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ABSTRACT

Evidence from existing literature suggests that the decoding and reading comprehension skills of poor readers can be improved by assisting them to read material that is too difficult for them to read by themselves--especially when the reading experiences are focused on the content of the material rather than on the words. A study examined the reading achievement effects of "group assisted reading," a teaching strategy designed to assist poor readers to read difficult material, in which the teacher assisted a group of students to read text material in unison--emphasizing correct phrasing, intonation, and pitch. Subjects were randomly selected from the population of poor readers in the third grade in one elementary school in a low socioeconomic district in Utah; 18 received the group assisted reading treatment and the control group (also 18 students) received unassisted reading treatment. One teacher taught both groups of students in "pull-out" sessions over an eight-week period (40 school days, 15 minutes a day). A pretest-posttest control group research design was used. Reading comprehension and vocabulary were measured using the Gates-MacGinitie Reading Test, Level C, Form 1. Results indicated that students involved in the group assisted reading experiment made greater achievement gains on reading comprehension and vocabulary than those who were given no assistance. (Three tables of data are included, and 70 references are attached.) (Author/SR)

An Experiment Using A Group Assisted Reading Strategy with Poor Readers

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Running Head: Group Assisted Reading

Abstract

Evidence from existing literature suggests that the decoding and reading comprehension skills of poor readers can be improved by assisting them to read material that is too difficult for them to read by themselves--especially when the reading experiences are focused on the content of the text material rather than upon the words. The study examined the reading achievement effects of "group assisted reading," a teaching strategy designed to assist poor readers to read difficult material. The 18 poor readers who received the group assisted reading treatment and the 18 poor readers who received the unassisted reading treatment were randomly selected from the population of poor readers in the third grade in one elementary school in Provo, Utah. This school served low socio-economic families, and the achievement scores obtained by the students in the school were the lowest obtained in the school district. All of the students in the study came from three third grade classrooms. One teacher taught both groups of students in "pull-out" sessions over an eight week period (40 school days, 15 minutes a day). A pretest-posttest control group research design was used. Reading comprehension and vocabulary were measured using the Gates-MacGinitie Reading Test, Level C, Form 1. All students, in both treatment groups, were administered the Gates test at the end of January 1987 and again in April 1987. Students involved in the group assisted reading experiment made greater achievement gains on reading comprehension and vocabulary than those who were given no assistance.

INCREASING READING PERFORMANCE OF POOR READERS IN THE THIRD GRADE BY USING A GROUP ASSISTED READING STRATEGY.

The question, "What can we do to help poor readers read better?" is one that concerns most educators. Some believe that "whole language" theorists are making significant contributions to the solution of the problem. Whole language advocates suggest that all students, regardless of handicapping conditions, be provided with reading and writing instruction utilizing whole and connected language. "Holistic" language experiences are both familiar and natural for children, they say, and when children are in familiar, natural settings they learn to read and write better than when they are in unfamiliar, unnatural ones.

The evidence seems to be mounting that poor readers can be helped to read better if they are assisted to read material they are incapable of reading by themselves--especially if the reading experiences emphasize the content of the text rather than the identification of words. In a recent study poor readers in normal classroom settings made significantly greater reading achievement gains when they were assisted to read difficult stories and books by a classmate than poor readers given traditional remedial help (Eldredge & Quinn, 1988).

This study attempted to test whether or not similar results could be obtained in a group reading situation where one teacher assisted six students at a time to read difficult material. The term "group assisted reading" refers to the teacher assisting a group of students to read text material in unison--emphasing correct phrasing, intonation, and pitch. Since group assisted reading seemed to be an easy-to-implement, cost-effective way to help poor readers learn to read by reading, it became the object of this study.

Literature Review

One of the characteristics of poor readers is that they are unable to connect the words they read to make sense, and they are unable to connect the sentences they read to make sense. Among the reasons given for this problem is that these students' decoding skills are so poor that they tend to focus on small units of printed discourse rather than the larger ones. When this happens it is theorized that they have difficulty comprehending the whole. Some support for this theory can be found in studies suggesting that fluent readers percieve phrases while reading whereas less able, word-by-word readers do not (Kowal et. al. 1975). It is possible that educators might be hindering the reading growth of poor readers rather than facilitating it when reading instruction is narrowly focused on decoding instruction. Maybe greater reading growth occurs when poor readers have the decoding burden removed from them for a time so they can learn essential comprehension skills and concepts that can be learned through connected discourse reading experiences.

There is an "attention" issue related to reading comprehension in addition to the "focus" issue. The theory of automatic information processing proposed by LaBerge and Samuels (LaBerge & Samuels 1974) suggests that people cannot process two sources of information presented to them simultaneously. Therefore, if students give all of their attention to decoding they have virtually none left to give to comprehension. According to the theory of automaticity, good readers decode text automatically, so they are able to give more attention to comprehension. Beginning and word-by-word readers are nonautomatic in their decoding, and because most of their attention is on decoding, comprehension suffers.

Another aspect of this complex decoding-comprehension issue has to do with the speed at which decoding occurs. McNeill (1968) found that the words in sentences must be heard within a specified period of time if meaningful comprehension is to occur. One can speculate that this speed issue also relates to reading. If a sentence is read too slowly--say one word every 5 seconds--its structure may collapse leaving only a string of words producing little meaning. Support for this notion can be drawn from many reading theorists, including Frank Smith (1975) who believes that one must read close to 250 words per minute for good comprehension to occur.

Over the past 35 years, a substantial body of evidence has been collected suggesting that the decoding and reading comprehension skills of poor readers can be improved by assisting them to read material that is too difficult for them to read fluently by themselves. Several different methods have been developed to assist poor readers to read difficult material.

Neurological Impress Method

Heckelman (1966) developed an assisted reading strategy that he used with handicapped readers in the early 50's. He called it the Neurological Impress Method (NIM). He described the method as a system of unison reading whereby the student and a teacher read aloud, simultaneously, at a normal rate. The disabled reader was placed slightly to the front of the teacher with the student and the teacher holding the book jointly. As the student and teacher read the material in unison, the voice of the teacher was directed into the ear of the student at close range. The teacher moved her finger along the line of print following the words that were being spoken. The NIM was a technique designed to impress mature reading

behaviors upon students experiencing severe reading disabilities, and to cover as many pages of print as possible within the available reading time.

Experiments using the NIM have produced positive achievement results with handicapped secondary students in clinical settings (Cook et al., 1965; Cook et al., 1980; Embrey, 1968; Gardner, 1963; Gardner, 1965; Heckelman, 1969; Langford et al., 1974; Miller, 1969; Robin, 1977; Stinner, 1979). A few studies, however, failed to find significant achievement differences using the NIM (Arnold, 1972; Gibbs & Proctor, 1977; Lorenz & Vockell, 1979). In the Arnold study the NIM was compared to the Language Experience Approach which also assists poor readers to read text. Lorenz and Vockell used the NIM with the poor readers in their study for only 6 1/2 hours, and Gibbs and Proctor, using volunteer mothers, used the strategy with their target students for only 10 hours. Although positive results have been achieved using the NIM in identical periods of time, it has been suggested that the NIM effects are not always evident within this time constraint.

Taped Assisted Reading

William Jordan developed Prime-O-Tec, a taped version of the NIM, in the mid 60's (Jordan, 1965, 1966, 1967). Handicapaped readers used teacher-made prerecorded tapes and headphones. They listened to the tapes, followed the print with a finger, and read along with the tape. Periodically over the next 20 years, experiments were conducted using taped assisted instruction with poor readers producing positive results (Bliss, 1976; Chomsky 1976, 1978; Carbo, 1978; Hollingsworth, 1978; Railsback, 1969; Schneeberg & Mattlemen, 1973; Schneeberg, 1977).

When Hollingsworth (1978) used taped assisted reading for 15.5 hours with readers who were below grade level, he obtained significant

gains . When using taped assisted reading for 7.5 hours with good readers, however, he (Hollingsworth, 1970) did not obtain significant achievement gains. Hollingsworth's studies suggest that the difference between non-significant and significant findings in "assisted reading" studies may be due to differences in amount of instruction, the achievement level of students studied, or both.

Assisted Reading

Kenneth Hoskisson (1974, 1975) developed an "assisted reading" technique for parents to use with preschoolers to help them learn to read. It was based on the premise that children can learn to read when they see the graphic shapes of words, hear them pronounced, and follow their patterning in sentences. Hoskisson et al. (1974) reported successes using the technique with preschoolers and low achievers in the elementary grades. Hoskisson and Krohm (1974) also reported success using a taped adaptation of assisted reading in a second grade classroom.

Repeated Readings

Dahl and Samuels (1974) developed the method of repeated readings. Unskilled readers, they claimed, could access meaning from printed text by rereading a passage several times. Samuels (1979) reported that the method could be implemented with or without audio support. Repeated reading, with or without audio support, has proven to be an effective tool for the improvement of both decoding and comprehension skills of poor readers (Gonzales & Elijah, 1975; Herman, 1985; Taylor et al., 1985; Amlund et al, 1986; Dowhower, 1987).

Dyad Reading

Eldredge developed an assisted reading technique called dyad or buddy reading (Eldredge & Butterfield, 1986). He modified Heckelman's

Neurological Impress Method so it could be used in the regular classroom setting rather that the clinical one used by Heckelman. Among the modifications made in the original technique, the "lead reader," a student in the classroom, replaced the teacher. The "assisted reader," the student who did not decode well, worked with a different "lead reader" or "buddy" each week. Another modification to Heckelman's NIM was to ignore the difficulty level of the material used by the student dyads. Any material, regardless of difficulty level, was appropriate to use it could be read by the lead reader and if it was of interest to both students.

All of the second grade children using basals in the Eldredge and Butterfield study were placed in the same grade-level basal reader; i. e., they all learned to read using material written at the same level of difficulty regardless of their individual reading level scores. This meant that the poorer readers in those classrooms were required to read books written at their "frustrational reading levels."

In order to help the poor readers read the "difficult" basal stories, the teachers in the Eldredge/Butterfield experiment paired them with buddies who were capable of reading the school material. The students paired together sat side-by-side, reading aloud from the same book. The lead reader touched each word as it was read, while the assisted reader read along with the lead reader. The lead reader read the book at a normal oral reading speed, avoiding word-by-word reading. The assisted reader looked at the words as they were read by the lead reader and read aloud as many of the words that could be repeated during the process. Over a period of time the assisted readers were able to read the regular school material without any assistance. Achievement measures administered at the end of the year indicated that the children taught to read in heterogeneous groups

using the same grade-level basals achieved as well or better than the students taught to read in the traditional reading groups organized to accommodate students' "instructional reading levels".

Subsequently the effects of dyad reading were studied in a controlled experiment (Eldredge & Quinn, 1988). The average reading gains achieved by the poor readers involved in dyad reading groups were over three standard deviations higher than those obtained by poor readers receiving the conventional treatment.

Study Hypothesis

This study examined the effects of group assisted reading on the reading achievement of 18 third grade poor readers. Group assisted reading was a teaching strategy where the teacher read text material along with a small group of students--modeling correct phrasing, intonation, and pitch. As the students read the material in unison with the teacher, they tracked the words in the text with a finger. The text material was read many times to help the students achieve reading fluency.

It was hypothesized that the use of group assisted reading would increase the reading comprehension and vocabulary scores of poor readers. The group assisted reading treatment lasted for eight weeks (forty school days, fifteen minutes per day). The students receiving the treatment were involved in ten hours of instruction over the eight week period. Comparable low achieving readers were identified for the unassisted reading treatment. They also received ten hours of instruction during this time. All of the students were tested in April on the Gates-MacGinitie Reading Test to note differences in reading comprehension or vocabulary.

Methods

Subjects

The students involved in the study were randomly selected from the population of low achieving third grade readers in an elementary school in Provo, Utah. This school served low socio-economic families, and the achievement scores obtained by the students in the school were the lowest obtained in the school district. The school district is located in a community of about 200,000 people just 45 miles south of Salt Lake City, Utah. The Brigham Young University is located in the center of this community.

The population of low achieving readers from which the samples were drawn were identified by the third grade teachers in the school. All students not receiving "special education" reading instruction, who scored at the frustratation level when attempting to read 100 word samples of the first third grade reader in the Houghton Mifflin Reading Program, were identified as low achieving readers for this study. These students scored below 90% oral reading accuracy and 50% or below on comprehension accuracy on the 100 word samples taken from the third grade text.

The 18 poor readers who received the group assisted reading treatment and the 18 poor readers who received the unassisted reading treatment were randomly selected from the population of poor readers in three third grade classrooms. Six students from each classroom were randomly assigned to receive the assisted reading treatment, and six from each classroom were randomly assigned to receive the unassisted reading treatment.

All of the students in the study continued to receive regular classroom reading instruction from their own teachers. The third grade teachers in the school used a literature-based reading program that had

been initiated in the school two years previously. Each classroom was equipped with over 300 paperback literature books from which the students selected those they wanted to read. The literature books were written at various difficulty levels. They were designed to be read by children in the first, second, and third grades, and they covered a wide variety of topics and genre. In addition, school library books were also used in the classroom to widen the choice of books available to students. The Houghton Mifflin Basal Readers, formerly used as the school's reading program, were also available for students to read if they chose to read them.

Children in the classroom were allowed to select the books they read. They were encouraged to select books that were easy enough to read, and were interesting to them. Teachers listened to children read orally several times a week to make sure that they were selecting books they could read. Students also made weekly oral reports on the books they read.

An important component of the daily classroom reading experience for all third grade students was a 10-15 minute total-class phonics lesson. The phonics lessons were designed to teach students how to isolate and blend sounds in words.

A graduate student from the Brigham Young University taught all of the students in the study in daily 15 minute "pull-out" sessions that continued over an eight week period (40 school days). Thirteen of the students studied were girls and twenty-three were boys. There were seven girls and eleven boys in the assisted reading group and six girls and twelve boys in the unassisted reading group.

Instrument

Reading comprehension and vocabulary were measured using the Gates-MacGinitie Reading Test, Level C, Form 1 (MacGinitie, 1978). This test yields two subscores, one for reading vocabulary, and another for reading comprehension. The vocabulary test samples the child's reading vocabulary. It contains 45 items. Each item consists of a test word followed by four words or phrases. The child's task is to choose the one word or phrase that means most nearly the same as the test word. Vocabulary words used in the test were selected from a study of words found in 16 commonly used reading programs for grade three.

The comprehension test measures the child's ability to read complete prose passages with understanding. It contains 22 different passages with two questions about each passage (44 points possible). The passages, some of which have been chosen from books for children, represent various subject matter fields. The questions include both those that require an understanding of information that is explicitly stated in the passage (65% literal questions), and those that require an understanding of information that is only implicity in the passage (35% inferential questions).

The internal consistency of these subscales, as computed using Kuder-Richardson Formula 20 with data obtained from the norming sample, was .95 for vocabulary and .92 for comprehension (MacGinitie, Kamins, Kowalski, MacGinitie, and MacKay, 1978). In addition to the subscales, a total reading score is obtained from the test by summing the raw scores for each subscale. For this study, the raw scores for comprehension, vocabulary, and total reading were used.

Procedures

A pretest-posttest control group research design was used for the study. All students, in both treatments, were administered the Gates test at the end of January 1987 and again in April 1987. One teacher taught both groups of students in "pull-out" sessions over the eight week period. Each pull-out group consisted of six students. She taught three groups receiving the assisted reading treatment, and three groups receiving the unassisted reading treatment on a daily basis.

The students receiving the assisted reading treatment read eight paperback books with the teacher over the eight week period. The books selected were drawn from the children's literature books supplied in each third grade classroom as a part of their literature-based reading program. They were selected because the target students were interested in the books, but could not read them without help when given an opportunity to do so. The readability data obtained on the books is reported in table 1.

Insert Table 1 About Here

The students in the assisted reading treatment read orally during the 15 minute period. The students were grouped in dyads (twos), and each dyad had one copy of the text being read for the day. The teacher also had a copy. The teacher and the students read the story together with the teacher setting the pace for reading, and providing the model for expressive oral reading. She read the story in phrase units, emphasizing correct stress, pitch, and juncture. The students in the dyads jerkily tracked each word on the page with a finger as it was being read. One student in a dyad tracked the words on the side of the page nearest to her

and the other student tracked the words on the opposite page. Both students kept their eyes on the words in the text while they were reading it. They read the story several times so they could read it expressively without teacher assistance. At the end of the period, the students in the dyads read a part of the story together orally without teacher assistance.

The teacher read the first book many times with the students until they were able to read it fluently with expression. The second book was read after the students achieved fluency with the first one. After fluency was achieved with the second book, the third book was introduced. This process continued over the eight week period. Throughout the experiment the students voluntarily commented that they liked the stories, and they enthusiastically endorsed the procedures used to read them.

The students receiving the unassisted reading treatment read literature books silently during this same period of time. The students choose the books they read from a selection of over 300 paperback books, the same pool of books used in the regular classroom program. The same eight books used by the assisted reading group were provided for students to read if they choose to do so. However, they were not selected by these students because they were more difficult than other books which were available to them. About 100 of the books in the classroom set were considered to be "independent level" material for these students and about another 75 were considered to be "instructional level." However, the students choose the books they wanted to read on the basis of interest and their ability to successfully read them. The selection procedures were similar to those recommended by Veatch (1978). Children went through "trial and error" procedures until they found books they could successfully read. The teacher asked them to read portions of their books orally from

time to time to make sure that these students were having successful reading experiences.

Students in the unassisted reading treatment read their books silently during the 15 minute reading period while the teacher made herself available to help them read any words they could not read. The students enjoyed the books and commented positively about the experience throughout the experiment.

Analysis

Raw scores and grade equivalent scores were computed for each subject in the study on the total reading pretest and posttest so comparisons of students' achievement levels with the readability levels of the treatment materials could be made. Descriptive statistics were computed for students in both experimental groups on vocabulary, comprehension, and total reading pretest, and posttest scores. A 2(treatment1, treatment2) x 3(class1, class2, class3) factorial analysis of covariance (ANCOVA) was used to examine differences between treatments, classes, and treatment-class interactions for each outcome variable: vocabulary, comprehension, and total reading. The pretest scores for each variable were used as the covariate.

Findings

Raw scores and grade equivalent scores for each subject in the study on the total reading pretest and posttest are presented in table 2. According to that data there were five students in the assisted reading group and seven students in the unassisted reading group who were reading at or above grade level before the study began. Even though these students did poorly on the informal reading test using the 3rd basal reader, they obtained respectable scores on the third grade Gates Achievement

pretest. The average grade equivalent score was 2.9 for the assisted reading group and 3.1 for the unassisted reading group before the study began. The average grade equivalent score was 3.6 for the assisted reading group and 3.2 for the unassisted reading group after the study was completed.

Insert Table 2 About Here

Descriptive data comparing the vocabulary, comprehension, and total reading scores of the children involved in the two treatments are presented in Table 3. Students involved in the assisted reading experiment made greater achievement gains on all reading outcomes than those involved in the unassisted reading treatment.

Insert Table 3 About Here

To test for significant achievement differences due to treatment, class, or treatment-class interaction, a Treatment x Class analysis of covariance was computed on vocabulary, comprehension, and total reading posttest scores using the appropriate pretest variable as the covariate. The unadjusted posttest means for vocabulary reported in table 3 reflected a significant main effect for treatment, $F = (1,32) = 9.60$, $p < .01$. No significant effects were found for class, $F = (2,32) = .63$, $p = .54$, or for treatment-class interaction, $F = (2,32) = 2.42$, $p = .11$. The unadjusted posttest means for comprehension reflected a significant main effect for treatment, $F = (1,32) = 4.07$, $p < .05$. No significant effects were found for

class, $F = (2,32) = 1.01$, $p = .38$, or for treatment-class interaction, $F = (2,32) = .59$, $p = .56$. The unadjusted posttest means for total reading reflected a significant main effect for treatment, $F = (1,32) = 9.28$, $p < .01$. No significant effects were found for class, $F = (2,32) = .29$, $p = .75$, or for treatment-class interaction, $F = (2,32) = .44$, $p = .65$.

Discussion

Children in both the assisted and unassisted reading groups were identified by their teachers as poor readers. Although some of them, in both groups, obtained fairly respectable scores on the Gates-MacGinitie reading achievement pretest, all of them were unable to independently read the basal reader designed for their grade level. In fact, the informal reading test, utilizing 100 word samples from the third grade basal, indicated that the text was "frustrational level" material for all of them.

Children in the unassisted reading experiment were given opportunities to practice reading in the same way that all of the third grade students in that school practiced reading. They selected books to read that interested them that they were able to read. The classroom teachers verified that the students were able to read the books they selected by listening to them read on a regular basis, and by requiring them to make oral reports on the books they read.

The children in the assisted reading experiment were given opportunities to read books they thought looked interesting, but acknowledged to be too difficult to read independently. The teacher and students read these books together orally with the teacher setting the reading pace while she modeled correct phrasing, intonation, and expression.

The children in the assisted reading group outperformed the students in the unassisted reading group. there are several explanations for the achievement differences. Over the past 15 years, an impressive body of research on cooperative learning has been collected suggesting that students achieve more in cooperative learning groups than they do when working by themselves (Stevens, et al., 1987). One explanation for the achievement gains made by students in the assisted reading group may be drawn from this research since pupil-team interaction was an integral part of the treatment.

Another explanation for the achievement gains may be found in the whole-language literature. Whole language theorists hypothesize that achievement gains in reading are attributable to holistic reading experiences more than anything else (Goodman 1986; Clay, 1985; Holdaway, 1979; Smith, 1975). Students in the assisted reading group were certainly provided meaningful, holistic reading experiences. One might argue, however, that the students in the unassisted reading group were also provided holistic reading experiences because they were reading stories written at their independent or instructional levels. It is believed that the reading experiences provided for students in the unassisted reading group were not as holistic (the ideas in the text were not connected together as well as they read) as those provided in the assisted reading situation. Although students in the unassisted reading group were reading books considered appropriate for their reading levels, and they were generally accurate in their decoding when classroom teachers checked their oral reading, they were not fluent in decoding. Decoding accuracy and decoding fluency are separate decoding skills, and the experiences one

obtains from stories are different when decoding accuracy is present, but decoding fluency is lacking.

The research on socially mediated instruction also offers some explanation for the gains made by students in the assisted reading group (Brown et al., 1984). Social settings where children interact with adults, have been found to be settings where a great deal of learning occurs. Indeed, some would argue that the majority of learning is shaped by such social processes (Vygotsky, 1978). The teacher in the assisted reading experiment provided socially mediated instruction for students when she and the students read the stories together orally according to her adult model, and when they later practiced reading parts of the story in pupil dyads according to that model. These children, who could not read the material fluently, probably benefited from having exposure to a correct reading model that they could imitate (Reitsma, 1988).

The reading gains obtained might also be due to other factors. It is conceivable that the group assisted reading experience indirectly improved students' vocabulary knowledge and decoding skills which, in turn, improved their scores on the vocabulary and reading comprehension test. Research has found that incidental acquisition of vocabulary knowledge occurs during the normal reading of natural text (Nagy et al., 1985). However, the vocabulary growth in such situations generally occurs in small increments over a period of time (Carey, 1978; Clark, 1973) unless students encounter a word in print many times. Jenkins et al. found that students who encountered 10 repetitions of a word while reading acquired more word knowledge than students who encountered the same word only twice (Jenkins, et al., 1984). The multiple exposures to words that the students in the assisted reading group encountered while reading difficult

text material might provide an explanation for their achievement gains in vocabulary.

Reading comprehension is the desired outcome of all developmental and remedial reading instruction. Without reading comprehension individuals cannot read for enjoyment, enrichment, or information. According to schema theory, readers construct the meanings they get from written text by using their background knowledge to interact with the text being read. It is possible that poor decoding skills prevent this interaction from taking place. Fluent, accurate word recognition has been identified as a necessary condition for good reading comprehension (Anderson, et. al., 1985) and poor readers are typically poor at decoding. Therefore, nonaccurate, nonfluent decoding is at least one of the reasons for the indaequate reading comprehension of poor readers.

If poor readers perceive reading as the pronunciation of individual words, which has often been observed, they may focus on isolated aspects of text instead of the whole (Kowal et al., 1975). If they do not direct enough of their attention on the message of the text because they are concentrating so heavily on the decoding process, comprehension will suffer (La Berge & Samuels, 1974). If they do not decode fast enough, meaningful interaction between the reader and an author may not take place (Smith, 1975).

The readers in the assisted reading group were helped to read their text material in phrases and sentences rather than just individual words. This experience might have helped them perceive reading differently. It probably helped them focus on the important aspects of text, free them from any decoding burden, and speed up the decoding process so they could give the necessary attention to the text message. The experiences

might have improved their decoding skills also because of the repeated visual/auditory reinforcement of printed words provided for them in the treatment. Although this is still somewhat speculative, and must be tested by further research, it is a logical possibility.

When students are placed in "instructional reading level" material they are provided a reading experience where they encounter a maximum of only 5 words in every 100 words that they can't already decode, a limitation established by the Informal Reading Inventory formula itself. However, when students are placed in "frustrational reading level" material, and are assisted to read that material, they encounter many more words unfamiliar to them in print. These opportunities to encounter unfamiliar words in print, and to learn to recognize them, probably enhances the reading growth of young readers. Many researchers have claimed that children need repeated opportunities to read so their familiarity with printed words increases to the point where they can be identified quickly without the necessity of phonemic decoding (Barron, 1986; Gogh & Hillinger, 1980; Perfetti, 1985; Reitsma, 1983; Seidenberg, 1985). However, children can't increase their familiarity with specific printed words if they don't encounter them in some reading situation.

Differences in exposure to printed words may be both an effect and a major cause of individual differences in the development of reading skill. "The small amount of reading practice on the part of the less skilled reader may considerably delay the acquisition of rapid, automatic processes of direct visual recognition (Reitsma 1988, p. 222)."

It could be argued that "instructional reading level" material actually slows down the decoding growth of children simply because they don't get enough practice reading unfamiliar printed words. This line of reasoning

raises some interesting questions regarding popular text placement practices for reading instruction. The "reading levels" concept is well known to teachers, and many of them group students for reading instruction according to the "instructional reading level" of each student in the classroom, but existing research doesn't tell us whether the students receiving instruction from materials based on the "instructional reading level" criteria would benefit more or less than they might from using easier or harder materials (Shanahan 1983, p. 579; Ahrendt 1983, pp. 585-586).

Reitsma's study on reading practice (1988) provides support for the belief that learning printed words contributes to reading development. Rashotte and Torgesen (1985) found that when the same words are read several times in stories, new stories sharing many of the same words are also read faster. These findings support a view that readers acquire more efficient word recognition skills for specific words while they are reading.

The repeated exposure to printed words accompanied by the pronunciation of the words may have increased the size of the students' sight vocabularies over a period of time. There were 6,711 running words in the eight stories used in the assisted reading treatment. However, there were only 1,260 unique words used in those stories. Of those 1,260 words, ten of them were names of characters that were repeated multiple times (188 of the running words). A computer analysis of the 6,711 running words used in the eight books revealed that 357 of the most commonly used words in the language occurred in those stories 4,648 times. When the 188 words representing story characters were subtracted from the 6,711 running words, the 357 words comprised 71% of the running text encountered by the students. Five-hundred-fifty-six (556) frequently used

words (Carroll et al., 1971) occurred 5,199 times. Those words comprised 80% of the words the students read in the eight stories.

When one considers the multiple exposures the students had to basic sight vocabulary words in the eight stories, it seems reasonable to suggest that sight vocabulary growth could occur--especially when the stories were read by the students several times. This assumption is consistent with the results of repeated readings research (Gonzales & Elijah, 1975; Herman, 1985; Taylor et al., 1985; Amlund et al., 1986; Dowhower, 1987).

Whether the improved fluency obtained through repeated reading of the same story is transferred to a new story depends largely on the degree of word overlap between the stories (Rashotte & Torgesen, 1985). Maybe the words practiced in the reading of the eight stories helped the students in the assisted reading group read and comprehend the test better than the students in the unassisted reading group. A computer analysis of the words used in the Gates MacGinitie reading test revealed that there were 821 different words used. Many of these 821 words were used multiple times in the test while others were used only once or twice. There were a total of 1877 running words in the test. Of the 821 different words used, 24 of them were proper names or variants of proper names. When the proper names or variants of these names were subtracted from the list, 797 different words were identified. Forty-five percent of these words (361) were practiced multiple times in the eight stories read by the students. These 361 different words used in the test occurred in the eight stories a cumulative total of 4,399 times. With multiple readings of the eight stories those 361 words were probably read 21,995 times.

When the proper names and proper name variants were subtracted from all of the running words used in the test, 1830 running words were

left. Over sixty-six percent of the running words found in the test (1212) were practiced multiple times in the eight stories read by the students.

The view that reading is a skill that will be learned primarily through actual reading is implicit in several theories of learning to read (Gibson & Levin, 1975; LaBerge & Samuels, 1974; Perfetti, 1985; Stanovich, 1986). To increase reading accuracy and fluency, practice is needed. In fact, some reading people claim that reading instruction should be equated with practice (Duffy & Roehler, 1982). Some support for the view that reading is improved by reading can be found in this study.

A weakness of the study is that only traditional measures of reading achievement were used. Multiple measures of reading achievement, including newer strategies for measuring reading outcomes, would have strengthened the study. The size of the effects noted, however, are impressive considering the relatively short treatment time involved (ten hours). Teachers and administrators may want to try group assisted reading as an alternative approach to help remedial readers read better. It is certainly an efficient, easy-to-implement strategy.

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Table 1

Number of Words and Readability Data for the Literature Books Used in the Group Assisted Reading Experiment

Book	Number of Words	Fog Formula	Fry Formula	Dale Chall Formula	Average Readibility
A Pocket For Corduroy	862	7.1	6.0	5.5	6.2
Pig Pig Grows Up	552	6.9	5.0	5.5	5.8
Millions of Cats	955	7.1	5.0	4.0	5.4
The Island of the Skog	1014	6.6	6.0	7.5	6.7
The Elves and the Shoemaker	741	6.1	5.0	4.0	5.0
Stanley and Rhoda	666	3.0	2.0	5.5	3.5
Mouse Tales	1525	3.5	2.0	4.0	3.2
Over in the Meadow	396	5.5	4.0	5.5	5.0

Table 2

Individual Total Reading Pretest and Posttest Raw Scores and Grade Equivalent Scores

	Assisted Reading Group			Unassisted Reading Group	
	Pretest Raw and GE Score	Posttest Raw and GE Score		Pretest Raw and GE Score	PosttestRaw and GE Score
Class 1					
Girl	33 (2.3)	66 (4.0)	Girl	34 (2.3)	48 (2.8)
Boy	43 (2.6)	48 (2.8)	Boy	45 (2.7)	32 (2.2)
Boy	64 (3.8)	65 (3.9)	Girl	46 (2.7)	48 (2.8)
Boy	59 (3.6)	73 (4.7)	Boy	63 (3.8)	56 (3.4)
Girl	20 (1.6)	32 (2.2)	Boy	66 (4.0)	74 (4.9)
Girl	54 (3.3)	56 (3.4)	Boy	52 (3.1)	36 (2.4)
Class 2					
Boy	25 (1.8)	42 (2.6)	Boy	20 (1.6)	30 (2.2)
Boy	40 (2.5)	38 (2.5)	Boy	42 (2.6)	39 (2.5)
Girl	39 (2.4)	57 (3.5)	Boy	45 (2.7)	40 (2.5)
Boy	49 (2.9)	62 (3.7)	Girl	50 (3.0)	41 (2.6)
Girl	55 (3.4)	53 (3.2)	Boy	55 (3.4)	75 (5.1)
Boy	70 (4.4)	65 (3.9)	Boy	59 (3.6)	52 (3.1)
Class 3					
Boy	18 (0)	23 (1.7)	Boy	33 (2.3)	36 (2.4)
Boy	36 (2.4)	58 (3.5)	Boy	63 (3.8)	56 (3.4)
Boy	50 (3.0)	65 (3.9)	Girl	42 (2.6)	38 (2.5)
Boy	49 (2.9)	62 (3.7)	Girl	61 (3.7)	52 (3.1)
Girl	63 (3.8)	79 (5.8)	Girl	65 (3.9)	75 (5.1)
Girl	79 (5.8)	82 (6.5)	Boy	67 (4.1)	65 (3.9)

Table 3

Mean Vocabulary, Comprehension and Total Reading Pretest, and Posttest Raw scores by Group

Group	Pretest M (SD)	Posttest M (SD)
	Vocabulary	
Assisted	24.22 (8.91)	30.89 (8.33)
Unassisted	25.06 (7.80)	26.00 (7.52)
	Comprehension	
Assisted	22.78 (8.72)	26.11 (8.34)
Unassisted	25.39 (8.13)	23.61 (8.53)
	Total Reading	
Assisted	47.00 (16.93)	57.00 (15.63)
Unassisted	50.44 (13.23)	49.61 (14.75)

Note. Maximum Vocabulary score = 45
Maximum Comprehension score = 44
Maximum Total Reading score = 89