

PARENT READING TRAINING

by

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PARENT READING TRAINING

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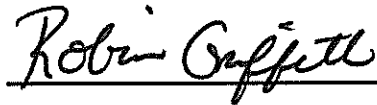
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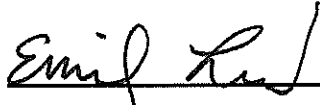
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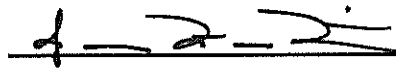
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ABSTRACT

Accurate and automatic word-level reading is important for building meaning from text. The present study determined whether parents could be taught to implement reading feedback strategies while engaged in shared book reading with their school-age children struggling with fluent oral reading. Results suggest that parents can be taught to implement graphophonemic and meaning-based feedback using the adult learning model Teach-Model-Coach-Review.

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INTRODUCTION

Reading fluency describes a child's accuracy, speed, and prosody while reading and is an important indicator of successful reading (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Wolf & Katzir-Cohen, 2001). When a child does not read fluently, his or her cognitive resources are allocated to sounding-out words in the text, instead of building meaning. That is, when a child does not read fluently, he or she attempts to decode unknown words (Abbott, Wills, Miller, & Kaufman, 2012). For example, the frequency of omission of content words and phonologically-similar real-word errors that maintained the meaning of the text was found to predict levels of reading comprehension among third-grade children with below average to average reading and language abilities (Laing, 2002). Conversely, when a child reads fluently, his or her cognitive resources are allocated to building meaning from the text, with fewer resources allocated to decoding words (Kintsch, 1994). Building meaning from the text allows for comprehension. For example, O'Brien (1988) found that increased ability to use context clues was correlated with increased comprehension among seventh graders reading an unfamiliar, oral reading passage. Thus, facilitating accurate and automatic word-level reading is important for building meaning from written text.

Reading interventions are available to improve the fluent word-level reading of school-age students and are implemented by instructors within elementary school classrooms. Pany and McCoy (1988) found that corrective feedback on oral reading errors provided by instructors had a significant positive effect on the word recognition accuracy and reading comprehension of third-grade children. Parents provide feedback, as well (Evans, Moretti, Shaw, & Fox, 2003). However, as children get older, parents provide fewer and less effective feedback cues, although shared reading interactions continue to be some of the most

frequent interactions between parents and their children (Stoltz & Fischel, 2003; Evans et al., 2003). An adult learning model has traditionally been utilized to train parents to improve young children's use of verbal language. However, the present study looks to determine whether the same adult learning model may be used to teach parents to implement reading feedback strategies while engaged in shared reading interactions with their school-age children struggling with fluent oral reading.

LITERATURE REVIEW

Extant research shows that shared reading interactions are some of the most frequent interactions between parents and their children and, moreover, that parents are highly attuned to the reading level of their early elementary-age children (Bergin, Lancy, & Draper, 1994; Evans, Moretti, Shaw, & Fox, 2003). As demonstrated by Evans et al. (2003), in the early elementary grades, shared oral reading is an interdependent process between parents and children. Depending on the reading level of their child, parents will adjust the amount of feedback they provide. In response to higher levels of parent feedback, first grade children at lower reading levels become more successful when rereading misread words (Evans et al., 2003). Similarly, parents may positively or negatively impact the reading fluency and attitude of their children depending on the quality of the parent-child interaction. The child's reading ability, attention to reading, overall positivity, and ability to persevere during challenges may all be impacted by the quality of parent-child interaction during shared reading (Bergin, Lancy, & Draper, 2001).

Stoltz and Fischel (2003) found that parents of less-skilled readers aged 6-to-8-years-old provide richer and more varied feedback than parents of more-skilled readers. With increasing levels of parent support, children's success in rereading misread words increases (Evans et al., 2003). However, across all ability levels, parents are not likely to provide *frequent* specific instructional feedback when listening to their children read (Stoltz & Fischel, 2003). Although effective parent feedback promotes greater opportunities for the child to practice correct strategies and allows for more effective communication between parents and children, as children get older, parents provide fewer and less effective feedback cues (Stoltz & Fischel, 2003; Mansell et al., 2005). Moreover, as children get older, parents

decrease their use of context clues and the frequency that they supply the misread word and/or provide clues prior to the miscue. Instead, as children advance through elementary school, parents increase the frequency that they ignore the miscue or simply encourage the child to try reading the word again (Mansell et al., 2005).

Evans, Baraball, and Eberlee (1998) analyzed shared reading interactions between parents and their first-grade children, coding parent-feedback as either sustained feedback, terminal feedback, or no feedback. Sustained feedback occurred when parents provided graphophonemic clues on how to sound-out the word. Terminal feedback occurred when parents provided the word that the child read incorrectly without providing a cue or support to help the child read the word correctly (Evans, Baraball, & Eberlee, 1998). Mansell et al. (2005) found that the more miscues a child committed, the more often a parent provided terminal feedback or ignored the miscues. Among older elementary-age students, terminal feedback or ignoring the miscue may not support children with below average reading abilities.

Feedback Strategies

Brown (2003) outlines two approaches to parent feedback: a code-oriented approach and a holistic-oriented approach. The code-oriented approach draws children's attention to the phonemic components of words and includes tasks such as letter-sound identification, segmenting, blending, and chunking of orthographic units, as well as other graphophonemic-based strategies (McCoy & Pany, 1986). The holistic-oriented approach draws attention to the semantic and syntactic aspects of text to encourage the child to think about the word in the context of the sentence or story. Using this approach, children's attention is drawn to the

appropriate “fit” of words in a sentence, considering the meaning, structure, and overall “sense” of the story (Brown, 2003).

Kouri, Selle, and Riley (2006) suggest that the use of graphophonemic word-decoding cues may be more effective than the use of more holistic-oriented, meaning-based cues when seeking to facilitate the correction of oral reading miscues, especially if the child has misread a word that has not been previously reviewed. However, graphophonemic input is highly dependent on the phonics and phonemic awareness instruction provided to the child. If the child has received limited or ineffective phonics or phonemic awareness instruction, graphophonemic feedback in isolation may not be effective. In addition, Mansell et al. (2005) found that the frequency with which parents provide graphophonemic cues peaks in first grade, becoming more terminal as children get older. Kouri (2016) suggests that a mixed feedback approach, which alternates between graphophonemic (i.e. “code-oriented”) and meaning-based (i.e. “holistic-oriented”) feedback, is most effective at increasing the reading skills of school-age children with speech/language delays or disorders. If meaning-based cues are not effective after the child attempts the word several times, a graphophonemic cue may be provided effectively (Kouri, Selle, & Riley, 2006).

Research has demonstrated that children with language impairment are more likely to produce miscues that are less graphophonemically consistent with the written passage than miscues produced by same-age peers (Gillam & Carlile, 1997). Therefore, parents of children with below average reading abilities may need training to provide the appropriate support for their older elementary-age children struggling to read. In particular, parents may need

support to provide graphophonemic and meaning-based cues to their older elementary-age children.

Adult Learning and Parent Training

The Participatory Adult Learning Strategy (PALS) approach, an adult learning model, was developed by Dunst and Trivette (2009). Trivette, Dunst, Hamby, and O’Herin (2009) completed a meta-analysis of the PALS approach and found that greater adult learner outcomes were correlated with greater involvement of adults in judging the consequences of their learning. Findings indicated that adult learners should be encouraged to provide input throughout the learning process and to collaborate with the instructor to develop appropriate applications for new knowledge. Collaborative, instructor-guided experiences, especially over greater periods of time, were shown to improve learner knowledge, use, and mastery of different types of intervention practices.

The Teach-Model-Coach-Review approach implements adult-learning strategies identified and utilized in the PALS approach and was developed by Kaiser and Roberts (2013). The Teach-Model-Coach-Review model was designed for use within the context of Early Childhood Intervention (ECI) (i.e. therapy provided to children with speech and language disorders birth to three-years-old). The Teach-Model-Coach-Review approach was designed to empower parents of young children with speech and/or language disorders to implement Enhanced Milieu Teaching (EMT) strategies. Roberts and Kaiser (2011) found that parent-implemented language interventions were effective approaches to early language intervention for young children with language impairment. The Teach-Model-Coach-Review approach, in particular, resulted in increased use of EMT strategies among primary

caregivers with young children (Roberts, Kaiser, Wolfe, Bryant, & Spidalieria, 2014; Wright & Kaiser, 2017).

In their approach, Kaiser and Roberts (2013) focus on the needs of the entire family, not just the communication needs of the child with a speech and/or language disorder. In this way, the parents become a vital part of the therapeutic team and actively participate in intervention, instead of acting as passive observers. When using the Teach-Model-Coach-Review approach, the clinician begins by interviewing families about their children, their routines and interactions at home, and the areas in which they need support (either for themselves or for their children). The clinician emphasizes how parents' use of language support strategies supports their child's communication, rather than simply focusing on how parents should change their behaviors. Then, unique to the Teach-Model-Coach-Review approach, the clinician develops an intervention plan specific to the family, models the use of family-specific strategies, coaches the family while they demonstrate implementation of strategies, and, finally, provides feedback to the family.

STATEMENT OF PURPOSE

Parents frequently engage in shared book reading with their children and, moreover, are highly attuned to the reading level of their early elementary-age children (Bergin, Lancy, & Draper, 1994; Evans, Moretti, Shaw, & Fox, 2003). However, as children get older, parents tend to change the feedback that they provide, increasing the percentage of ignored reading miscues or miscues followed by a prompt to simply read the misread word again (Mansell et al., 2005). According to Evans, Baraball, and Eberlee (1998), such feedback would be considered “ignoring” or “terminal feedback,” respectively. Although frequently used to provide feedback to school-age children, ignoring and terminal feedback have not been shown to be the most effective types of word-decoding cues. Instead, as demonstrated by Kouri (2016), a mixed feedback approach (which combines graphophonemic and meaning-based cues) is a more effective reading feedback approach among the elementary school population. Yet, the more miscues a child makes, the more likely a parent is to ignore the miscue or provide terminal feedback (Mansell et al., 2005). Therefore, parents of school-age children struggling with fluent oral reading may need to be explicitly taught to use effective reading feedback strategies, with the ultimate goal being child implementation of effective reading strategies implemented by parents.

The researchers hypothesize that the adult learning model, Teach-Model-Coach-Review, which has been widely implemented among the birth to three-year-old population, may be used to teach parents to implement a mixed feedback approach to reading feedback. That is, the present study seeks to determine whether parents may be taught to implement reading feedback strategies while engaged in shared book reading with older, school-age children struggling with fluent oral reading.

METHOD

Participants

Child description. This project was approved by the Texas Christian University's Institutional Review Board. Two parent-child dyads were recruited from a private elementary school dedicated to serving under-resourced children. Participants were not excluded based on gender, race, or ethnicity. Parents and their children used English as their primary language, as indicated on the initial consent form. Children spoke English-only at school and received educational instruction in English.

The children were African American or African American and Latino males, 9 years; 5 months old and 10 years; 3 months old, and in fourth and fifth grade, respectively. Each child participant completed approximately 1.5 hours of testing to determine eligibility. Testing, which included a hearing screening and speech-sound, language, cognitive, and reading testing, was completed as part of a previous study. The children's hearing was screened by a research assistant. A "pass" or "not-pass" outcome on the hearing screening was determined from reliable responses (e.g., hand raise) from the children at a decibel level of 25 dB and frequencies of 1,000 Hz, 2,000 Hz, and 4,000 Hz. Two out of three correct responses at each frequency level were considered "passing." Both children passed the hearing screening and did not have a visual impairment uncorrected by glasses or an autism spectrum disorder diagnosis, a chromosomal syndrome, or an intellectual impairment. The *Goldman-Fristoe Test of Articulation – 3rd Edition* (GFTA-3) was administered to assess the children's speech-sound production. One child presented with a speech-sound impairment as indicated by scoring below 85 on the GFTA-3. However, the speech-sound error was not

counted against the student when coding reading miscues. The *Comprehensive Evaluation of Language Fundamentals – 5th Edition* (CELF-5) was administered to gather information about the children’s language skills. The *Test of Word Reading Efficiency – 2nd Edition* (TOWRE-2) was administered to obtain normative test scores of the children’s word-level reading skills. The *Kaufman Brief Intelligence Test – 2nd Edition* (KBIT-2) was administered to obtain normative test scores of and to describe the children’s non-verbal intelligence. See Table 1 for each child’s scores.

Table 1. Child Assessment Results

Test Used	Parent-Child Dyad 1		Parent-Child Dyad 2	
	Standard Score	Percentile Rank	Standard Score	Percentile Rank
Clinical Evaluation of Language Fundamentals, 5th ed.				
<u>Sentence Comprehension</u>	N/A	N/A	4	0.4%
<u>Word Structure</u>	N/A	N/A	7	16%
<u>Word Classes</u>	7	16%	6	9%
<u>Formulated Sentences</u>	5	5%	5	5%
<u>Recalling Sentences</u>	7	16%	10	50%
<u>Semantic Relations</u>	7	16%	N/A	N/A
Core Language	80	9%	80	9%
Goldman Fristoe Test of Articulation – 3rd ed.				
<u>Sounds-in-Words</u>	98	45%	84	34%
Test of Word-Reading Efficiency – 2nd ed.				

<u>Sight Word Efficiency</u>	80	9%	83	13%
<u>Phonemic Decoding Efficiency</u>	72	3%	78	7%
Total Word Reading Efficiency	75	5%	79	8%
Kaufman, Brief Intelligence Tests – 2nd ed.				
Matrices	83	13%	103	58%

Parent description. Parents completed a Parent Questionnaire at the initial baseline session. Parents were African American or Latino mothers who achieved at least a high school level education. Parents did not indicate previous speech, language, or hearing difficulties on the Parent Questionnaire.

Parent-Child Dyad 1

The mother in Parent-Child Dyad 1 completed at least two years of college and indicated a willingness to help the child read but a feeling of inadequacy. The child was reported to have a dyslexia diagnosis, which the parent acknowledged was related to his difficulty with reading, but no family history of specific disorder/impairment (e.g. speech impairment, language impairment, learning impairment, dyslexia, autism spectrum disorder, ADHD, or auditory processing disorder) was noted. Per parent report, reading feedback provided at home prior to the start of the study included: correction of the word and breakdown of the word into parts. On a scale of 1 from 7 (1 being not at all and 7 being very much), the child’s reading enjoyment was reported to be a “2.” The parent reported reading enjoyment to be a “7.” The child was reported to read almost daily, while reading with the parent reportedly occurs 2-3 times per day.

Parent-Child Dyad 2

The mother in Parent-Child Dyad 2 received a high school diploma and indicated a willingness to help her child read but a lack of time to help with reading assignments. The parent did not report concerns about her child's reading or a specific disorder/impairment diagnosis. There was no family history of specific disorder/impairment (e.g. speech impairment, language impairment, learning impairment, dyslexia, autism spectrum disorder, ADHD, or auditory processing disorder) noted. Per parent report, parent reading feedback provided at home prior to the start of the study included: correction of the word and re-reading of the sentence. On a scale from 1 to 7 (1 being not at all and 7 being very much), the child's reading enjoyment was rated as a "4." The parent's reading enjoyment was rated as a "6." The child was said to read once every 2-3 days independently and once every 2-3 days with the parent.

Experimental Design

The present study utilized a single case design that relied on visual analysis of the data to determine whether evidence of a causal relation between the independent variable (parent training) and dependent variable (the number of times the parent used the strategy taught) existed and, if so, the magnitude of change (Kratochwill et al., 2010). The first 10 minutes of the baseline and treatment phases were spent gathering the parent-child shared reading sample. The audio and video recordings of the testing were reviewed and coded using a standardized coding scheme to determine parents' use of reading strategies. Baseline and intervention data were entered Microsoft Excel to create line graphs for each participant. To support a causal relation, parents' use of reading feedback strategies needed to differ between

the baseline phase and intervention phase. That is, to show that a causal relation was present, participants were not expected to implement strategies that would be targeted in treatment while completing the baseline phase. However, following the start of treatment, participants were expected to increase use of reading feedback strategies. Increased use of reading feedback strategies following implementation of intervention would indicate a positive correlation between independent and dependent variables, while stable or decreased use of reading feedback strategies following implementation of intervention would not provide support for the effectiveness of the intervention within the context of the present study.

Setting

The study was conducted at a private elementary school dedicated to serving under-resourced children. Each parent-child dyad met individually with the researcher (a speech-language pathology graduate student supervised by an ASHA-accredited speech-language pathologist) twice a week for ten or thirty minutes, depending on whether the participant was in the baseline or treatment condition. Sessions were regularly scheduled on a weekday, either before or after the child's school day, with a specific appointment made for each parent-child dyad. If a dyad had a conflict with the regularly-scheduled time, accommodations were made, as necessary. The same SLP provided intervention each week and had not met the participants prior to the start of the study. Intervention was provided in an enclosed room, which opened to the main hallway of the school with a window overlooking the parking lot. The parent-child dyad and researcher were seated next to each other at a circular table, facing away from the hallway to prevent distraction. Parents and children who participated in the study received gift cards worth \$100 and two books. Parents

received \$25 for completing the baseline procedures and \$25 for each strategy implemented in intervention (maximum of \$100 broken into four gift cards of \$25 each). Children received one book for completing the baseline procedures and a second book for completing the intervention procedures.

Intervention Procedure

One parent-child dyad was randomly selected to begin the intervention phase. The remaining parent-child dyad remained in the baseline phase. After the first dyad completed and implemented the first of three intervention strategies (three sessions), the other parent-child dyad began the intervention phase. Each intervention session was video-recorded and analyzed for procedural fidelity.

The intervention phase of the study consisted of nine, bi-weekly sessions during which specific reading feedback strategies were taught using the Teach-Model-Coach-Review model. Each parent-child dyad received a different number of treatment sessions, which varied depending on their date of entrance into the intervention phase. The present study provided parent training for three specific reading feedback strategies: 1) sounding-out and blending the word, 2) dividing the misread word into morphemes and blending, and 3) using a meaning-based question or comment. Each strategy was taught for three consecutive sessions (for a total of nine or six intervention sessions, depending on the order of entry into the study – first or second, respectively). The first parent-child dyad to begin the intervention procedure received training for all three strategies (1, 2, and 3), while the second parent-child dyad received training for two strategies (2 and 3). Sessions lasted approximately 30 minutes each and included 10 minutes of testing (identical to the baseline procedure) and 20 minutes

of intervention (incorporating each portion of the Teach-Model-Coach-Review model). The researcher followed identical intervention procedures with all participants.

The “Teach” component of the model targeted parent learning of a specific reading feedback strategy. The researcher provided an overview of the respective strategy, including the rationale, examples, and specific steps to implement the strategy. The “Model” component of the approach allowed the researcher to model use of the target strategy with the child. While modeling, the researcher described how the target strategy would be implemented (e.g. “He read the word ‘book’ as ‘pook.’ Then I encouraged him to sound-out the work using sound-symbol pairing. This will help him associate certain letters with specific sounds.”). The researcher focused attention on the child, while narrating use of the strategy for the parent. The “Coach” component of the model designated time for parent practice of the target feedback strategy. The researcher provided praise and constructive feedback, depending on the needs and temperament of the parent. In the “Review” component of the model, the researcher and parents debriefed the session. The researcher made the debrief parent-centered by first asking how the parent perceived the session to have gone (relative to parent use of the strategy and the child’s reaction and compliance). Then, the researcher summarized the session from the researcher’s perspective. All feedback was related to the parents’ use of the specific strategy in response to their child’s reading miscues. To ensure fidelity of the intervention, the research assistant watched pre-recorded videos of the treatment sessions and completed a fidelity checklist for each.

The researcher provided a variety of fiction and non-fiction reading materials ranging from “N” to “P” on the Fountas and Pinnell Text Level Gradient. These levels correspond to

third grade grade-level reading goals. The child was able to choose a book at the start of each session and was able to continue to read the same book during the next session if unfinished at the end of a session. The child was given the option to switch books at any time. The same variety of books was provided to each child, and all books were displayed on the table in front of the child at the start of each session. The researcher provided a laminated handout for each strategy to be used during the Teach-Model-Coach-Review portion of intervention sessions (attached in Appendix A). In addition, the researcher provided a copy of each handout to be taken home.

Data Collection Procedure

Each parent-child dyad read together for 8 to 10 minutes using a grade-level book at the beginning of each session. A Canon Vixia HF R50 HD CMOS 32x Optical Zoom was used to video-record. The researcher developed a coding scheme with operational definitions (attached in Appendix B) to analyze the feedback strategies utilized by parents during the testing portion of each session.

Inter-rater Reliability and Intervention Fidelity

To ensure reliability of scoring of baseline and treatment data, all baseline and treatment sessions were video and audio-recorded. Parent use of reading feedback cues was coded during all baseline and treatment sessions. Twenty percent of the assessment and baseline/intervention sessions videos were re-scored and re-coded by a trained research assistant who was not given any of the participants' identifying information. The research assistant underwent an hour-long training session, with an hour-long follow-up meeting to

answer questions and co-code a video for reference. The research assistant was provided with the strategy handouts given to the parents, the coding scheme, and a coding protocol (coding protocol is attached in Appendix C). If inter-observer agreement did not reach 70%, the researcher and observers were retrained until 70% agreement was reached. Inter-observer agreement was calculated to be 75%.

An independent observer collected procedural fidelity data from two randomly selected sessions implementing different feedback strategies from each parent-child dyad. Thus, a total of four sessions were reviewed. A procedural fidelity checklist was used to ensure the researcher consistently implemented the treatment (see Appendix D). Procedural fidelity was divided into four sections: 1) Strategy Introduction, 2) Clinician Practice Session, 3) Parent Practice Session, and 4) Debrief of Parent Training Session. Strategy Introduction included whether the clinician: a) introduced the study procedures, b) described the goal for the session, c) described how the strategy is used, d) described why the strategy is effective, e) checked for understanding and asked whether the parent had questions. The Clinician Practice Session included whether the clinician: a) modeled the strategy following the child's oral reading miscues in 80% of opportunities and b) occurred before the Parent Practice Session. The Parent Practice Session included whether the clinician: a) provided positive feedback or training feedback to the parent(s) at least once per minute, b) related parent behavior to child behavior, and c) occurred after the Clinician Practice Session. The Debrief of the Parent Training Session included whether the clinician: a) summarized how the parent used the strategy, b) solicited questions and comments about use of the strategy, and c) provided intervention for at least 20 minutes.

It was important to note that procedural fidelity for sessions included the same number of steps regardless of the feedback strategy implemented. Each step for each feedback strategy was counted as one instance of “compliance” or “noncompliance.” Procedural fidelity was calculated by dividing the number of instances of compliance in a session by the total number of instances of compliance in a session and multiplying by 100. Procedural fidelity was calculated to be 100%. The average intervention time across the four sessions was 20.31 minutes. It was noted that the researcher provided more modeling when the strategy was first introduced and reduced the amount of modeling as the parent became more independent.

Threats to internal validity were controlled by standardizing the participant selection, experimental organization, and procedural implementation. The researcher implemented all baseline and intervention procedures. The timeline of intervention implementation was varied across participants to control for developmental interference. In addition, the same format was utilized to introduce and teach each strategy for each participant (depending on the strategy implemented each week), and the same book selection was offered. Once begun in a session, the books were not read outside the context of the present study.

RESULTS

Visual analyses of the data included the four steps and six variables outlined by Parsonson and Baer (1978). The six variables used to analyze data patterns included: level, trend, variability, immediacy of the effect, overlap, and consistency of data patterns. Level referred to the phase (i.e. “baseline” versus “intervention” phases), trend referred to the rate of increase or decrease of the data during the intervention phase, and variability referred to the variability of the data during the intervention phase (i.e. “steady” or “fluctuating”). Immediacy of effect compared the level, trend, and variability of the last three data points in the baseline phase to the first three data points in the intervention phase. Overlap referred to the identification of overlapping data points between the baseline and intervention phases. Lastly, consistency of data patterns referred to identification of similar data points in the baseline phase and similarity of data points in the intervention phase.

Figure 1 demonstrates the percent of usage of target cues in total and separated by strategy for Participant 1 and 2, respectively. During baseline, neither parent implemented intervention strategies consistently or with high frequency. Parent-Child Dyad 1 entered intervention first. With the introduction of intervention, Parent-Child Dyad 1 (Participant 1), demonstrated an immediate increase in frequency of use of graphophonemic strategies (“Sounding-Out and Blending” and “Dividing a Word”), with strategy use tending to increase as more intervention was provided. Participant 1 did not implement meaning-based cues (i.e. “Providing a Meaning-Based Comment or Question”); however, due to scheduling issues, only one session of intervention was provided. Parent-Child Dyad 2 (Participant 2), who entered intervention second, was provided intervention that targeted two strategies, one after the other. Participant 2 demonstrated an immediate increase in both graphophonemic

and meaning-based cues (i.e. “Dividing a Word” and “Providing a Meaning-Based Comment or Question”) when introduced. Although use was inconsistent across sessions, use of each target strategy tended to increase over the course of intervention. The other graphophonemic strategy (“Sounding-Out and Blending”) was not targeted for the purpose of the study but was informally introduced at the last intervention session.

Participant 1

The first strategy introduced with Participant 1 was a graphophonemic cue, “Sounding-Out and Blending” (see Appendix A and Figure 1). Prior to intervention, Participant 1 demonstrated “Sounding-Out and Blending” for 8.2% of feedback cues (range = 0-14%). During the baseline condition, Participant 1 used the following other cues to provide feedback: affirming, negating, priming repetition, providing the word/phrase/sentence, requesting repetition, and suggesting (91.8% of cues). With the introduction of “Sounding-Out and Blending,” Participant 1 demonstrated an increase of 28.8% usage of the target cue, moving from an average use of 8.2% in the baseline condition to an average use of 37% after three sessions of intervention (range = 33-42%). Across the first three intervention sessions, Participant 1 used the following other cues: negating, priming repetition, providing word/phrase/sentence, and requesting repetition.

During the second three intervention sessions, a second graphophonemic strategy, “Dividing a Word,” was introduced (see Appendix A and Figure 1). Participant 1 demonstrated an increase of 40.7% usage of “Dividing a Word,” moving from an average use of 0.63% in the baseline condition (range = 0-5%) to 41.33% after three sessions of intervention (range = 31-50%). Participant 1 continued to use “Sounding-Out and Blending”

for 5.25% of cues, even after the introduction and emphasis on use of “Dividing a Word.” Thus, though generalization of the first strategy occurred, Participant 1 immediately switched her target cue following the introduction of the second strategy. Across the second three intervention sessions, Participant 1 used the following other cues: negating, priming repetition, providing word/phrase/sentence, and requesting repetition.

The final strategy introduced was a meaning-based cue, “Using a Meaning-Based Comment or Question” (see Appendix A). The meaning-based cue was not implemented by Participant 1, despite being targeted in one session of intervention. However, Participant 1 did not implement *any* target cues in the final session of data analysis, despite previous generalization of strategies. Other cues demonstrated included: priming repetition and providing word/sentence. Due to scheduling issues and external life stressors on the part of the parent-child dyad, Participant 1 was unable complete the last two intervention sessions for “Using a Meaning-Based Comment or Question.”

Participant 1’s percentage of implementation was similar across the first two strategies implemented (37% and 41% for “Sounding-Out and Blending” and “Dividing a Word,” respectively), consistently trending upward across the three intervention sessions in which each strategy was targeted. Moreover, Participant 1’s total percent use of target cues trended upward throughout intervention. Participant 1 increased use of target cues from 8.2% in the baseline condition to 38.67% following the introduction of “Sounding-Out and Blending” and to 48.33% following the introduction of “Dividing a Word.” For each strategy, implementation was immediate and consistent, rising 30% following one session of intervention for “Sounding-Out and Blending” and 31% following one session of

intervention for “Dividing a Word.” Participant 1 demonstrated target cues 0% of the time in the single session following “Providing a Meaning-Based Comment or Question.” Excluding the final session from analysis, Participant 1 exhibited an overall increase of 29.09% between baseline and intervention conditions.

Participant 2

Participant 2 entered intervention following eight baseline sessions and was introduced to two strategies for the context of the present study. The first strategy introduced for Participant 2 was the graphophonemic cue, “Dividing a Word” (see Appendix A and Figure 1). With the introduction of “Dividing a Word,” Participant 2 increased average use of the target strategy from 0.5% in the baseline condition (range = 0-4%) to 18% following three sessions of intervention (range = 0-43%). Overall increase in use of the target cue was an average of 17.5% following intervention. Other cues used during the baseline condition included: affirming, negating, priming repetition, providing word/phrase/sentence, and requesting repetition. Other cues used after the first three intervention sessions included: priming repetition, providing word/phrase/sentence, and requested repetition.

The second strategy introduced to Participant 2 was the meaning-based cue, “Providing a Meaning-Based Comment or Question.” Following the introduction of the meaning-based cue, Participant 2 increased average use of the target cue from 0.36% in the baseline condition (range = 0-4%) to 27.5% following two sessions of intervention (range = 11-44%). Overall increase in use of the target cue was an average of 27.14% following intervention. Other cues implemented included: negating, priming repetition, providing word, and requesting repetition. Due to scheduling issues and life stressors on the part of the parent-

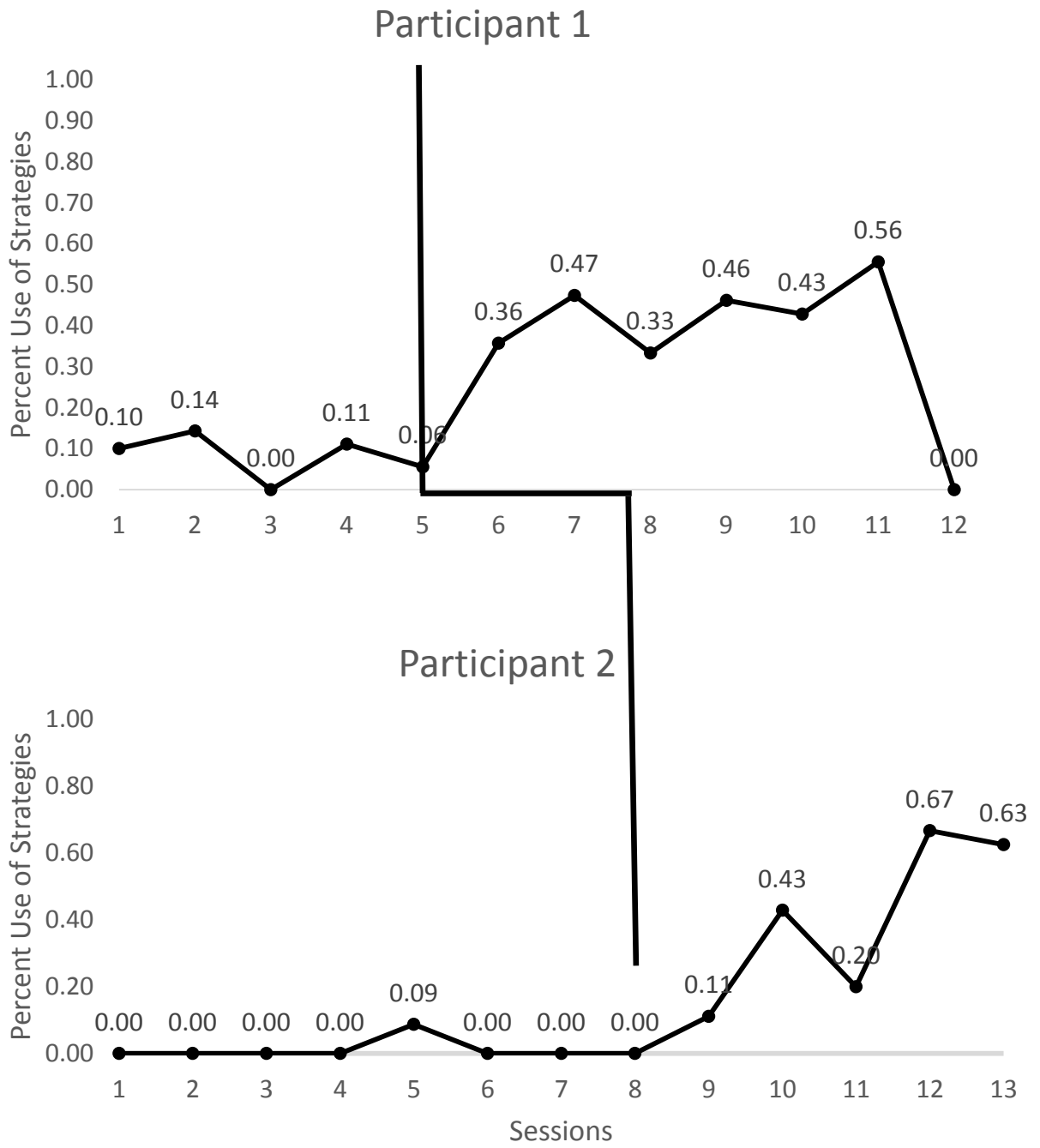
child dyad, only two sessions of intervention targeting the meaning-based cue (as opposed to the ideal three sessions) were completed.

Participant 2 continued to implement “Dividing a Word” following the introduction of “Providing a Meaning-Based Comment or Question” (accounting for 37.5% of total cue usage). Thus, percent use of the graphophonemic cue continued to increase despite the introduction and emphasis of a second, meaning-based strategy.

Participant 2’s percentage of implementation was less consistent than Participant 1’s across the first two strategies implemented (an average of 18% and 27.5% for “Dividing a Word” and “Providing a Meaning-Based Comment or Question,” respectively). However, Participant 2’s percent use of target cues trended upward as intervention progressed (moving from 1.13% during the baseline condition, to 24.67% following the first three intervention sessions, to 65% following the last two intervention sessions). The average percent strategy use was 40.8% across the intervention condition, compared to 39.67% during the baseline condition. For each strategy, implementation was immediate and consistent, rising 11% following one session of intervention for “Dividing a Word” and one session of intervention for “Providing a Meaning-Based Comment or Question.”

The third strategy (“Sounding-Out and Blending”) was briefly introduced as a courtesy to the parent-child dyad at the final session, but the results were not analyzed for the purpose of the study.

Figure 1. Percent Use of Strategies by Participant



Additional Analysis

Interestingly, the parents included in the study ignored between 38.62 and 57.12% of miscues made across the baseline and intervention sessions (Participant 1 ignored 57.17% of miscues on average; Participant 2 ignored 38.62%). The rate that parents ignored miscues was inconsistent across the study and did not seem to correlate with the presence or absence of intervention. Participant 1 ignored an average of 53.6% of miscues during baseline, 60.33% while “Sounding-Out and Blending” was implemented, 53.33% while “Dividing a Word” was implemented, and 77% while “Providing a Meaning-Based Comment or Question” was implemented. Meanwhile, Participant 2 consistently ignored fewer miscues than Participant 1 over the course of the study but did not exhibit a consistent pattern. Participant 2 ignored an average of 34.75% of miscues during baseline, 50% of miscues while “Dividing a Word” was implemented, and 37% of miscues while “Providing a Meaning-Based Comment or Question” was implemented.

DISCUSSION

A parent reading feedback program utilizing the adult learning model, Teach-Model-Coach-Review, was implemented in a single case design that compared parents' use of reading feedback strategies across baseline/intervention procedures and across participants. The Teach-Model-Coach-Review model has been most commonly applied when working with children receiving early intervention services. However, the results of the present study suggest that the model may also be used to teach parents of school-age children struggling to read. Three reading feedback strategies were chosen so that participants would have the tools to implement a mixed feedback approach (i.e. two strategies were graphophonemic cues and one strategy was meaning-based). A mixed feedback approach has been shown to be effective in the research literature (Kouri, 2016).

One strategy was taught at a time, and each strategy was targeted using the Teach-Model-Coach-Review model for three consecutive sessions. Each parent-child dyad was introduced to strategies in a different order (Participant 1 was taught "Sounding-Out and Blending" first, followed by "Dividing a Word" and "Using a Meaning-Based Comment or Question" Participant 2 was taught "Dividing a Word" and then "Using a Meaning-Based Comment or Question"). Once introduced to either a graphophonemic or meaning-based feedback cue, parents began using each strategy immediately (as measured by an increase in use of the cue at the start of the following session). Percent use of each strategy trended upward, although participants varied in regard to the consistency with which they implemented each strategy.

Previous research has identified that a mixed approach to reading feedback, incorporating both phonemic and meaning-based cues, is most effective for children with language impairment (Kouri, 2016). That is, children with language impairment are more likely to correct decoding errors when mixed feedback (i.e. both graphophonemic and meaning-based feedback) is provided. The results of the present study suggest that parents may be trained to implement the following evidence-based graphophonemic or meaning-based reading feedback cues: sounding-out and blending, dividing a word, and using a meaning-based comment or question. Parents were able to implement strategies immediately and with increasing frequency as additional intervention was provided. Moreover, parents proved to be adaptable, intuitive reading partners for their children, providing encouragement and positive feedback for their children when incorrectly read words were read correctly following parent use of feedback.

In addition, the present study provided support for the findings of Mansell et al. (2005), who found that parents tend to ignore reading miscues of school-age children or simply encourage the child to try reading the word again. Mansell et al. (2005) found that the more miscues a child committed, the more often a parent ignored the miscue or provided terminal feedback. Similarly, the present study found that parents ignored between 11 and 77% of miscues made during the 10-minute, one-on-one parent-child reading sample. Moreover, the most common type of feedback provided by parents (excluding the targeted feedback strategies) was “providing the word” or “providing the phrase.” Participant 1 ignored between 39 and 77% of miscues (average of 57.17% across baseline and intervention), and Participant 2 ignored between 11 and 74% of miscues (average of 38.62% across baseline

and intervention). The percentage of miscues ignored did not vary greatly between the baseline and intervention sessions.

Limitations and Future Research

Limitations

The present study is limited by the small sample size (two parent-child dyads) and the limited number and length of intervention sessions. Each parent-child dyad met with the clinician 12-13 times. However, depending on the entry of the dyad into intervention, the dyads met for 4-7 baseline sessions before meeting to receive intervention (the fifth and eighth baselines were completed for the first 10 minutes of a session, followed by the first session of intervention). Once participants entered into intervention, 20/60 minutes each week were data collection and 40/60 minutes were intervention. In practice, baseline data may not need to be gathered across 5 sessions prior to intervention. Moreover, data collection could occur during the intervention session. Therefore, a greater number of sessions may be spent providing intervention, and greater time during each session may be spent within the Teach-Model-Coach-Review model. Thus, in practice, effectiveness of parent training may be further increased.

Lastly, the present study failed to demonstrate consistent generalization of strategies across sessions or longitudinally. That is, when a new strategy was implemented, parents often abandoned use of the previous strategies. However, this may be related to the limited number and length of intervention sessions. Each strategy was targeted using the Teach-Model-Coach-Review model for 20 minutes during each of 3 sessions. If parents were able to

practice each strategy across a greater number of sessions, spread across a greater period of time, consistent generalization may have been achieved. Moreover, follow-up after completion of parent training may have provided an indication of true learning.

Areas for Future Research

The present study provides a foundation for a parent reading training program targeted at parents of school-age children. Future research may address the effectiveness of the program across a larger and more diverse sample. Moreover, the length of intervention session may be increased, to allow greater time to be spent in each part of the Teach-Model-Coach-Review model. Similarly, the study's overall timeline may be increased to allow for follow-up after the cessation of intervention to determine generalization of parents' use of feedback strategies over time. A longitudinal study would also allow for analysis of possible carryover improvement in children's reading skills following parent intervention.

Conclusion

The adult learning model, Teach-Model-Coach-Review, may be used to teach parents to provide effective reading feedback to school-age children struggling to read. This is an important finding because it extends the work of previous researchers who have found that Teach-Model-Coach-Review may be implemented among the early intervention population (Kaiser & Roberts, 2013; Roberts & Kaiser, 2011; Roberts, Kaiser, Wolfe, Bryant, & Spidalieria, 2014; Wright & Kaiser, 2017). Moreover, this finding sets a precedence for future research regarding parent training programs for school-age children with below-average reading abilities.

REFERENCES

- Abbott, M., Wills, H., Miller, A., & Kaufman, J. (2012). The relationship of error fate and comprehension in second and third grade oral reading fluency. *Reading Psychology, 33*, 104-132. doi:10.1080/02702711.2012.630613
- Bergin, C. (2001). The parent-child relationship during beginning reading. *Journal of Literacy Research, 33*(4), 681-706.
- Bergin, C., Lancy, D.F., & Draper, K.D. (1994). Parents' interactions with beginning readers. In D. F. Lancy (Ed.), *Children's emergent literacy: From research to practice* (pp. 53-78). Westport, CT: Greenwood.
- Brown, K.J. (2003). What do I say when they get stuck on a word? Aligning teachers' prompts with students' development. *The Reading Teacher, 56*(8), 720-733.
- Dunst, C.J. & Trivette, C.M. (2009). Let's be PALS: An evidence-based approach to professional development. *Infants and Young Children, 22*(3), 164-176.
- Evans, M.A., Barraball, L., & Eberlee, T. (1998). Parental responses to miscues during child-to-parent book reading. *Journal of Applied Developmental Psychology, 19*, 67-84.
- Evans, M.A., Moretti, S., Shaw, D., & Fox, M. (2003). Parent scaffolding in children's oral reading. *Early Education and Development, 14*(3), 363-388.
- Fuchs, L.S., Fuchs, D., Hosp, M.K., & Jenkins, J.R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*(3), 239-256. doi:10.1207/S1532799XSSR0503_3
- Gillam, R.B. & Carlile, R.M. (1997). Oral reading and story retelling of students with specific language impairment. *Language, Speech, and Hearing Services in Schools, 28*(1), 30-42.
- Kaiser, A.P., & Roberts, M.Y. (2013). Parents as communication partners: An evidence-based strategy for improving parent support for language and communication in everyday settings. *SIG 1 Perspectives on Language Learning and Education, 20*, 96-111.
- Kintsch, W. (1994). Text comprehension, memory, and learning. *The American Psychologist, 49*(4), 294-303.
- Kouri, T.A. (2016). Comparison of feedback strategies during guided reading instruction with children with language impairment. *Contemporary Issues in Communication Science & Disorders, 43*, 268-284.

- Kouri, T.A., Selle, C.A., & Riley, S.A. (2006). Comparison of meaning and graphophonemic feedback strategies for guided reading instruction of children with language delays. *American Journal of Speech-Language Pathology, 15*(3), 236-246.
- Laing, S.P. (2002). Miscue analysis in school-age children. *American Journal of Speech-Language Pathology, 11*, 407-416.
- Mansell, J., Evans, M.A., & Hamilton-Hulak, L. (2005). Developmental changes in parents' use of miscue feedback during shared book reading. *Reading Research Quarterly, 40*(3), 294-317.
- McCoy, K.M., & Pany, D. (1986). Summary and analysis of oral reading corrective feedback research. *The Reading Teacher, 39*(6), 548-554.
- O'Brien, D.G. (1988). The relation between oral reading miscue patterns and comprehension: A test of the relative explanatory power of psycholinguistic and interactive views of reading. *Journal of Psycholinguistic Research, 17*(5), 379-401.
- Pany, D. & McCoy, K.M. (1988). Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities. *Journal of Learning Disabilities, 21*, 546-550.
- Roberts, M.Y. & Kaiser, A.P. (2011). The effectiveness of parent-implemented language interventions: A meta-analysis. *American Journal of Speech-Language Pathology, 20*, 180-199.
- Roberts, M.Y., Kaiser, A.P., Wolfe, C.E., Bryant, J.D., Spidalieri, A.M. (2014). Effects of the Teach-Model-Coach-Review instructional approach on caregiver use of language support strategies and children's expressive language skills. *Journal of Speech-Language Pathology, 57*, 1851-1869.
- Stoltz, B.M., & Fischel, J.E. (2003). Evidence for different parent-child strategies while reading. *Journal of Research in Reading, 26*(3), 287. doi:10.1111/1467-9817.00204
- Trivette, C.M., Dunst, C.J., Hamby, D.W., & O'Herin, C.E. (2009). Characteristics and consequences of adult learning methods and strategies. *Research Brief, 3*(1), 1-33.
- Wolf, M., & Katzir-Cohen, T. (2001). Reading fluency and its intervention. *Scientific Studies of Reading, 5*(3), 211-239. doi:10.1207/S1532799XSSR0503_2
- Wright, C.A. & Kaiser, A.P. (2017). Teaching parents Enhanced Milieu Teaching with words and signs using the Teach-Model-Coach-Review model. *Topics in Early Childhood Special Education, 36*(4), 192-204.

Sounding-Out and Blending

What is sounding-out and blending a word?

Sounding-out is the process of saying each sound in a word separately. For example, if your child does not read the word "red" correctly, you can sound out the word (or say the sound of each letter): "r" then "e" and then "d".

Blending is the process of slowly combining the sounds that you sounded out. For example, after you break apart "red", you blend "r," "e," and "d" to form "red".

When do I use this strategy?

Use the sounding-out and blending strategy when your child reads a word incorrectly or skips over a word.

- 1) Say "Stop reading. Let's go back to this word."
- 2) Point to each letter of the word and say the sound of the letter.
- 3) Slowly blend together each sound to read the whole word.
- 4) Then, have your child sound-out and blend the sounds while he/she points to each letter.
- 5) Have your child reread the word or entire sentence.

Why should I use this strategy when reading with my child?

Having your child sound-out and blend words that are read incorrectly or skipped will show him/her how to read words he or she does not know. This strategy also helps to teach your child which sound matches a letter or group of letters.



Dividing a Word

What is dividing a word?

Dividing a word is the process of making a word simpler to read by breaking the word into smaller parts. For example, if your child does not read the word "opened" correctly, cover the "ed" with your finger and say "open". Then, cover "open" with your finger and say "ed". If your child does not read the word "description" correctly, cover "cription" and say "des", cover "des" and "tion" and say "crip", and then cover "des" "crip" and say "tion".

When do I use this strategy?

Use the dividing a word strategy when your child reads a word incorrectly or skips a word.

- 1) Say "Stop reading. Let's go back to this word."
- 2) Point to the word that was not read correctly or skipped.
- 3) Divide the word into parts.
- 4) Cover up each part of the word and read each part to your child individually.
- 5) Then, have your child repeat each part of the word while pointing to it.
- 6) Have your child reread the word or the entire sentence using the correct word.

Why should I use this strategy when reading with my child?

Helping your child to divide a word that is read incorrectly will show him or her how to read words he or she does not know. Your child will learn how to break down bigger words into smaller parts to sound out while reading.



Using a Meaning-Based Comment or Question

What is a meaning-based comment or question?

A meaning-based comment or question is a prompt or clarifying question that you can ask your child to encourage them to think about the meaning of the sentence or the events of the story.

For example, if your child incorrectly reads the word "library" as "laundry", you can say to him or her: "You said the word "laundry." Does laundry make sense in the sentence? Think about the meaning of the sentence you just read." You can also say, "Think about what is going on in the story."

When do I use this strategy?

Use the meaning-based comment or question strategy when your child reads a word incorrectly.

- 1) Say "Stop reading. Let's go back to this word."
- 2) Point to the word that was read incorrectly and tell your child what word he or she said.
- 3) Ask your child "Does [insert word] make sense in the sentence?" and "Think about what is going on in the story."
- 4) Wait for your child's response.
- 5) Encourage your child to reread the word so that it makes sense in the sentence.

Why should I use this strategy when reading with my child?

Questioning and providing a meaning-based cue following words that your child reads incorrectly will show him or her how to correct misread words. This strategy also helps to teach your child to think about the meaning of each word in the context of the sentence and the entire story.

