

The impact of using guided reading to teach low-literate adults

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The guided reading instructional framework improved four learners' word-recognition behaviors and strategies, which resulted in an increase in overall reading levels.

"To enter the world of adult low literacy is to enter a world unlike any other. Here is a world of hope, triumph, fear and guilt. Here is an emotionally charged world of conflicting realities only partially seen" (Quigley, 1997, p. 3). The four participants in this study, Joelle, Peter, Troy, and Malia (pseudonyms), are low-literate adults. A glimpse into their lives will allow you to see the portrait of emotions that Quigley has described.

Joelle came to the intervention with great anxiety, reflecting on her unfavorable memories of earlier school days. At the conclusion of the lessons she said, "I'm a lot more comfortable about reading now.... I never thought I'd like reading as much as I do." Her sister contributed, "I have seen such a change in Joelle's self-confidence. Your work with her has definitely improved her overall self-esteem, as well as her view of herself as a reader."

Peter said he sought assistance because of his need to become more independent: "I won't be as embarrassed and I won't have to ask for help that much." Peter also volunteered this comment after intervention:

I honestly, when I first signed up, didn't think I would learn anything at all because I thought I was, like, incapable of learning, just from my experience in school.... I enjoy reading a little more than before. It was a real challenge. Now that I am reading better, it's a little more comfortable.

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Troy did not tell his 18-year-old son that he was receiving reading assistance. One day Troy read aloud when he was with his son, and his son commented, "Dad, what have you been doing? Your reading is so much better." This remark held great importance for Troy, and at the end of the study he said he felt much more self-confident.

Malia's life appeared to be full of trials with family, work, and finances. Malia said she wished to participate because she wanted "to not have to ask people for help, be very independent, get a better job, move on up in life" and was "tired of being down." Malia's struggles weighed heavy at times, but her comments of gratitude were frequent and her outward sense of pride was evident when she worked hard and completed a lesson.

These four participants are part of the approximately 25% of adults in the United States who function in the realm of low literacy (International Adult Literacy Survey, 1997). Adult literacy educators continually strive to meet the needs of this population. One challenge is to provide meaningful literacy programs for adults that will enable them to make significant gains within a short time (Vogel, 1998). A variety of methods

and curricula have been implemented that range from skill-based, sequential instruction to a whole-language focus. Even though some studies include these methodologies, more research is needed to analyze the methods that are most appropriate for adults (Chall, 1994). Research has shown that many of the approaches used with children, with modifications, may be effective when teaching low-literate adults (Chall, 1994; Greenberg, 1998; Kitz, 1988). The guided reading framework has recently been implemented with children, but there is no research supporting its appropriateness as instructional methodology for adults. Therefore, I posed the question "How effective is a guided reading framework when teaching adults with low levels of literacy?" I was specifically interested in learning what impact guided reading would have on the overall reading levels of adult readers and on word-recognition behaviors (specifically decoding, structural analysis, sight word reading, and other strategies). To meet the goals of this study, it is of value to understand the theoretical base of guided reading and the importance of good word recognition.

Theoretical background

The history behind guided reading, an instructional framework, began with the theories and work of Marie Clay. She noted that reading is a strategic process, and children must be actively engaged in reading text that allows them to solve problems (Clay, 1985). The result of Clay's work was Reading Recovery, a successful intervention program (Shanahan & Barr, 1995; Wasik & Slavin, 1993). While this program served numerous children who were at risk, educators saw the value in the instructional framework and began implementing the principles of Reading Recovery in classrooms with small groups. This in turn resulted in guided reading, an instructional framework for all children (Fountas & Pinnell, 1996). While the focus of guided reading is on making meaning, the framework also incorporates the teaching of necessary skills such as word recognition.

Recognizing words efficiently and rapidly is fundamental to reading. It has been well supported that students need to have a working knowledge of the alphabetic system in order to become fluent readers (Adams, 1990; Chall, 1983; Ehri, 1994; Perfetti, 1985). Yet many low-literate adults struggle with their ability to recognize words, and this prevents them from making sufficient literacy gains. Research has specifically shown that novice adult readers often have difficulty with phonological representation skills but are strong in their orthographic skills (Greenberg, 1995; Read & Ruyter, 1985; Siegel, Share, & Geva, 1995). Struggling adult readers often do not know why their strategies are ineffective and when to use another one (Gambrell & Heathington, 1981; Norman & Malicky, 1987). Furthermore, poor adult readers tend to rely on a person (external source) to decipher text rather than use internal, independently generated strategies (Fagan, 1988; Gambrell & Heathington, 1981).

In sum, Clay's work has had a far-reaching impact on teaching children to read. Even though her research did not specifically involve adult readers, other research does suggest that methodologies used to teach children may be effective when teaching adults. This suggestion led me to examine the guided reading framework with adults and to put specific emphasis on targeting word recognition, a needed focus in teaching many adults to improve their literacy level.

The research study

Four adults (two women and two men) who were interested in the opportunity to increase their literacy skills participated in this study. The local adult education center did not have adults enrolled with a markedly low reading level; therefore, the participants were selected by advertising and word-of-mouth referrals. All four were U.S. citizens; three of them were Caucasian and one was African American. Participants' ages ranged from 25 years to 52 years, and their reading levels ranged from first grade to sixth grade. Only one

participant had completed high school, and one had previously participated in an adult literacy program.

Due to the small sample size, I selected single-participant experimental research with a multiple baseline across behaviors as the main quantitative method. In addition to the single-participant visual display, which charted daily progress, I believed pre- and postassessments would also enable me to analyze growth. One goal of guided reading is to provide text at the student's instructional level, and another goal is to integrate word study components with each lesson according to student needs. Therefore, the following tests were given at the onset of tutoring to measure preintervention reading ability and provide information that would aid instruction. The 1990 Slosson Oral Reading Test-Revised (SORT-R) and the 1999 Analytical Reading Inventory (ARI) provided me with the participants' approximate reading levels and strategy use. To measure specific word-recognition skills, phonics, and structural analysis, the word attack subtest of the 1987 Woodcock Reading Mastery Test-Revised (WRMT-R) was administered. The revised Dolch word list (Johns, 1981) was given to assess participants' sight word vocabulary.

The timeframe for this research study was 36 sessions occurring over three months, which resulted in approximately three one-hour lessons per week. The baseline period for decoding (first behavior introduced) was approximately three or four lessons. During this time, the adult came to the session and read a text passage and lists of words for the daily assessments. This data enabled me to assess the learner's reading and targeted behaviors (decoding, structural analysis, and sight word recognition) without intervention or assistance.

The intervention timeline was planned for approximately 32 one-hour lessons (depending on baseline establishment for each individual) and used a guided reading framework that included several components: familiar reread, word work, and new read. This lesson plan is recommended

for students who need instruction in word recognition (Fountas & Pinnell, 1996). Because guided reading is a framework with flexibility for the student's needs, little modification was made to the recommended lesson plan. The instructional materials used were primarily authentic literature books—both fiction and nonfiction. However, they were supplemented with reading passages from a Science Research Associates reading laboratory kit (Parker, 1959), current copies of *Reader's Digest*, the Bible, bills, and recipes. The materials were selected on the basis of participant reading level and the adult's interest, choice, and goals, which play a role in literacy development of struggling readers (Fink, 1998).

Due to the four participants' difficulty with alphabetic knowledge concepts, the word work section of the lesson was emphasized. The targeted skills for this intervention were decoding letter-sound correspondences, using structural analysis, and learning sight words. Instruction in these areas was the focus of the word work portion of the lesson and varied according to each student's needs.

Decoding. This instruction focused on teaching students letter-sound correspondences, specifically the multiple sounds of consonants and vowels, consonant blends, digraphs, diphthongs, and *r*-controlled vowels. *Words Their Way* (Bear, Invernizzi, Templeton, & Johnston, 2000) was used as a guide to teach phonic elements. The activities that took place during the word work section were segmenting and blending words (sound card or Elkonin boxes, interactive sentence writing), word sorts, word building (using chunks and word families), and making words. Students were encouraged to form phonic generalizations through active involvement.

Structural analysis. The focus of structural analysis was to instruct students in word syllabication, prefixes, suffixes, inflectional endings, and root words. The students learned the basics of syllable division and the six types of syllables. Thereafter, time was spent on eliminating prefixes and suffixes to find the root word (Lenz,

Schumaker, Deshler, & Beals, 1996) and learning how to count back from the end of the word to identify the location of stress and how the vowel was to be pronounced (Lewkowicz, 1985).

Sight words. In this context, sight words meant nonphonetic words that were recognized immediately and high-frequency words. A few new words, each written separately on flash cards, were introduced during each lesson. Instruction included reading and saying the word, spelling the word (i.e., letter tiles or rice), and using the word or finding the word in the text. As sight words were learned, they were reviewed so that the learner could maintain successful knowledge and use of the words.

Because this was a research study and data needed to be collected, the culmination of each lesson was daily assessments. To assess the adult's ability to apply phonic and syllable-division generalizations to words, nonsense words were used because these words were unfamiliar to the learner and there would be no question of the adult's having heard the word previously. Although these words were not authentic, they had a purpose in challenging students to closely analyze word parts rather than guess at a known word, which is a characteristic of many poor readers. Reading nonsense words also showed the student's ability to solve the problem of an unknown word, which is a real-life task. The words used in daily assessment were developed on the basis of the results of the word attack subtest of the WRMT-R in correlation with the text used for the instructional lesson. Daily lists of 10 nonsense words varied to prevent test effect. To measure sight word growth, 10 real words were selected for daily assessment, based on the unfamiliar revised Dolch list (Johns, 1981) and sight words contained in the instructional book. Again, daily lists varied to prevent test effect.

During the week following the last intervention, participants were given posttests to measure their progress. Specifically, the SORT-R, the ARI, the word attack subtest of the WRMT-R, and the revised Dolch sight word list (Johns, 1981) were

given. The administration of the tests was identical to the procedures during pretesting.

In an attempt to monitor the ability and independent reading of the participants, I met with each adult at two weeks and four weeks following the conclusion of intervention. During the four-week maintenance period, participants were loaned books and encouraged to use the library to continue reading. They were asked to keep a reading log by recording the date and time spent reading as well as listing titles of their reading material. After two weeks of independent reading, participants met for a session in which I conducted a running record to monitor their reading strategies, and I administered two assessments for decoding, structural analysis, and sight word recognition (similar to intervention assessments). This procedure was repeated during the fourth week following intervention.

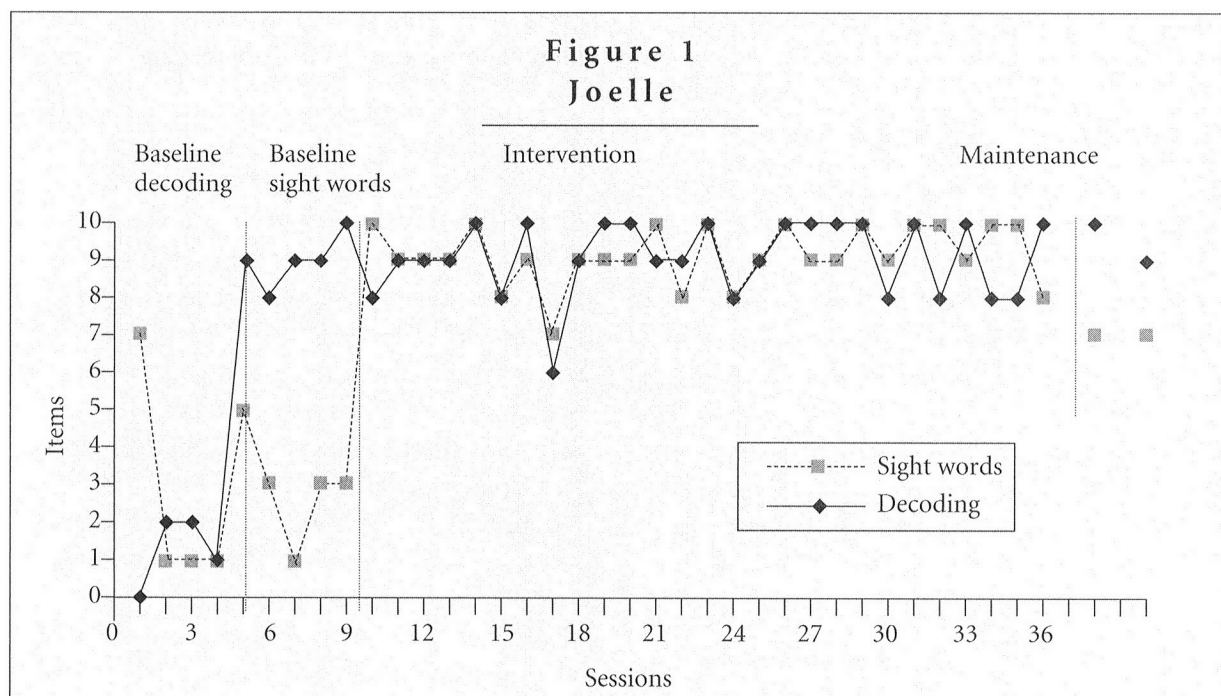
Profiles and results

Each of the four adult participants has his or her own story to tell. Their strengths and weaknesses and good and bad days concluded in substantial reading improvement. Following are their profiles, their single-participant design scores, and their pre- and posttest results.

Joelle

Joelle was 41 years old and unmarried. She has never been employed and appeared to have few interactions with people other than her family. Joelle consistently met her tutoring appointments three times a week and took material home to study between sessions. With her mother's support during tutoring, she wrote words for the sounds on which she had been instructed, composed sentences, and reread the text. Joelle's data from baseline and intervention are shown in Figure 1.

As can be seen through visual display, Joelle's average daily assessment score for decoding baseline was one word correct, and her



average daily assessment score for intervention increased to nine correct. Joelle's score for sight words also increased from an average score of three words correct during baseline to an average score of nine words correct during intervention. Specific information can be provided about Joelle's decoding, sight words, and strategy use.

Decoding. In reference to the alphabet, Joelle came to the lessons able to pronounce sounds of familiar consonants, but she lacked knowledge of short and long vowels. She selected a key word to help her retain the letter-sound association, and I often observed Joelle rely on the key word when deciphering unknown words. She showed revelation when she learned other phonic generalizations, such as the concept that some letters have more than one sound (e.g., *c* and *g*), silent *e* at the end of the word influences the vowel, and two letters can make one sound (digraphs). These generalizations were addressed during intervention.

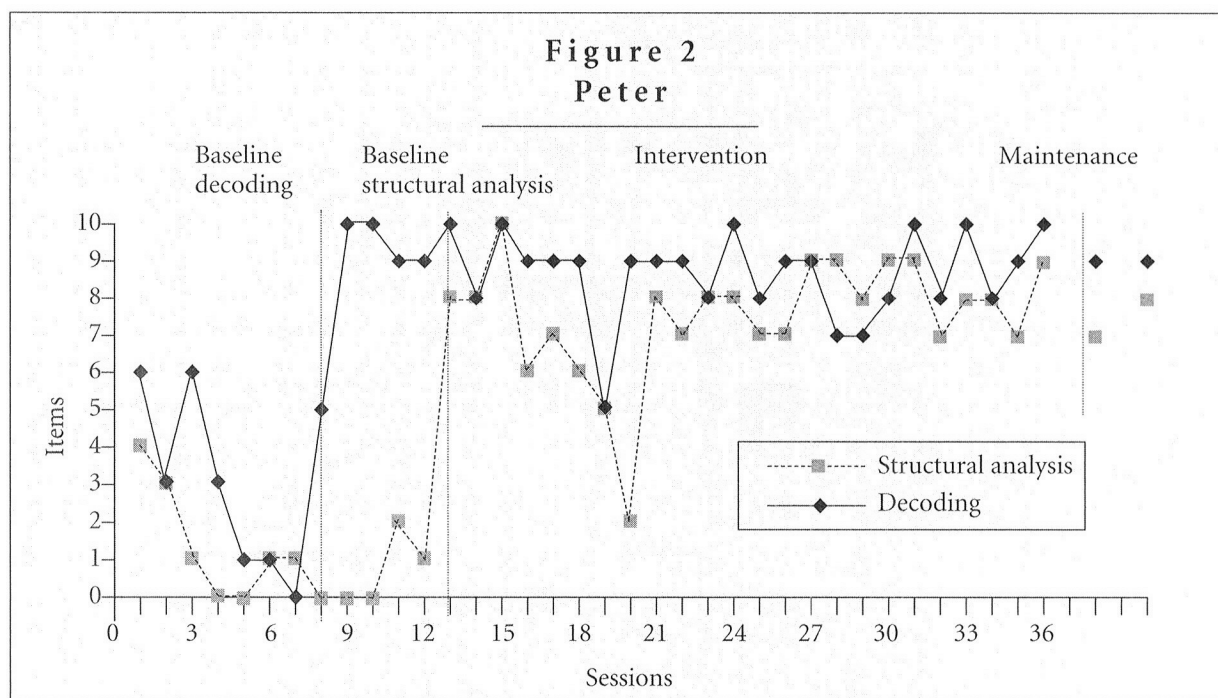
Sight words. The sight words were often introduced visually. At times, analogy helped Joelle relate words (e.g., *might* is like *night*). Other times, the story context or using a word in a sentence also helped Joelle remember it. All the sight

words were in her speaking vocabulary, and so she did have some world knowledge to draw from when she saw a word in print. Joelle's pretest score on the revised Dolch sight word list (Johns, 1981) was 77% correct, and she improved to 93% on the posttest.

Strategies. Joelle demonstrated that reading is a meaning-making process because her thinking was evident in her strategy use. On the daily text passages, Joelle averaged a self-correction rate of 1:2 (in the good range), which is another indication that she was monitoring her reading for meaning. She used two main strategies: to reread and skip the word and read ahead to use context. These strategies were evident in almost every running record. She also attempted to apply the word work knowledge when she interacted with the text. However, many times her mistakes showed a reliance on visual cues (e.g., *spoke/spreaked* for *spoken*, *cleaned* for *cleared*, and *playing* for *praying*).

Peter

Peter was 25 years old and single. He lived in his own apartment under the supervision of a case



manager. Peter has not been employed and consistently met all of his appointments. He appeared to show little emotional involvement and rarely made eye contact during the study. Furthermore, Peter was on medication that made him seem lethargic. He also complained that it affected his vision.

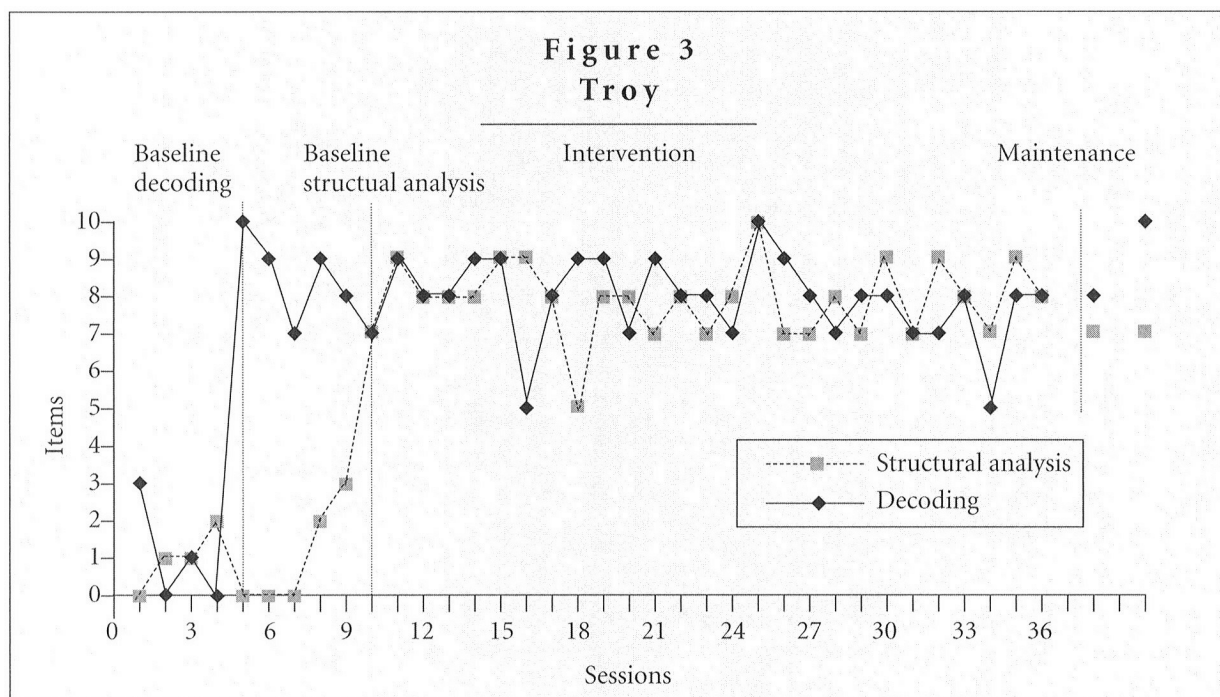
When Peter and I met for the first time, he shared his interest in participating in the study, and he clearly had set some goals: to write checks, read a recipe, read the Bible, read an entire book, and work on spelling. By the conclusion of the sessions, all of these goals had been accomplished. Peter's single-participant design data are shown in Figure 2.

As can be seen through visual display, Peter's daily assessment scores increased after intervention for both decoding and structural analysis. There were times when Peter had difficulty mastering the concept, and his scores decreased. This could be, in part, because Peter was exhausted at the end of the lesson and lacked stamina for trying to read difficult nonsense words. In lesson 21, I also realized that Peter was being pressured to work beyond his capabilities.

He asked to stop reading the text after one page (my plan was to read three pages), and his scores seemed to rebound. The following information will also provide information about his decoding, structural analysis, and strategy development.

Decoding. Peter came to the lessons with knowledge of the consonants and short-vowel sounds, although short *e* and *i* were a bit slippery. These were reviewed and then vowel digraphs, diphthongs, and other less familiar sounds (e.g., two sounds for *c* and *g*) were introduced. Peter usually seemed to have a good grasp of phonological knowledge, and he learned the sounds quickly without much effort.

Structural analysis. Peter seemed to have no prior knowledge or experience in the area of structural analysis. Even though he could read a multisyllable word, Peter was not aware of why the word sounded as it did or of the rationale for syllable division. I continually attempted to teach the concept with real words before introducing nonsense words. The transfer from applying a generalization of real words to nonsense words, especially multisyllable words, was difficult at times.



Strategies. Peter said that he guesses rather than reads words. It was evident that he guessed and relied on context clues. There were times when his guesses were similar in meaning and usually lacked correct syntax (e.g., *successful* for *successfully* and *electric* for *electricity*). Then there were times when the words showed the guesses did not support meaning (e.g., *emerged* for *engaged*, *curved* for *covered*, and *missing* for *massive*). At the conclusion of tutoring, when questioned about guessing, Peter said he takes more educated guesses now than prior to intervention. When Peter did self-correct, his cues almost always indicated monitoring for meaning; his self-correction rate fell into the good range at 1:3. At the beginning of the sessions, if a word was difficult Peter would just skip it and not even attempt it by chunking or reading the consonants. For example, when he came to the word *uncharacteristically*, Peter read *un*, then said “I hate big words,” skipped it, and continued reading. After some sessions together, however, I noticed that Peter was starting to attempt those challenging words, and by the end of the intervention he rarely skipped a difficult word.

Troy

Troy was 47 years of age. He said his high school English teacher promoted him so that he could graduate from high school because she felt Troy would be successful despite his reading difficulties. He has spent the majority of his working years in the cable business, doing contracting jobs as they are available. In his field, he has been quite prosperous.

During the sessions, I noticed that Troy was constantly watching my mouth during word work. I discussed this with him, and Troy admitted to having some hearing loss. He also struggled with slipping in extra sounds, like *r* and *l* (e.g., *kluc* for *kuc*), and reversing letters (e.g., *tep* for *pet* and *tepe* for *pete*). It is likely that Troy possesses a learning disability, coupled with hearing loss, that constantly challenges his ability to differentiate the phonemes in spelling and reading. Troy's data from intervention are shown in Figure 3.

As can be seen through visual display, Troy's daily assessment scores increased after intervention for both decoding and structural analysis. When a new concept was difficult to master in

one lesson, the score often fell low. However, given that the average score during intervention increased from one to nine correct for decoding and from one to eight correct for structural analysis, the conclusion can be drawn that this intervention had a positive impact on Troy's skills in these areas. Following is some information about his word-recognition behaviors.

Decoding. Troy came to the lessons with little knowledge of short vowels, and he also displayed some confusion between voiced and unvoiced sounds, such as /k/ and /g/ or /f/ and /th/. The vowels, long and short, seemed tricky, and often Troy would change vowel sounds when reading his daily assessments. A continual challenge for Troy was *r*. Reversals were almost constant. If the *r* was after the vowel, it was read correctly more often than when in a consonant blend.

Structural analysis. Troy seemed to appreciate learning the six syllable types because it appeared to help his spelling. He realized that words broken into syllables and chunks were easier to analyze than an entire word. When Troy was introduced to suffixes and prefixes, he had more difficulty locating the suffixes. Greater time was devoted to this area.

Strategies. Prior to intervention, Troy said his main strategy for deciphering an unknown word was to skip it. Rarely was skipping observed after intervention. During intervention, Troy often said his newfound knowledge of sounds and how to syllabicate words helped him decipher unknown words. Analysis of the running records showed Troy's main strategy was to use visual cues. However, his self-correction rate (1:3) was in the good category, indicating that Troy was reading for meaning.

Malia

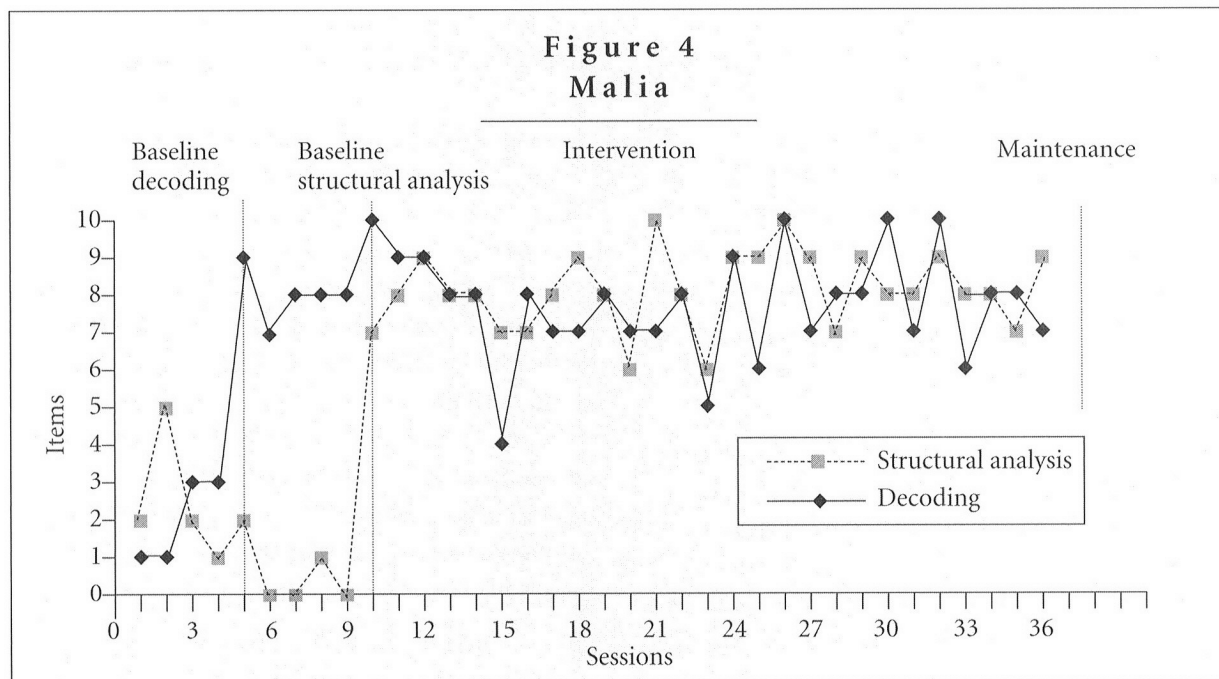
Malia was 52 years of age and the mother of eight grown children, many of whom had dropped out of high school. She had completed grade 10. Malia's life was very hard; there was always concern about money for rent and food. She had

numerous health problems and often complained of pain. At first, Malia was excited about tutoring and approached sessions with eagerness, asking to meet every day. Soon thereafter, sickness in the family, death of a relative, her job situation, and other factors contributed to a rise in stress, and Malia reacted by distancing herself from her lessons. Tutoring sessions became infrequent and sporadic. I made almost daily contact by stopping by her house (there was no telephone), leaving simple notes, and contacting Malia through work (she was a motel housekeeper). With this persistent contact and gentle encouragement, Malia was able to complete the intervention. However, her shutdown prevented maintenance scores from being assessed. Malia's data are shown in Figure 4.

From the visual results, a conclusion can be drawn that the intervention had a positive impact on Malia's scores. Note that, on certain lessons, the concept was very difficult for Malia to master during the short time frame, and her scores fell. Additional information about her word-recognition strategies follows.

Decoding. Malia came to the intervention without knowledge of the sounds of letters, except for a few salient consonants (e.g., /t/), which took tremendous energy and conscious thought for her to pronounce. For several lessons, Elkonin boxes were used to segment and blend sounds (specifically short vowels), yet this appeared to frustrate Malia. When a new sound was introduced, she often read several sounds before getting to the correct one. Malia also had difficulty between some voiced and unvoiced sounds such as /v/ and /f/, and she always gave *g* the sound /j/. A lot of time and effort were put into segmenting words and learning the sounds.

Structural analysis. Multisyllable words were often hard for Malia to pronounce and decipher in her reading. For example, she struggled with pronouncing *orderly*, *luckily*, *patrolled*, *musical*, *maternal*, and *revolutionary*. This was noted with connected text and lists of words. Malia would often get frustrated and plead for help. She seemed to appreciate learning how to divide the



vowel–consonant–consonant–vowel pattern. This was the easiest concept for her to grasp. Malia methodically used pencil to divide the real words and nonsense words between the consonants. This tactile involvement assisted her ability to read the words correctly. After much practice, Malia was able to wean from her reliance on pencil to segment words.

Strategies. Malia liked to ask me to tell her the word rather than use independent strategies. The main strategies Malia employed were to get “mouth ready” and skip or reread. I also focused on helping Malia chunk words. Even though some word-recognition strategies were taught, there was an obvious need to work on these in greater depth, especially to help Malia internalize them rather than continually appeal for help.

Malia’s running records were analyzed. The self-correction rate at the beginning of intervention was quite low (e.g., 1:12 or 1:8), with eight of the passages indicating no attempt at self-correction. The general trend during the intervention showed an increase in implementation of self-correction. At the conclusion, Malia moni-

tored her reading; this gave her an overall self-correction rate of 1:4.

Word-recognition results

The documentation of single-participant, experimental design showed positive changes from baseline to intervention for all four participants. The intervention produced increases in the learners’ knowledge and ability to apply word-recognition behaviors (decoding, doing structural analysis, and sight word reading), which is visually significant. During maintenance, three participants (one participant shut down) continued to retain and apply some knowledge to the word lists, resulting in maintenance scores similar to intervention.

The learners were also given the WRMT–R word attack subtest to identify their pre- and postintervention decoding and structural analysis abilities. The results of this test are shown in Table 1.

As can be seen in Table 1, each participant showed an increase in decoding and structural analysis as a result of intervention. All four participants’ scores were evaluated for a confi-

Table 1
Woodcock test results

	1987 Woodcock Reading Mastery Test-Revised (word attack subtest)							
	Grade equivalent		Subtest score		Stanine		Percentile	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Joelle	1.0	2.5	455	487	1	2	1st	9th
Peter	2.2	3.4	483	495	1	3	3rd	16th
Troy	2.0	6.7	480	504	1	5	4th	42nd
Malia	1.7	2.6	473	488	1	3	2nd	12th

dence band, the standard error of measurement, and showed that each participant's results increased as a product of intervention, not chance. Three of the four learners' scores on the word attack subtest relatively corresponded with the gains made on the SORT-R. However, Peter's scores on the word attack subtest showed the least amount of improvement and did not match his increase of three reading grade levels on the SORT-R. This discrepancy could be due, in part, to several reasons. Peter phonetically heard the sounds within words more easily than the other participants did, so that he would have made greater gains on the word attack. Yet, at times, his confidence and effort were very low. For example, Peter thought he was incapable of learning, and, even though he could read at a sixth-grade level, he said he never had read a bill, a recipe, or a street sign prior to intervention. This limited self-confidence, especially when words were unfamiliar and difficult, seemed to hinder his perseverance. Context was not available on the word attack subtest to support Peter, which again influenced his belief that he could read the words. Furthermore, his medication seemed to affect him some days more than others, and the randomness of this one test could be influenced by such a factor.

On the other hand, Troy seemed to make greater gains on his word attack than on his overall reading level. Throughout intervention, Troy worked very hard at deciphering words, thinking about the sounds he had learned and how to divide words. When it was time for the final word

attack subtest, Troy seemed to have a determined focus and energy to consciously decode the words, which resulted in a rather substantial increase.

Further analysis and interpretation of the word-recognition behaviors that were a focus of this study follow.

Decoding. All four learners received instruction in phonics, which was not seen as an end but as a means to help learners read the words automatically (Stahl, Duffy-Hester, & Stahl, 1998). The participants came to the study with the realization that words are made of letters and sounds, yet they all showed misunderstanding of the vowel sounds (both short and long) and some consonants, lacking full knowledge of the alphabet and how it works. All four low-literate adults displayed evidence characteristic of more than one phase of word-recognition development (Ehri, 1994), with fluctuation between phases. This was especially so for the readers who possessed a good store of sight words yet lacked alphabetic tools to decipher unknown words. One example is Joelle. At the beginning of the intervention, she often relied on salient letters that were connected to easily detected sounds, which is characteristic of the partial alphabetic phase (Ehri, 1994). By the end of the intervention, Joelle used letter representations to assist her decoding and sight reading (i.e., *were, where*) so that words were rapidly identified (characteristic of the full alphabetic phase). At times, Joelle even showed evidence of reading

words by analogy, which falls into the consolidated alphabetic phase (Ehri, 1994).

It is important to note that the four individuals relied heavily on visual cues. While observation allowed insight about Joelle's development in alphabetic awareness, visual and orthographic cues still appeared vital to Joelle (e.g., misreading *there* for *three*, *every* for *very*, *hungry* for *hunger*, and *understand* for *understood*). This indicates that words were not retained or amalgamated completely in memory (Greenberg, 1995). Peter and Troy often guessed unfamiliar words from context or used a visual rather than a phonetic cue (e.g., *customer* for *customary*, *miraculous* for *malicious*, and *relentlessly* for *reluctantly*). Furthermore, Troy spoke during intervention of his need to make words "look correct." Peter stated that he used guessing to read words. Making words look correct and guessing suggest that Troy's and Peter's amalgamation processes may not be fully developed with both phonological and visual bonds—visual bonds being stronger. This finding further supports previous research (Greenberg, 1995; Read & Ruyter, 1985; Siegel, Share, & Geva, 1995). Malia also had a good knowledge bank of sight words stored in memory, which allowed her to read rapidly. Yet when unknown words were presented, she continued to struggle with her ability to use letter–sound correspondences to assist her in reading or spelling the word (e.g., silent *e* rule). She appeared to lack complete letter-based representations and fully connected spellings (e.g., *riqe* for *ripe*, *cute* for *quit*).

Structural analysis. Three of the four learners, Malia, Troy, and Peter, were instructed in decoding skills and structural analysis. The single-participant design showed visual progress in both behaviors when tested individually at the conclusion of each lesson. The overall reading-level gains documented in the posttests showed the value of teaching letter–sound correspondences and structural analysis simultaneously, which is also supported by previous research (Abbott & Berninger, 1999; Henry, 1988; Leong, 1999).

Sight words. Joelle was the only participant who received instruction in sight words. Although it came secondary to letter–sound patterns during the word work portion of the lesson, Joelle showed improvement (77% to 93% increase) on the revised Dolch sight words (Johns, 1981). For Joelle, the sight words were already in her knowledge bank and speaking vocabulary, yet her reading of the words in the text positively influenced her overall reading gains. Joelle attempted to use her newfound knowledge of letter–sound correspondences to strengthen her sight word reading. This correlates with the finding of Aaron et al. (1999) that sight word reading and decoding are closely related processes.

Strategies. Gambrell and Heathington (1981) found that poor readers used fewer strategies and had misconceptions of how and when to use specific ones. A main goal of guided reading is to instruct learners in how and when to use strategies. I saw noticeable progress in participants' attempts to integrate strategies independently, especially with Joelle, who began intervention at a first-grade reading level. At the beginning of intervention, Joelle began the lessons with little confidence in her ability to decipher unknown words and had difficulty integrating print and language strategies. The strategies were presented to her, and Joelle began to apply them to her reading. She spoke often of how they helped her know what to do when her reading broke down.

In contrast, Malia's dependence on the researcher to decode unknown words parallels previous research (Fagan, 1988; Gambrell & Heathington, 1981), which showed that poor readers tend to rely on a person to decipher text rather than use internal, independently generated strategies. Furthermore, Malia's struggle with comprehension and lack of independent success in remediating word-recognition difficulties reflects the finding in Miller and Yochum's (1991) study; the participants were uncertain when to implement a different word-recognition strategy if their original strategy was ineffective, and they lacked comprehension strategies.

Table 2
Slosson test results

	1990 Slosson Oral Reading Test–Revised							
	Grade equivalent		Standard score		Stanine		Percentile	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Joelle*	1.0	2.4	–	–	–	–	–	–
Peter	6.2	9.0	77	97	2	5	8th	43rd
Troy	6.4	9.5	52	90	1	4	>1st	27th
Malia*	3.9	5.4	–	38	–	1	–	>1st

*These participants' scores fell below floor level; therefore, standard score, stanine, and percentile were not obtainable.

The four learners were asked how they figure out unknown words, and the predominant resource they said they use is context clues. Peter said, "I skip it and go on to the next word and maybe figure it out when I read the sentence." Joelle said, "I find other words to help me." Troy said, "I try to go (ahead) so I can make sense of that word in the sentence." Observations confirmed these participants' behaviors; the learners relied quite heavily on contextual cues. Research has shown that using context tends to be a key strategy for less skilled readers (Blalock, 1981; Chall, 1994; Fink, 1998; Stanovich, 1986).

In sum, the findings of this study show that low-literate adults benefit from study in word-recognition behaviors, specifically decoding and doing structural analysis or reading sight words. With assistance to improve their knowledge of the alphabetic code and use of strategies, learners can apply that knowledge to aid and improve their reading ability. As Stanovich (1986) has said, word recognition is essential and contributes to the entire reading process.

Reading level results

Overall reading levels were assessed at the beginning and conclusion of intervention using the 1990 Slosson Oral Reading Test–Revised. The re-

sults of the four participants' SORT–R test scores are documented in Table 2.

Table 2 summarizes the results of the participants' reading levels for one assessment measure. Furthermore, for the 1999 Analytical Reading Inventory the participants' pre- and post-intervention reading grade levels corresponded with increases on the SORT–R results, with the exception of Joelle, whose reading score was considerably higher on the posttest reading inventory (grade 4). This differentiation could be, in part, because the contextual support in the reading inventory greatly assisted Joelle by providing context in which she could make meaning while reading. The pre- and postassessments of the SORT–R and ARI indicated that all four learners increased in their reading ability. Even though reading grade level equivalents are not absolute value and should be interpreted with caution, they often are used in the literature when discussing gains of adult learners. The amount of participant growth indicated here shows that guided reading, a meaning-making instructional framework, corresponds with expected gains when reading is viewed as meaning making (Keefe & Meyer, 1980).

The pre- and postassessments indicated that all four learners increased in their overall reading levels, and their gains may be compared to a standard. Chall's (1994) report, in which literacy

procedures based on theory and research were used in instruction, showed that adults make, on average, about one year's gain in 20 hours of instruction, with variation among readers. Chall found that beginning readers seem to make less progress. This could be due, in part, to their limited knowledge about the process of reading and to their having fewer literacy experiences to draw upon. For this particular research, the participants received approximately 32 hours of instruction. Given the participants' results documented in Table 2, the following conclusions can be drawn when comparing the progress of these participants with the adults' growth in Chall's report. Joelle began the lessons at a basic literacy level (reading level 1-3; Chall, 1994) and made solid gains (approximately 1.5 grade level on SORT-R but higher on the reading inventory), still fairly reflective of Chall's average. On the other hand, Peter and Troy, who had greater reading schemata, began in the functional literacy range (levels 4-8; Chall, 1994) and advanced approximately 3 grade levels, which is higher than the average gains in Chall's report. Malia, who began in the functional literacy range, progressed about 1.5 grade levels. Although gaining 1.5 grade levels during 32 hours of instruction is positive, Malia did not show as much gain as the two participants who also began instruction at the functional literacy level. This differentiation could be due, in part, to several reasons. Malia was greatly challenged with phonological knowledge and displayed difficulty pronouncing multisyllable words, she did not possess as many internally generated reading strategies, and her lesson appointments were more sporadic and less consistent.

Gains validate guided reading

The purpose of this study was to analyze the use of a guided reading framework and determine the impact guided reading would make on the reading levels and word-recognition behaviors of four adults with low literacy. Although there is variation among the four participants' growth in this study, it can be concluded that all four made sufficient

gains to validate that guided reading may have a positive impact on adult learners' literacy levels.

The study of the role of guided reading has educational implications in the area of adult literacy. On the basis of the conclusions of this study, it appears that guided reading can play an important role in improving low-literate adults' reading proficiency. While there has been a paucity of research in the methodologies used to instruct adults (Chall, 1994), this study makes a contribution to the field. Guided reading has been based on the principles of literacy research and theory; therefore, it holds the potential to be implemented in adult literacy programs.

One challenge is to incorporate guided reading into existing adult literacy practices. Keefe and Meyer (1991) have stated that traditional, skill-based decontextualized instruction is the standard approach to teaching adults to read. Vogel (1998) has stated that some adult literacy methods involve little teacher preparation and training. In order for guided reading to be effective, instructors need to be trained and supported in using the guided reading framework. This requires human and financial resources.

This study focused on one-on-one instruction. With elementary students, guided reading is often conducted with small groups, in which students provide support for one another (Fountas & Pinnell, 1996). However, due to the reading level differences as well as the complex schedules of adults, this study implemented individual guided reading instruction. It would be of value to use guided reading in teaching individual adults and small groups. Future research comparing the effectiveness of one-on-one with small-group tutoring is also recommended.

One aspect to consider in this study is the time factor. Twelve weeks of intervention is not long, yet that time resulted in positive reading gains and further supports Abbott and Berninger (1999), who also documented the positive impact of short-term intervention on learners' reading ability. Adults lead busy, complex lives; would a

longer intervention better meet their needs? Three participants in this study indicated their desire not to conclude intervention after 12 weeks; their primary concerns were fear of losing what they had learned and not having a knowledgeable instructor to guide them further. For practical purposes, guided reading may continue to support learners at each level of development until they have met their personal goals. Vogel (1998) stated that many adults who participate in adult programs often make small to modest gains. The dropout rate is also quite high in adult education. Three adults in this study gave high ratings for guided reading and finished the intervention feeling successful. Therefore, it can be concluded that adults who see value in the instructional methodology are more likely to want to stay in the program and make significant gains.

It is also worthwhile to consider a few research implications of this study. One intent of single-participant experimental design is to show the effect of an intervention. The challenge in finding adults who are willing to participate in such a study makes the single-participant design an attractive one because it shows visual significance that would not be possible with other quantitative methodologies. I recommend that a similar study be conducted to see if comparable results are attained. That is one way to increase the validity of single-participant research design (Neuman & McCormick, 1995).

Greenberg (1995) was interested in discovering the similarities and differences between children's and low-literate adults' word-recognition development. Greenberg concluded that adults are not as strong at amalgamation as children. This aspect was not a direct component and question of this study, but further analysis of amalgamation theory in combination with intervention would benefit the understanding of low-literate adult learners and how best to teach them.

A way to show the effectiveness of a methodology is to compare one with another. Current approaches used to teach low-literate adults include that of ProLiteracy Worldwide, which focuses on a

whole-language approach and workbooks, and the Wilson Reading System—a sequential, structured, multisensory, explicit, letter-sound correspondence approach. (ProLiteracy Worldwide—www.proliteracy.org—is the organization resulting from the merger of Volunteers of America, Inc., with Laubach Literacy International in 2003.) A comparative study of guided reading with one of these approaches would enable further conclusions to be drawn regarding the effectiveness of guided reading's instructional framework for low-literate adults.

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