension, which included below-grade, on-grade, and above-grade levels of comprehension assessment. Thus, the comprehension data consisted of scores for total comprehension and for type-of-question comprehension, calculated as the percentage correct per passage (i.e., oral narrative, silent narrative, and silent expository) at each of the graded levels (below-grade, on-grade, and above grade) for each student. Each total comprehension score represented the percentage of correct responses for the entire set of questions following each passage. Each type-of-question comprehension score represented the percentage of correct responses for each of the four question types (RIF, PIT, CAR, and EAS) per passage.

While the ARI administrator’s manual does not provide direct information about score reliability and validity, it does contain information about the instrument’s development and validation. The narrative passages of the ARI were written, field tested, computer analyzed, and revised several times. The content of the
narrative passages is based on the reading interests of students at various grade levels, and the writing style of the passages is grade appropriate. To maintain the integrity of the assessment instrument, the same topics occur across alternate forms for each graded level. For example, all three passages at Level 9 are about meeting critical environmental needs within communities. This consistency allows examiners to use alternate forms with some degree of confidence. The vocabulary used in the narrative passages was governed by a computer analysis of the number of difficult words, using Readability Calculations (Micro Power and Light, 1995a). The expository passages represent the style of writing found in science and social studies textbooks. The science and social studies passages were selected from various textbooks used in grades one through nine. Readability formulas were used to establish grade-level validation for each narrative passage in Forms A, B, and C. In addition, the extent to which words differ within the narrative and expository passages was calculated using Vocabulary Diversity Score (Micro Power and Light, 1995b) procedures to determine the progressive difficulty of the graded passages and to ensure consistency within grade levels and across forms (Woods & Moe, 1999). The instrument was field tested, using approximately 200 students in grades two through eight, and revisions were made in passages and comprehension questions based on feedback from the students.

Anderson (1977a) evaluated three commercially prepared IRIs, the Classroom Reading Inventory (Silvaroli, 1976), the Sucher-Allred Reading Placement Inventory (Sucher & Allred, 1973), and the Analytical Reading Inventory (ARI) by Woods and Moe (1977). Anderson found that the ARI had the greatest potential for collecting sound diagnostic data because it was built on the most recent knowledge from the literature. A search of the literature did not reveal a more recent critique of commercially produced IRIIs than Anderson’s study (1977a).

Procedures

Administrators of schools in the local area gave permission for the research to be conducted and supported the researchers’ request to randomly select and assign students to treatment and comparison groups. Prior to beginning the study, graduate students in literacy education and preservice teachers who had been trained
to administer the ARI conducted the reading comprehension assessments of students in the treatment and comparison groups. Forms A, B, and S of the ARI were used to assess oral narrative, silent narrative, and silent expository reading comprehension at three levels: below grade, on grade, and above grade level; results from these assessments served as the pretest data for the study. The week after the 20th treatment session, ARI posttest comprehension data were collected using forms B, C, and SS to assess oral narrative, silent narrative, and silent expository reading, respectively, at three levels: below grade, on grade, and above grade level.

TREATMENT GROUP

Meetings were held with classroom teachers whose students would be participating in the study to explain the instructional treatment approach and to arrange for preservice teachers to visit their classrooms once per week to observe their assigned students in the context of the students’ regular reading block instruction. A total of twenty 90-minute instructional sessions constituted the treatment period, with 10 once-a-week sessions occurring during the fall semester and 10 once-a-week sessions occurring during the spring semester.

For the fall semester, preservice teachers were paired with students in the treatment group using random assignment procedures. Each preservice teacher had completed three courses in literacy instruction and was enrolled in the fourth course, which focused on reading assessment and instruction and required that each preservice teacher use diagnostic reading information to plan lessons and instruct an assigned student within the context of a school setting.

During the first two weeks of the fall semester, each preservice teacher studied the results of his assigned student’s ARI data, which had been obtained prior to the initiation of the study; observed the assigned student in his classroom and visited with the classroom teacher; and administered an informal interest inventory and the Elementary Reading Attitude Survey (McKenna & Kear, 1990) to the assigned student. Based on the data obtained from these formal and informal sources, each preservice teacher prepared a written, detailed, diagnostic analysis of their assigned student’s strengths and weaknesses; this information was used by the preservice teacher to
prepare a series of integrated language arts lessons that centered on the student’s diagnosed reading needs, using trade books and expository texts on topics that were of interest to the student. All lesson plans were reviewed by the reading course instructor and revised by preservice teachers as needed, prior to the lessons being taught to students.

During the subsequent 10 weeks, preservice teachers met with their assigned students once a week to provide one-on-one instruction via the integrated language arts lessons they had designed. All instructional sessions took place once a week in the school’s cafeteria, during the school’s designated 90-minute block for reading instruction, using reading carrels to create a private space for each session. Also, each preservice teacher observed once each week in the classroom of their assigned student during the reading block period, as treatment-group students continued to receive basal instruction on all class days except for the once-a-week, individualized instruction.

Near the end of the fall semester, each preservice teacher wrote a case study report documenting the reading progress made by his assigned student based on the authentic portfolio of the student’s responses to the one-on-one instructional sessions; the report included specific recommendations for continuing the student’s growth in reading performance. The case study report was part of the requirements for completing the course in reading assessment and instruction; each preservice teacher reviewed the case study report with the course instructor, who sometimes suggested additional recommendations for continuing the student’s growth. A copy of the final case study report for each of the treatment students was made available to the classroom teacher and to the student’s parent or guardian.

For the subsequent spring semester, a new group of preservice teachers was randomly assigned to the treatment-group students, thus continuing the individualized, integrated language arts instructional treatment to the end of that semester. The new group of preservice teachers used the case study reports and instructional recommendations that had been prepared by the fall-semester preservice teachers to develop integrated language arts lessons designed to meet their assigned students’ specific reading needs, thus building on the progress that had been made with students during the fall semester. For the remainder of the spring semester,
the procedures followed by the preservice teachers were the same as those used during the fall semester, with the exception that ARI forms B, C, and SS were used for the posttest measure of reading comprehension performance.

When developing the individualized, integrated language arts lessons, the preservice teachers followed a specific lesson plan format that included both narrative (trade book) and expository (information) texts, used context clues to teach new vocabulary, and provided before-, during-, and after-reading components that used listening, speaking, reading, writing, viewing, visual representation, and metacognitive activities to enhance comprehension of the narrative and expository texts. A copy of a sample lesson plan is presented in Appendix A. For each of the lesson plans, the topic of the reading materials was selected by the preservice teacher based upon the student’s interests and reading needs as identified through interest and attitude surveys and observations by the preservice teacher. Additional types of expository reading materials were often used in the lessons as well, such as newspapers, magazine articles, and Internet-text selections. For example, if the student were interested in learning about Native Americans, the preservice teacher’s lesson might include the following: viewing and talking about paintings of Native Americans and nature; listening to the teacher read the trade book *Brother Earth, Sister Sky*; having the student read a short Internet article about Chief Seattle; asking the student to tell why he believes Chief Seattle’s speech is important; writing a biopoem describing Chief Seattle; and illustrating the poem with a drawing of Chief Seattle.

Also, instructional strategies such as the Directed Reading-Thinking Activity (DRTA), List-Group-Label, ReQuest, Graphic Organizers, and Think Alouds were incorporated into the preservice teacher’s lesson plans as part of the course requirements. Each of the preservice teacher’s lesson plans was examined by the course instructor prior to being implemented, and the course instructor observed a portion of each preservice teacher’s instructional session each week, making notes about the extent to which the instructional activities appeared to be meeting the student’s reading needs. The observational notes were used to provide feedback to each preservice teacher on a weekly basis. Also, once a week the course instructor observed a portion of the basal reading
instruction offered in those classrooms in which treatment group students were enrolled.

Comparison Group

Students in the comparison group received basal reading instruction daily from their classroom teachers, during the 90-minute reading block, for the duration of the study. Reading materials for the comparison group included the text selections contained in the basal reading program. Classrooms that contained comparison students were observed by the course instructor, who made weekly classroom observations during the reading block period, to ensure that classroom teachers followed the teacher’s guide which accompanied the basal reader series. The basal reading series focused on the skills of vocabulary acquisition, word recognition, and comprehension. Posttest ARI assessments of students in the comparison group occurred during the same time frame as that of the treatment group and were conducted by graduate students majoring in literacy education.

Analysis of Data

For the purposes of this study, data were excluded from an analysis if any data points were missing or if on-grade-level total comprehension scores exceeded 75% (this was the case with two students), as 75% is usually considered to be an adequate level of comprehension. A multivariate analysis of covariance was carried out for each of the below-grade-level, on-grade-level, and above-grade-level comprehension measures for oral narrative, silent narrative, and silent expository passage categories. There were four dependent variables for each analysis (RIF, PIT, CAR, and EAS types of comprehension). The initial pretest total comprehension score for the corresponding passage category was used as the covariate in each analysis.

The dependent variable scores tended to be negatively skewed, and the means and standard deviations tended to be proportional. Therefore, the data were analyzed in their original form and using both a square-root and an arcsine transformation.

In order to control the type I error rates across the nine multivariate analyses, a Bonferroni adjustment was used. Thus, only the
multivariate analyses resulting in associated probabilities less than .05/9 = .0055 were considered statistically significant.

Statistically significant multivariate findings were followed up with univariate analyses of covariance, using the initial pretest total comprehension scores for the corresponding passage categories as the covariates. Homogeneity of regression was examined for each of the univariate analyses. To further control type I error rates, the Bonferroni adjustment for the use of four variables was applied within each analysis by using the .05/4 = .0125 level.

Additionally, univariate analyses of covariance were carried out for the total comprehension scores for below-grade, on-grade, and above-grade levels for each of the three passage categories. The initial pretest total comprehension scores for the corresponding passage categories were used as covariates.

Results

Because results of the analyses were virtually identical for the original and transformed scores, only the results based on the analyses of the original scores are reported since these scores are in a more natural metric. The results of the multivariate analyses of covariance for the original scores are presented in Table 1. Statistically significant \( (p < .05/9 = .0055) \) multivariate results were found for on-grade-level and above-grade-level scores for the silent narrative and silent expository passage scores and for the above-grade-level

<table>
<thead>
<tr>
<th>Reading Category</th>
<th>Grade Level</th>
<th>( F )</th>
<th>( df )</th>
<th>( p )</th>
<th>Eta-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silent Narrative</td>
<td>Below</td>
<td>3.78</td>
<td>4/52</td>
<td></td>
<td>.345</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>6.71</td>
<td>4/51</td>
<td>&lt;.001</td>
<td>.412</td>
</tr>
<tr>
<td></td>
<td>Above</td>
<td>8.06</td>
<td>4/46</td>
<td>&lt;.001</td>
<td>.412</td>
</tr>
<tr>
<td>Oral Narrative</td>
<td>Below</td>
<td>1.33</td>
<td>4/40</td>
<td></td>
<td>.408</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>3.63</td>
<td>4/40</td>
<td></td>
<td>.408</td>
</tr>
<tr>
<td></td>
<td>Above</td>
<td>6.71</td>
<td>4/39</td>
<td>&lt;.001</td>
<td>.408</td>
</tr>
<tr>
<td>Silent Expository</td>
<td>Below</td>
<td>2.38</td>
<td>4/55</td>
<td></td>
<td>.443</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>10.93</td>
<td>4/55</td>
<td>&lt;.001</td>
<td>.521</td>
</tr>
<tr>
<td></td>
<td>Above</td>
<td>14.95</td>
<td>4/55</td>
<td>&lt;.001</td>
<td>.521</td>
</tr>
</tbody>
</table>
scores for the oral narrative passage. No statistically significant results were found for the below-grade-level passage scores for any of the three types of passages. The multivariate eta-squared values ranged from .345 to .521, indicating large effects across all analyses (Cohen, 1988).

The results of the follow-up univariate analyses for type-of-comprehension question scores and total comprehension scores are presented in Table 2. The assumption of homogeneity of regression was found to hold for all analyses. The reported probabilities are one-tailed, reflecting the a priori prediction of differences favoring the treatment group. For the silent expository passage, scores statistically significant differences were found for each of the four dependent variables (i.e., RIF, PIT, CAR, EAS) for both the on-grade-level and above-grade-level scores. For the silent narrative passage category, RIF score differences were found for both the on-grade-level and above-grade-level scores. For the silent narrative passage category, RIF score differences were found for both the on-grade-level and above-grade-level scores, and PIT score differences were found for above-grade-level scores. RIF, PIT, and EAS score differences were found for above-grade-level scores for the oral narrative passage category. All statistically significant differences favored the treatment group (Tables 3, 4, and 5).
### TABLE 3 Summary Data: Silent Narrative

<table>
<thead>
<tr>
<th>Level/Type</th>
<th>Exp. Pre</th>
<th>Comp. Pre</th>
<th>Exp. Post</th>
<th>Comp. Post</th>
<th>Adj. Post&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>Exp.</td>
</tr>
<tr>
<td>Below Grade Level&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIF</td>
<td>33.96</td>
<td>37.79</td>
<td>44.68</td>
<td>29.92</td>
<td>62.96</td>
</tr>
<tr>
<td>PIT</td>
<td>37.59</td>
<td>34.62</td>
<td>35.71</td>
<td>28.63</td>
<td>51.26</td>
</tr>
<tr>
<td>CAR</td>
<td>34.26</td>
<td>39.66</td>
<td>45.16</td>
<td>39.31</td>
<td>51.56</td>
</tr>
<tr>
<td>EAS</td>
<td>32.41</td>
<td>36.57</td>
<td>53.23</td>
<td>48.07</td>
<td>44.44</td>
</tr>
<tr>
<td>Total</td>
<td>35.85</td>
<td>27.83</td>
<td>44.71</td>
<td>21.52</td>
<td>52.93</td>
</tr>
<tr>
<td>On Grade Level&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIF</td>
<td>34.88</td>
<td>31.31</td>
<td>31.13</td>
<td>32.25</td>
<td>58.56</td>
</tr>
<tr>
<td>PIT</td>
<td>29.67</td>
<td>31.50</td>
<td>25.30</td>
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<td>38.96</td>
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<td>CAR</td>
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<td>26.08</td>
<td>24.17</td>
<td>34.42</td>
<td>29.63</td>
</tr>
<tr>
<td>EAS</td>
<td>23.15</td>
<td>32.20</td>
<td>30.00</td>
<td>45.20</td>
<td>41.67</td>
</tr>
<tr>
<td>Total</td>
<td>27.26</td>
<td>23.08</td>
<td>27.50</td>
<td>24.49</td>
<td>44.00</td>
</tr>
<tr>
<td>Above Grade Level&lt;sup&gt;d&lt;/sup&gt;</td>
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<td></td>
</tr>
<tr>
<td>RIF</td>
<td>45.00</td>
<td>41.02</td>
<td>27.22</td>
<td>31.21</td>
<td>55.40</td>
</tr>
<tr>
<td>PIT</td>
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<td>31.31</td>
<td>21.59</td>
<td>31.57</td>
<td>35.32</td>
</tr>
<tr>
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<td>22.65</td>
<td>22.22</td>
<td>34.90</td>
<td>17.00</td>
</tr>
<tr>
<td>EAS</td>
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<td>43.90</td>
<td>23.15</td>
<td>38.56</td>
<td>33.00</td>
</tr>
<tr>
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<td>25.91</td>
<td>23.00</td>
<td>26.87</td>
<td>36.88</td>
</tr>
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</table>

<sup>a</sup>Total pre-scores used as covariate.

<sup>b</sup>n<sub>exp</sub> = 27, n<sub>comp</sub> = 31.

<sup>c</sup>n<sub>exp</sub> = 27, n<sub>comp</sub> = 30.

<sup>d</sup>n<sub>exp</sub> = 25, n<sub>comp</sub> = 27.

For total comprehension scores, statistically significant results were found for all analyses with the exception of two performance levels (i.e., for below-grade-level scores on the silent narrative passage category and the oral narrative passage category and for on-grade-level scores on the silent narrative passage category). Again, all statistically significant results favored the treatment group (Tables 3, 4, and 5). The assumption of homogeneity of regression did not hold for the total comprehension scores for the above-grade-level silent expository reading. Therefore, a groups-by-trials (treatment, comparison by pretest, posttest) analysis of variance was carried out for these scores. A statistically significant (<i>p</i> < .01) groups-by-trials interaction was found. Examination of the cell means indicted that the mean comprehension scores for the treatment group increased from pre- to post-assessments,
while the mean comprehension scores of the comparison group decreased slightly. These results support the viability of the individualized, integrated language arts instructional approach used with the treatment group.

**Discussion**

This study examined the effects of using individualized, integrated language arts as a reading approach, offered once a week by pre-service teachers, on the reading comprehension scores of struggling readers. The results strongly favored students who participated in the individualized, integrated language arts lessons, with statistically significant ($p < .001$) multivariate effects found for on-grade-level comparisons on silent narrative and silent expository
TABLE 5 Summary Data: Silent Expository

<table>
<thead>
<tr>
<th>Level/Type</th>
<th>Exp. Pre</th>
<th>Comp. Pre</th>
<th>Exp. Post</th>
<th>Comp. Post</th>
<th>Adj. Post&lt;sup&gt;a&lt;/sup&gt;</th>
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<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Below Grade Level&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
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<td>RIF</td>
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<td>PIT</td>
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<td>20.88</td>
<td>17.79</td>
<td>22.89</td>
<td>29.56</td>
</tr>
</tbody>
</table>

<sup>a</sup>Total pre-scores used as covariate.
<sup>b</sup>n<sub>exp</sub> = 27, n<sub>comp</sub> = 34.
<sup>c</sup>n<sub>exp</sub> = 27, n<sub>comp</sub> = 34.
<sup>d</sup>n<sub>exp</sub> = 27, n<sub>comp</sub> = 34.

passages and for above-grade-level comparisons on silent narrative, oral narrative, and silent expository passages. Of the five statistically significant univariate effects related to on-grade-level comparisons, four were on the silent expository passage category. Twelve of the 15 above-grade-level comparisons of performance on the three types of passages were statistically significant, and five of these comparisons of comprehension performance were on the silent expository passage category. Differences between the two groups for below-grade-level comprehension appeared to be minimal, since only a statistically significant univariate effect was found for total comprehension scores.

The findings related to the expository passage category were particularly promising because, in general, students have more
difficulty comprehending expository texts (Calfee & Curley, 1984; McGee & Richgels, 1985; Meyer & Rice, 1984; Pappas, 1993; Piccolo, 1987; Vacca & Vacca, 1996). This outcome may have occurred because each lesson plan included an expository text related to the theme of the trade book, with associated language arts activities that encouraged students to derive meaning through a range of connected literacy activities; also, the one-on-one instructional setting provided ample opportunities for language interactions between the preservice teacher and her student. This kind of instructional approach contrasts with traditional instructional approaches for teaching science, social studies, or mathematics, which often lack the support of language arts activities to facilitate the learning of subject-matter content and are usually taught in group settings rather than through one-on-one interactions. The role of individualized, integrated language arts instruction in students’ comprehension of expository text deserves further investigation.

While the results of this study strongly suggest that individualized, integrated language arts instruction as a reading approach may be effective in improving the comprehension performance of struggling readers, the findings need to be considered in light of possible limitations of the study. The students’ attitudes toward reading could have influenced their performance. Since all the students in this study needed help with reading, it is possible that some students’ attitudes about reading were negative, causing them to put forth less effort during the assessment procedures. Also, it is important to keep in mind that we sampled reading behavior on a specific day and time, and Jongasma and Jongasma (1981) remind us that, “On another set of passages, given on another day, you might get different results” (p. 704). Another limitation is that the inclusion of zero scores on comprehension questions, obtained by students who attempted to read passages that were at their frustration level, may have influenced the results, although both the treatment and comparison groups contained a few students whose scores were zero on various types of comprehension questions. Since the design of our study included below-grade-, on-grade-, and above-grade-level assessments of struggling readers, there were some passages that were at the frustration level for some students. Finally, it was not possible to control for passage familiarity. During the administration of the ARI, it was observed that some of
the students in both the treatment and comparison groups were familiar with the content of two of the ARI passages because these readings were based on the storylines of books that are popular among children and young adults (i.e., *The Incredible Journey* and *The Outsiders*). Students’ prior knowledge of the content of these books may have positively impacted their comprehension scores on these passages.

Although it is clear that the use of individualized, integrated language arts instruction as a reading approach had a positive impact on the comprehension of treatment-group students, we acknowledge that this approach may not have been the sole factor influencing comprehension performance. A large part of the success of this study may have come from the meaningful, one-on-one interactions between the student participant and her preservice teacher. Meaning-making is a process that is facilitated by such social interaction (Vygotsky, 1962). Some educators may complain that it is too daunting a task to expect teachers to individualize instruction and to give one-on-one attention to students, yet the literature supports the need for individualized instruction for those who struggle with school learning (Blair-Larsen & Williams, 1999; VanSciver, 2005). The findings of this study imply, however, that through the use of certain methodologies it is possible for teachers to individualize lessons and facilitate meaningful social interactions during reading instruction. For example, after administering and interpreting an informal reading inventory and interviewing students to determine their interests, teachers can group students into small learning communities based on their reading instructional needs and topical interests. Students in these collaborative teams can work on lessons designed to meet their reading needs as they engage in teacher-recommended activities that involve listening, speaking, reading, writing, and critical thinking experiences at their current levels of performance. These kinds of meaningful group interactions allow each student to make contributions based on her strengths, thus performing as a learning community in which much is learned from one another. While students are working with their collaborative teams, teachers can pull individual students away from the team for 10–15 minutes to give one-on-one attention to a specific literacy need that was identified by the student’s performance on the informal reading inventory.
Another important implication of this study is that preservice teachers can be successfully trained to administer and use informal reading inventories to diagnose reading needs and to construct literacy lessons centered around the literacy needs of students. We believe that with the population of poor readers continuing to increase (Gonzalez, Brusca-Vega, & Yawkey, 1997; Graves, Van den Broek, & Taylor, 1996), institutions of higher learning have a responsibility to train future literacy educators to effectively administer and interpret informal assessments to meet the individual reading needs of students in their classrooms and to equip preservice teachers with the skills needed to create and provide alternatives to traditional reading instruction for those students who have not experienced much success with traditional approaches.

The findings of this study contribute in three ways to the literature related to the use of individualized, integrated language arts instruction as a reading approach and the use of informal assessments. First, the strongest implication of the findings of this study is that individualized, integrated language arts instruction as a reading approach designed to meet the student’s reading needs appears to enhance the reading comprehension of struggling readers. The findings underscore the benefits of reading instruction that encourages students to refine their abilities to think critically, talk, listen, read, write, and visually represent ideas from narrative and expository texts, and the results support the use of differentiated instruction for students based on assessment information. Since our sample was comprised mostly of African American students from low socioeconomic neighborhoods, the findings make a significant contribution to the literature related to effective instructional approaches for students with similar backgrounds.

Second, the importance of designing reading instruction for struggling readers based on the results of diagnostic, informal assessments was clearly indicated by our findings. For example, if a student scored low on a particular type-of-comprehension question (e.g., RIF, PIT, CAR, or EAS) across passages, then the preservice teacher’s lesson plans would include activities and teacher-student interactions that focused on strategies for improving the student’s understanding of how to use information from the text in combination with his or her own critical thinking processes to answer the various types of questions. Although Shell and Hanna (1981) advised against interpreting low scores on particular types
of comprehension questions (measured by IRIs) as indicating a deficit in a particular area, because they believe there are too few questions of a particular type to be a reliable indicator of a weakness, we found that using this information to plan instruction in the context of a holistic approach benefits students’ comprehension skills. It is important to clarify that in our study, the entire lesson for each instructional session did not focus on a particular weakness but that a portion of each lesson consistently addressed identified weaknesses. More research is needed to determine the extent to which holistic instruction that includes attention to one or more type(s) of comprehension questions, as identified through informal assessment, influences comprehension performance of struggling readers.

Third, the findings of the study provide evidence that assessment data, obtained from ARI data or from some other informal reading inventory, may be used both to inform instruction and to evaluate program and group performance. This may be the first study that has used diagnostic data for the purposes of individual assessment, instruction, and analyses of group performance, and while there may be some researchers who question using diagnostic data to evaluate group performance, we believe that the outcomes of this study demonstrate the value of using diagnostic data to examine the performance of individual students as well as groups of students; the results of group analyses based on diagnostic data may be used to identify the salient traits exhibited by groups of students as well as to identify strengths and weaknesses of instructional approaches designed to address the specific literacy needs of students. We are hopeful that the results of this study will prompt additional study of the effectiveness of individualized, integrated language arts instruction as a reading approach on the comprehension performance of elementary students in other geographical locations and settings.

References


Appendix A

Sample Lesson Plan, CIR 412L

PRESERVICE TEACHER’S NAME____________________
STUDENT’S NAME ______________________
Instructional Time: 8–9:30 a.m. Grade: __

Storybook


Information Text


Children’s Dictionary


Student’s Reading Needs

The student needs to know how to use compounds to decode grade appropriate words. The student needs to retell stories in her own words to convey the beginning, middle, and end of the main events in the story in proper order. She also has difficulty answering literal and inferential questions about what she has read.

Student’s Reading Strengths

The student reads with some voice expression. She enjoys reading aloud, using the popcorn strategy. She is positive about attending the reading sessions with the tutor.

Objective(s) for This Lesson

- The student will identify and circle words in sentences that provide context clues to the meanings of the underlined vocabulary words.
• The student will make predictions about what will happen in the story based on the title and pictures on the cover before reading and prove or revise her predictions based on the text and picture cues during reading.

• The student will identify smaller words in compound words to decode new words.

• The student will retell the main events in the story in their proper sequence, using a circular graphic organizer and picture cues.

**Vocabulary**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homesick</td>
<td>Missing home and family while away</td>
</tr>
<tr>
<td>Suitcase</td>
<td>A flat rectangular traveling bag</td>
</tr>
<tr>
<td>Mailbox</td>
<td>A box that holds letters and envelopes</td>
</tr>
<tr>
<td>Wallpaper</td>
<td>Paper with decorations for pasting on walls</td>
</tr>
</tbody>
</table>

**Presenting Vocabulary in Sentence Contexts**

(Underlined words omitted on sentence strips)

1. The pig was *homesick* and wanted to go to the farm to see her family.
2. She packed her *suitcase* before she traveled back to the farm.
3. You’ll have to give her some envelopes and stamps and take her to the *mailbox*.
4. She’ll ask for *wallpaper* and glue to decorate her walls at home.

**Integrated Language Arts Reading Lesson**

Note: All of the following language arts components are integrated throughout the lesson: listening, speaking, reading, writing, viewing, visual representation, and metacognitive/cognitive thinking. Parenthetical references at the end of each subsection identify language arts components integrated in the preceding section.
Lesson Description

Before Reading the Storybook

• Preteach the Vocabulary Words

Prewrite the words: home, sick, wall, paper, mail, box, suit, and case on eight 3” by 5” note cards. Mix the cards up and place the words in front of the student and read the words aloud to the student, pointing to and pronouncing each one correctly. Ask, “Do you notice anything special about these words?” Help the student discover that the words can be combined to form compound words: homesick, wallpaper, mailbox, and suitcase. Explain that a compound word is two words combined to make one word. Next, present vocabulary in context by showing the student the four sentences on sentence strips. Point out that each sentence is missing a word. Say, “One of the four compound words completes this sentence best. Can you guess which one?” Have the student write the missing word in the blank. Ask, “How did you know which word fit best here?” Help the student find and circle the clue words in the sentences that hint at the meaning of the missing word. For example, in the following sentence the words envelopes and stamps provide clues to the meaning of the vocabulary word mailbox: “You’ll have to give her some envelopes and stamps and take her to the mailbox.” Guide the student in finding and circling the clue words and filling in the blank in the other sentences in the same manner. (listening, speaking, reading, viewing, writing, thinking)

• Make a Prediction

Introduce the story. Read the title to the student and show her the picture on the cover of the book. Ask: “What do you think happens when you give a pig a pancake?” “Do you think this is what will happen in the book?” Look at the pictures together. Ask the student, “Do you want to add anything to or change anything in your prediction based on the pictures?” Tell the student to write her prediction on the white board. Say, “Let’s read and see what happens.”
• **Introducing the Concept of Circular Stories**

Introduce the concept of circular stories by drawing half of a circle on a sheet of paper. Pass the paper to the student to draw the rest of the circle. When the student has completed the circle, ask, “How do you know where the circle will end?” Explain the storybook today is a circular story, so it follows the path of a circle and ends where it begins.

(listening, speaking, reading, viewing, writing, visual representation, thinking)

*During the Reading of the Storybook*

Read a few pages of the story and stop at a predetermined stopping point that enables predicting. Ask the student to predict what will happen next. Continue reading the story aloud taking turns with the student. Pause at other predetermined points in the story and ask, “What do you think will happen next?”

(listening, speaking, reading, thinking)

*After Reading the Storybook*

At the end of the story discuss how each event caused another event to take place, emphasizing the cause/effect pattern in the book. Also, discuss how the story ended up in the same place it began. Remind the student this is what a circular story does.

• **Retelling the Story**

Tell the student that she is going to retell the story, using pictures as cues. Spread out a set of cards with pictures from the story. Ask the student, “Can you tell me which of these events in the story came first?” Have the student sequence the pictures of the events in the appropriate order. Encourage “look backs” if the student has difficulty remembering the order of events. Tell the student to sequence the cards by laying them out in a circle on the table (forming a graphic organizer). Then have the student retell the story in her own words, using the cards in the circle to prompt her retelling of the events. Write the students retelling on paper as she dictates it. Tell the student to read her retelling
aloud and give her positive feedback regarding the strengths of her retelling. Give her some tips for future retellings.

• **Writing a Creative Story**

Next, tell the student she will write a creative circular story that begins, “If you give a __________ a __________.” “Ask, what animal do you want to be the main character in your story?” Use a circular graphic organizer on mapping paper to draft the student’s story. Ask, “What food item will you give to your animal at the beginning of the story?” Write the story as the student dictates it. Continue in the same manner until the student dictates several cause/effect elements in her creative story. Ask the student, “How can you get back to the beginning now?” Discuss how she might move her story in a circular direction back to the beginning. Have the student read her creative story aloud. Say, “Good job. You created your own circular story.”

(listening, speaking, reading, writing, visual representation, thinking, viewing)

*Before Reading the Information Text*

Tell the student that you will read information to her about making maple syrup. Say, “Because you told me in the interview that your favorite food is pancakes covered with lots of maple syrup, I chose this information book with pictures for us to explore, so we can learn more about maple syrup.”

*During Reading the Information Text*

Tell the student to listen as you read aloud the information on the process of making maple syrup. Read the information to the student. Show the pictures and stop at predetermined stopping points to talk about the process with the student.

*After Reading the Information Text*

Say, “We are going to retell how maple syrup is made. What do you remember about the how it is made or the steps in the process?” Spread cards with picture cues out in front of the student. Say, “I
have prepared these pictures to help you retell. Put the pictures in order. Use “look backs” if needed. Guide the student through the sequencing process. Once the cards are in order, let the student use the photos to retell the process.”

**Conclusion**

Tell the student, “Today you accomplished many things. You learned about using small words to decode compound words, using context clues to figure out the meanings of words, and using circular story maps and pictures to retell stories and information that you learned about maple syrup.”