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ABSTRACT

This study sought to add to the evidence on predictable texts by asking two questions: (1) What type of reading do predictable texts produce? and (2) How do predictable texts influence sight vocabulary acquisition and decoding? Subjects, six black male students selected from a first-grade classroom in an urban setting, had minimal or no sight vocabulary. Subjects (in two groups of three) were pulled out of their regular classroom reading lesson twice a week from mid-October to mid-April for a total of 30 sessions. Sections were 20-25 minutes long and consisted of each subject reading orally the same complete predictable story, followed by word recognition activities. Data included scores on word recognition, pseudoword decoding, and standardized tests. Results indicated that: (1) an extremely high proportion of the miscues were contextually appropriate; (2) using a 90% criterion, three subjects failed by a substantial amount to learn to recognize the words presented in the texts; and (3) decoding as measured by a pseudoword test showed a similar pattern--three of the students showed an almost total lack of decoding skills. Findings suggest the existence of large individual differences in decoding and word recognition which seem to be related to sensitivity to the code. (One table of data is included; 20 references are attached.) (RS)

THE EFFECT OF REPEATED READING OF PREDICTABLE TEXTS ON WORD RECOGNITION AND DECODING: A DESCRIPTIVE STUDY OF SIX FIRST GRADE STUDENTS

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INTRODUCTION

Reading texts have a number of functions in beginning reading instruction. They are designed to build sight vocabulary, contribute to the acquisition of decoding skills, provide motivation for reading, and introduce readers to the sentence, discourse and story structure conventions of written language. Beginning readers lack of sight vocabulary can be an important impediment to fulfilling these functions. Until beginning readers can recognize a substantial portion of the words in their texts their reading will be slow and laborious and comprehension and motivation may be reduced. Thus beginning reading texts need to overcome beginning reader's lack of sight vocabulary.

Linguistic and basal readers provide the major conventional solutions to this problem. Linguistic readers attempt to reduce the sight vocabulary load by selecting words on the basis of spelling regularity which simplifies the decoding and word recognition task by limiting the number different sound-spelling correspondences. The adherence to the spelling-regularity principle results in texts with less than meaningful stories and language patterns that are awkward and inconsistent with the language expectations of children. Basal readers, on the other hand, select words on the meaning-frequency principle which produces a large number of sound spelling correspondences and contributes to the sight vocabulary load. Basals compensate for the large number of sound-spelling correspondences by limiting the number of different words and repeating them frequently. The repetition of a limited set of words helps the development of a sight vocabulary. However, the controls have a number of negative consequences. They produce syntactically, semantically and pragmatically unnatural language and awkward, ill formed stories which are inconsistent with children's language knowledge and expectations about sentence and story structure and are disruptive of the reading acquisition process (Goodman, 1986; Gourley, 1978; Shuy, 1981; Simons & Ammon, 1989). They also give children a distorted view of the nature of the real world texts they will encounter in the future.

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A more recent and increasingly popular solution to the vocabulary load problem is predictable texts. Predictable texts consist of repetitive sentence patterns, familiar concepts, story lines, and sequences, illustrations that provide word recognition clues, and rhythmic language (Bridge, 1979). These feature help overcome the vocabulary load by helping beginning readers build up expectations or predictions about upcoming words. These predictions by limiting the potential word choices allow readers to recognize words with less use of grapho-phonic or visual information as Goodman (1967) and Smith (1982) claim is characteristic of mature readers. Thus the vocabulary load is eased and reading can proceed in a more fluent manner without laborious and slow word recognition.

In addition to reducing the word recognition demands, predictable texts are often humorous and deal with familiar ideas consistent with children's background knowledge. Further they allow children to read complete stories. All these features increase motivation to read. Predictable texts also provide children the opportunity to practice orchestrating the multiple sources of information as skilled readers do rather than having the process distorted by laborious word recognition (Bussis et. al, 1985).

Another feature of the use of predictable texts involves repeated reading of the same text. The repetition adds to the predictability of the text by making the content and macro and micro structure of the story more familiar. The repeated exposure to the same words through multiple reading of the same text and repetition of words within the same text fosters the development of sight vocabulary as well as reading fluency.

While the advantages of predictable texts enumerated above are substantial, the issue of their role in developing a sight vocabulary and learning to decode remains unresolved. With regard to the development of a sight vocabulary predictable texts provide an amount of repetition equivalent to basals, suggesting an adequate amount of repetition for sight vocabulary acquisition. On the other hand by specifically emphasizing context they minimize the use of grapho-phonic information which may interfere with sight vocabulary acquisition. However the proponents of predictable texts claim that encountering words in context is an effective and efficient way of acquiring a sight vocabulary and learning to decode (Clay, 1979, Holdaway, 1979). As Clay puts it:

"A child does not need to recognize a word in isolation before he can read it in text. Because he reads the word using meaning and context on several occasions he can come gradually to attribute a particular identity to that word standing alone. After an accumulation of experiences with the word in context the child can add it to his reading vocabulary....When the word is encountered in a new context, the visual memory will tend to revive memories of the grammatical and meaning contexts that have commonly occurred with that word in the past. This should increase fluency in reading and help with the decoding." (Clay, 1979, p. 159.)

There is some empirical evidence on the effects of predictable texts on sight vocabulary learning. Bridge, Winograd & Haley (1983) have shown in a comparative classroom study that predictable texts produced better word recognition and more positive attitudes toward reading than basal texts. And Leu, Degroff, & Simons (1986) have shown that predictable texts help poor readers exploit the contextual information which allows them to read as fast as good readers. These results suggest that predictable texts by exploiting contextual information and minimizing the use of graphic information reduce the vocabulary load while reading the texts. However, the effects of predictable texts on sight vocabulary acquisition and decoding in beginning reading are far from settled.

The present study seeks to add to the evidence on predictable texts by asking two questions: (1) What type of reading do predictable texts produce? (2) How do predictable texts influence sight vocabulary acquisition and decoding? Of particular interest is the issue of whether the emphasis on context use makes readers too dependent upon context thus interfering with decoding and sight vocabulary acquisition.

Method

Subjects

The subjects of this study were six black male first grade students selected from a first grade classroom in an urban setting. All students in the class were pre-tested on their knowledge of letter names, word recognition (Clay, 1979), and phonological awareness. The six students selected were similar in that they all knew most of the letter names, (Range 17-26). They had minimal or no sight vocabulary. Five of the six students were unable to recognize any words on the Clay test. One student was able to recognize 3 words. On a four alternative 18 item phoneme oddity test of phonological awareness three students scored at chance level or slightly above (3,4,6 items correct) indicating little phonological awareness: two students showed some phonological awareness (8,9 items correct) and one subject showed considerable phonological awareness (14 items correct). All six students were in the average range of ability as measured by the Peabody Picture Vocabulary Test (Range 90-105).

Procedures

Students were divided into two groups of three. Each group was pulled out of their regular classroom reading lesson twice a week from mid October to mid April for a total of 30 sessions. Sessions were 20-25 minutes long and consisted of each subject reading orally the same complete predictable story. During the reading of the story the reader and the two other students were told to follow along and point to the words being read. The order in which the students read the story in each session was varied over sessions. After all three students read the story, they engaged in a short word recognition activity. The words from the story were put on flashcards

and divided among the three students and they were required to pronounce the words on the cards. Students were allowed to look back at the texts to help with word recognition. Another activity involved unscrambling scrambled sentences made up of words from the story. One session a week students were asked to write sentences in a notebook using the words from the story. This activity was discontinued after several months because of lack of time in the sessions. Students were rewarded with a sticker at the end of each session. If a student read particularly well he was awarded two stickers. All sessions were audio taped.

The number of oral readings varied from 4 to 10 with a median of 6 readings. Students were also exposed to the stories while the other students were reading orally. For most of the stories the readings took place in consecutive sessions except for the end of the year reading which was followed by a sight vocabulary test. The repeated reading of some stories was spread over the entire year. The stories were first introduced by the teacher who read the story to the students. Then the story was read several times chorally by students and teacher. After the first choral reading the teacher left out predictable words which the students provided. Next each student read the story aloud. In subsequent sessions with the same story the students read the story individually in turn without the choral reading. In the first session with each the story the teacher lead a brief discussion of its content On subsequent readings the only discussion of content came from the spontaneous comments of the students. During the oral reading the teacher did not correct miscues. At times the other students corrected miscues by supplying the word. When a student came to a word he did not know the teacher or the other students provided the word. Occasionally the teacher asked the student to look at the first letter. Students were also queried as to the reason they made a self correction. The students were never prompted to sound out words.

Nine predictable stories in separate books were read. Five came from the McCracken readers. Two stories came from the Story Box Wright Group Readers. Two trade books, Rosie's Walk (Hutchins 1968) and Cat on the Mat (Wildsmith, 1982) were also read. All stories with one exception contained repetitive sentence structures often with only one word changed. In all stories the illustrations provided clues to the content words. The stories ranged from 32 to 144 words in length. The stories in total contained a total of 154 different words.

The classroom reading instruction used the Houghton-Mifflin Literary Readers which tend to de-emphasize systematic phonics instruction in isolation. The teacher supplemented the readers with the Open Court Letter-Sound cards which contain a letter, picture clue to the letter sound and alternate spellings for the sound. The cards were used in a rote manner with the students responding as a group.

Data collection

In addition to the pretesting mentioned above, students were posttested on word recognition (Clay, 1979), and pseudoword decoding (Stanovich, Cunningham & Feeman, 1984). Scores on the school district administered end of year grade 1 and grade 2 CTBS testing were also collected. The oral reading miscues were transcribed and coded for use of context and graphic information as well as self corrections. Contextual use employed Weber's (1970) criterion of grammatical acceptability up to and including the miscue. Graphic information use was scored on the basis of a common first letter. At the end of the year students were tested on their comprehension of the stories and ability to read words from the stories in isolation. They were also asked to read the stories with the illustrations removed. The other students in the class were tested on the CTBS, Clay word recognition and pseudoword decoding.

Results

Reading Miscues

Students read an average of 2817.5 words in the 30 sessions. Almost all the miscues were real word substitutions with less than 1% consisting of omissions, insertions and nonsense words. Table 1 shows the miscue and other data by subject. Miscues per hundred words (MPHW) ranged from 2.3 to 6.6 with a mean of 4.3. Almost all of the miscues were contextually appropriate with a mean of 98.1%. Graphic acceptability was considerably lower with a mean of 21.2%. Nearly half the miscues were self corrected. The figures for context and graphic use are based on overlapping categories in that each miscue was coded for both context and graphic use. When the miscues were coded into non overlapping categories the mean for contextually acceptable but not graphically similar (Context only) was 79.8%. For miscues that were graphically similar but not contextually appropriate (Graphic only)the mean was 1.6%. Miscues that were both graphically similar and contextually acceptable had a mean of 20.1%. Miscues were self corrected a mean percentage of 45.4 times. The miscues data shows that contextual information was more salient than graphic information for all students. However, Table 1 shows large individual differences on most reading error categories except context use. MW and RC produced the fewest miscues, the most self corrections and most graphic miscues. MN and DJ were the lowest on these categories while SW and KS were in between.

One aspect of contextual information is provided by illustrations. After the last of the multiple readings of the texts students were asked to read the stories without the illustrations. Miscues from the unillustrated text reading was compared to the last reading of the illustrated text. Both readings took place within the same week. The final reading produced a mean MPHW of 2.9 while the reading without illustrations produced 5.8 MPHW. This near doubling of the miscue rate for the unillustrated text suggests that students depended upon the illustrations to

recognize words. There were once again large individual differences with three of the students (RC, MW, SW) showing negligible increases and KS showed a small increase suggesting little dependence upon the illustrations. MN and DJ showed substantial increases of 6.2 and 8.3 respectively suggesting heavy dependence upon the illustrations.

Sight Vocabulary and Decoding

The influence of predictable texts on sight vocabulary acquisition was measured by testing the students on the 154 different words (Text vocab) encountered in the predictable texts. This provides an indication of how effective the predictable texts were in helping the students learn the words in the stories. As table 1 shows the mean percentage correct was 65.4 with large individual differences. RC, MW and SW learned most of the words. KS and MN learned slightly less than half the words and DJ learned approximately one quarter of the words.

Decoding skill was measured by a pseudoword test of 18 monosyllable pseudowords. The mean percentage of correctly decoded words as shown in table 1 is 12.9. Once again there were large individual differences. Three students (DJ, MN, SW) had zero scores. KS had 1 correct (5.5%), MW had three correct (16.6%) while RC had 10 (55.5%) correct. Scoring the task on a phoneme by phoneme basis produced a mean score of 34.5% correct phonemes with a range of 10% to 78%. The top performers RC and MW were substantially higher than the other four students suggesting superior decoding skills. The mean performance of the class as a whole was 7.2% correct words and 32.2% correct phonemes.

Word recognition skill was measured at the end of the year by the 15 word Clay Test. None of the 15 words were in the predictable texts. The mean percentage was 45.5. According to the Clay norms this would place the students in the lower end of the 5th stanine. The same general pattern of individual differences showed up on this test. On the CTBS Vocabulary subtest a second measure of word recognition skill the mean percentile score for the 6 subjects was 37.5. Only one child (RC) was reading above grade level. At the end of grade 2 students RC and MW were reading slightly above grade level while the others were reading below grade level. The mean performance of the six was close to the mean performance of the rest of the class on all tasks and tests. The class as a whole was reading below grade level. As might be expected after multiple reading of the same text, the 6 students answered all the comprehension questions correctly demonstrating understanding of the stories.

Discussion

The first question addressed in this study concerns the nature of reading produced by predictable texts. One of the most salient characteristics of children's reading of predictable texts is the heavy dependence upon the use of contextual sources of information. An extremely high proportion of the miscues were

contextually appropriate. Reading unillustrated text produced more miscues suggesting dependence on illustrations. Nearly half of the miscues were self corrected. In contrast there is less attention to graphic information as shown by the Graphic miscue category and the Graphic only category. The virtual absence of nonsense word miscues provides further evidence of minimal attention to graphic information. The reading miscue results provides a picture of readers who conform to the Goodman-Smith view of reading as mainly a top down activity in which contextual sources of information dominate. Thus, predictable texts according to this view produce reading that models mature reading. However, it needs to be pointed out that other reading theorists notably Stanovich believe, in contrast to Goodman and Smith, that grapho-phonic sources of information play a much larger and more important role than contextual sources of information both in beginning and mature reading. How large a role decoding plays in beginning reading remains an open question. But most reading theorists would agree that it does play some role thus leading to the second question which concerns the effect of predictable texts on word recognition and decoding.

The average number of times a word was read (20 times) is consistent with the number of repetitions in meaning-frequency basals reported by Willows et. al (1981). There were substantial individual differences in ability to recognize the words from the text. The two most successful students RC and MW were comparable to the 90.8% sight vocabulary learning from predictable texts reported in Bridge, Winograd & Haley (1983). SW was close behind. The others fell far behind recognizing less than 50%. Using the 90% criterion three subjects failed by a substantial amount to learn to recognize the words presented in the texts.

Decoding as measured by the pseudoword test showed a similar pattern of individual differences. Three of the students (DJ, MN, SW) showed an almost total lack of decoding skills. One student (KS) had minimal decoding skill. RC and MW appeared to have reasonably well developed decoding skills.

Overall two of the students (RC, MW) appear to have acquired the sight vocabulary contained in the texts, developed some decoding skills, made the fewest miscues, were the least dependent upon the illustrations, and were reading at close to grade level in grade 1 and at grade level in grade 2. Two students (MN and DJ) made little progress, while the other two (SW and KS) are somewhere in between. What can account for this variation? Some insight is provided by looking at the reading behavior during the reading sessions and test performances of the students. One factor that stands out during the reading sessions is sensitivity to the print and its phonological correspondences. This can be seen in the two most successful students (RC and MW). They exhibited the most consistent pointing behavior. They were able to accurately track the words during their own oral reading as well as during the reading of others. Both students spontaneously and consistently sounded out unknown words in their reading and on the word recognition and decoding tests. They asked on several occasions to be allowed to figure out the words rather than being told. This suggests that they understood at some level that

the ability to decode gave them a certain independence. When asked by the teacher how they self corrected, they consistently mentioned the letters. They spontaneously discussed spellings and noticed sound spelling correspondence discrepancies. For example MW asked while reading the name Stephen why it was not spelled with a "v". RC when trying to read the word "under" said I don't know the sound for "u". As discussed above these two students had the highest word recognition and decoding scores and showed the most graphic use in their reading miscues and were able to read text accurately without the illustrations. All of these anecdotal observations and data provide a picture of students who are sensitive to the print and the segmental nature of written and spoken words, are aware that reading involves among other activities translating print into its spoken equivalent.

These two readers can be contrasted with the two least successful readers (DJ and MN). Their pointing behavior differed considerably. They had a lot of trouble tracking the print and matching it to the oral rendition. They did less pointing overall.and had to continually be reminded to point while other students were reading. They had trouble keeping up and complained that the other students were reading too fast. Their pointing often involved sliding their finger along rather than stopping at each word. When they did stop at each word while they were themselves reading their pointing was often out of phase with their oral reading in that their pointing was often one or two words behind their speech. This suggests that they had not grasped the concept that there is a match between discrete written words and spoken words. The repetitive nature of the sentence structures and the repeated reading of the stories allowed them to orally "read" the sentences without attending to every word. At times DJ would not look at the text at all and had to be reminded that reading involved looking at the text. In the early part of the year they exhibited confusion between words and letters. When asked to point to a specific word they pointed to a letter. When asked to count the words in a sentence they counted the letters in the words instead. They used the context including the illustrations to guess words they didn't know. They frequently used the illustrations rather than the letters.to self correct and almost never tried to sound out words. In the pseudoword test they made wild guesses which had no letters in common with the pseudowords, or gave a letter name for one of the letters in the word. DJ wouldn't respond at all to many of the words. Some of this behavior was exhibited on the text vocabulary words and the Clay word recognition test as well. As discussed above these students had the lowest Clay word recognition and decoding scores and showed the least graphic use in their reading miscues. They were the least able to read text accurately without the illustrations. These students demonstrated a lack of sensitivity to print and it's relationship to spoken language and exhibited a strong tendency to be dependent upon contextual sources of information in reading.

The other two students (SW, KS) were similar to the successful students (RC, MW) but not as skilled as shown on their text vocabulary words, word recognition and pseudoword decoding test. They both exhibited accurate tracking. Both used illustration but also demonstrated attention to print by referring to letters in

explaining their self corrections. KS produced more overt sounding out behavior for unknown words. SW did not overtly sound out words. SW tended to memorize the stories and had a greater tendency read without looking at the text. SW to the greatest degree but the other students as well seemed to have the notion from repeated reading of the same text that successful reading involved memorizing the text and thus it was not necessary to look at the words while reading. It may be that reading the text too many times is counterproductive because it give the students the idea that reading is memorizing. KS tended to show more sensitivity to the code, while SW developed a larger sight vocabulary that may have compensated for lower decoding skills. Their standardized test performance was similar at the end of grade 1 but by the end of grade 2 KS was superior.

What is responsible for this difference in sensitivity to the code exhibited by these students? One possibility is differences in phonological awareness. The phoneme oddity test (Table 1) given at the beginning of the year provides a partial explanation because it shows the same pattern of individual differences as the other tasks. The two lowest students (DJ, MN) scored at a chance level (22.2%) or below indicating a lack of phonological awareness. KS and SW showed some phonological awareness. The two most successful students (MW, RC) showed much more phonological awareness and had scores comparable to those reported by Cunningham (1990) on this task for first grade children. It is not clear what is responsible for differences in phonological awareness. Instruction in kindergarten could have played a role. Students did not all have the same kindergarten teacher. In interviews they all reported that an adult read with them at home. But the nature of the reading at home may have differed in attention to print. There may also be constitutional or stylistic differences. The descriptive non experimental nature of the study militates against making causal claims about the origin of phonological awareness and its role in the observed differences in sensitivity to print. The same inability to make causal claims holds true for the role of the predictable texts in the differences found since it is not possible to completely separate the effect of the predictable texts from that of the regular classroom reading instruction. Thus the conclusions of this study need to be viewed as tentative until further research validates them.

However, assuming that further research validates these conclusions, some tentative instructional implications are suggested. The most important finding of this study is the large individual differences in decoding and word recognition which seems to be related to sensitivity to the code. While some students may pick up sight words and decoding skills from predictable texts and some minimal the word recognition activities, others may not. The former group may not need very much if any instruction that explicitly focuses on the decoding. The latter group may need some kind of instruction that sensitizes them to the code. The amount and type of additional instruction is an open question. These students may simply need a greater amount and variety of contextualized word recognition, decoding and writing activities than this study provided. On the other hand, they may need more explicit and systematic phonics instruction as some have advocated. Another

possibility is that sensitivity to print is a developmental phenomenon. Students who do not learn to decode are not developmentally ready for decoding. The understanding of the concepts necessary to learn to decode may be outside their zone of proximal development (Vygotsky, 1978). Exposure to explicit phonics or to predictable texts may not help them learn to decode until they are developmentally older and have more experience with reading. On a more general level, this study underscores the need to pay much more attention to individual differences in designing and implementing reading programs. We need to give more than lip service to individual differences.

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Table 1 Reading miscues, text vocabulary, Clay word recognition, pseudowords and phonological oddity by subject (percentages).

	Subjects							
Measure	RC	MW	KS	SW	MN	DJ	M	SD
MPHW	2.6	2.3	4.9	3.0	6.2	6.6	4.3	1.9
Context	92.9	98.7	99.3	98.9	100.0	98.8	98.1	2.6
Context only	69.0	79.2	89.1	73.8	85.6	83.2	79.8	7.5
Graphic	36.6	22.1	11.7	25.0	12.5	19.1	21.2	9.2
Graphic only	7.0	2.5	0.0	0.0	0.0	0.0	1.6	2.8
Self correct	67.6	50.6	48.2	58.3	23.7	23.7	45.4	18.2
Text vocab	95.5	92.9	48.5	81.3	47.5	26.5	65.4	28.4
Clay W. R.	86.7	66.7	33.3	33.3	40.0	13.1	45.6	26.6
Pseudowords	55.5	16.6	5.5	0.0	0.0	0.0	12.9	21.8
Pseudo phon	78.0	58.0	20.0	17.0	10.0	24.0	34.5	24.7
Oddity	50.0	77.7	44.4	33.3	16.6	22.2	40.7	22.1