Peer Assisted Learning Strategies for Reading Skills Improvement by Children with Social, Emotional and Behavioral Disorders

Jayne M. Boulos

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PEER ASSISTED LEARNING STRATEGIES FOR READING SKILLS IMPROVEMENT BY CHILDREN WITH SOCIAL, EMOTIONAL AND BEHAVIORAL DISORDERS

By

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B.A. University of Southern Maine, 1993
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A DISSERTATION
Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Psychology (in School Psychology)

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In presenting the Dissertation, PEER ASSISTED LEARNING STRATEGIES FOR READING SKILLS IMPROVEMENT FOR CHILDREN WITH SOCIAL EMOTIONAL AND BEHAVIORAL DISORDERS, in partial fulfillment of the requirements for the PsyD in School Psychology at the University of Southern Maine, I agree that the Library shall make it freely available for review. I further agree that permission for copying, as provided for by the Copyright Law of the United States (Title 17, U.S. Code), of this Dissertation for scholarly purposes may be granted. It is understood that any copying or publications of this Dissertation for financial gain shall not be allowed without my written permission.

Jayne M. Boulos
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Abstract

Elementary grade students with reading difficulties do not always receive effective intervention; this can prevent them from becoming fluent readers. Students with social, emotional and behavioral disorders (SEBD) often lack appropriate social skills, which can augment challenges associated with learning to read. Response to Intervention (RTI), using a multi-tiered system of support, adapts to a student’s learning and/or behavioral difficulties by applying evidence-based interventions to address individual student needs. This study evaluated the effects of combining a Tier 1 core reading instruction program with a Tier 2 intervention, Peer Assisted Learning Strategies (PALS) for reading for students with SEBD. It was hypothesized that PALS would improve students’ overall reading skills. Using a multiple baseline across dyads design, six students with both reading difficulties and SEBD participated in daily PALS peer tutoring sessions. Students’ oral reading fluency was measured semiweekly using curriculum-based measures. The percentages of active listening and prompting, as broadly defined by the PALS intervention manual, also were calculated. Although the results indicate the intervention did not work as hypothesized, the findings highlight factors that should be considered when developing reading instruction programs for students with SEBD. Implications for school practice are discussed.
Dedication

The years and years of schooling and amount of work that went into this dissertation as the final step in achieving my goal of a Psy.D. could never have been completed without the support of my husband, Curly, and our children, Rebecca, Elizabeth, Christopher, and Anna. For all of your love, guidance, encouragement, back rubs, hugs, Kleenex, graphing, editing and all around just being a great family, I dedicate my dissertation to you. Thank you.
Acknowledgments

For their friendship, encouragement, guidance, supervision and seeing me through my internship and dissertation experience, I would like to sincerely thank Christopher Kaufman, John Hite, Joan Struzziero, Harold Longenecker, and Glen Davis. Thank you for everything.

To my dissertation committee members, Rachel, Mark and Eileen for sharing your expertise and helping me through this dissertation, thank you.

To Michelle Hathaway, Susan Crane and all of the staff at the Margaret Murphy Center for Children, this research would not have been possible without your support, thank you.

To all of my University of Massachusetts-Boston graduate students, your eagerness to learn and enthusiasm makes me a better practitioner every day, thank you.

To my many friends, classmates and instructors at the University of Southern Maine for whom my love of school psychology would not be possible, thank you.


Table of Contents

Dedication................................................................................................................................. v
Acknowledgments..................................................................................................................... vi
List of Tables ............................................................................................................................. ix
List of Figure ............................................................................................................................ x
Chapter 1: Literature Review ................................................................................................. 1
  Reading Development ............................................................................................................... 1
  Oral Reading Fluency .............................................................................................................. 2
  Reading Comprehension ........................................................................................................ 3
  Oral Reading Fluency and Reading Comprehension .............................................................. 3
  School-Based Reading Skills Development ........................................................................ 4
  Peer Learning Strategies ....................................................................................................... 5
  Research Questions ............................................................................................................... 7
Chapter 2: Method .................................................................................................................... 8
  Design ................................................................................................................................... 8
  Participants and Setting ......................................................................................................... 8
  Materials ................................................................................................................................. 9
  Procedure ............................................................................................................................... 11
  Data Analysis ........................................................................................................................ 16
Chapter 3: Results .................................................................................................................... 18
Chapter 4: Discussion ............................................................................................................... 22
  Limitations ........................................................................................................................... 25
  Future Research .................................................................................................................... 26
Chapter 5: Summary ............................................................................................................... 28
References ............................................................................................................................... 29
List of Tables

Table 1 ........................................................................................................................................... 9
Table 2 ........................................................................................................................................... 15
Table 3 ........................................................................................................................................... 15
Table 4 ........................................................................................................................................... 16
Table 5 ........................................................................................................................................... 16
Table 6 ........................................................................................................................................... 16
Table 7 ........................................................................................................................................... 20
List of Figure

Figure 1 ........................................................................................................................................ 19
Chapter 1: Literature Review

Reading is a necessary skill for academic success, employment, and autonomy (Calhoon, Sandow & Hunter, 2010; Williams, Stafford, Lauer, Hall and Pollini, 2009). Some educators believe if students can read words, then they can comprehend what they have read; however, sounding out single words is different from deriving meaning from those words (Lyon, Shaywitz & Shaywitz, 2003; Roberts, Torgesen, Boardman & Scammacca, 2008). In fact, many students who have difficulty with reading comprehension can read single words, but struggle to understand the overall meaning of what they read. Students who cannot read words with automaticity lose fluency and demonstrate impaired understanding; this can hinder academic progress (Lyon, Shaywitz & Shaywitz, 2003; Roberts, Torgesen, Boardman & Scammacca, 2008).

Research has identified several skills that individuals need to master in order to read effectively: phonemic awareness, decoding skills, phonics, fluency, vocabulary, comprehension, and background knowledge and motivation (Block, Parris, Reed, Whitely & Cleveland, 2009; Cantrell, Almasi, Carter, Rintamaa, & Madden, 2010; National Reading Panel, 2000; Roberts et al., 2008). If a student is missing any of these components, then he or she will experience challenges with reading progress. Additional research has explored the processes by which students learn to read, as well as intervention approaches that target the different phases of reading skill development.

Reading Development

Word reading involves breaking words into specific sound subparts (phonemes), recognizing the letters (graphemes), merging the two (phonics), and using vocabulary knowledge to understand words. Phonemic awareness is a skill that can be learned by
ensuring students identify, think about, and are able to manipulate the sounds in the words they are trying to read. Teaching phonemic skills is the beginning of good literacy instruction (Block et al., 2009; Ergul, 2012; Roberts et al., 2008). Graphemes are the smallest letter or letters in a word that represent a sound. Phonics (i.e., alphabetic principle) is the ability to recognize sound-letter associations, such that the student can connect phonemes with the letters that represent the graphemes. These connections are followed by the student’s ability to blend these sounds into words (Ergul, 2012; Pressley & Duke, 2010). Finally, a reader needs to connect the whole word with its meaning through vocabulary knowledge. Therefore, reading is the process of learning word decoding, then recognizing words automatically without decoding, recognizing words automatically, and ultimately putting the words together to make meaning (Carnine & Carnine, 2004; Ergul, 2012).

**Oral Reading Fluency**

Oral reading fluency is the ability to read words accurately and quickly (Block et al. 2009; Ergul, 2012; Neddenriep & Hale, 2011); it is considered the bridge between reading a word and understanding a sentence. The most effective way to build oral reading fluency is through oral reading of known words with many repetitions and opportunities for success (Block et al., 2009; Deno, Fuchs, Marston & Shin, 2001; Ergul, 2012), such as having students read aloud sentences or stories they know well. As students become better at reading, text difficulty may be increased to match their maturing skills (Block et al., 2009; Roberts et al., 2008). Once a student can read words without difficulty and with inflection, has mastered texts at grade level, and can answer questions about what was read, the student is considered a fluent reader.
**Reading Comprehension**

Reading for understanding requires more than putting a list of words together. As students gain oral reading accuracy and fluency, reading comprehension is the next reading skill on which to focus. Comprehension of what one reads requires significant simultaneous processing of words and meaning, as well as the ability to use prior knowledge to promote understanding and predict what comes next (Lyon et al., 2003; Prado & Plourde, 2011). As such, the focus on comprehension occurs after students have learned to read, and are reading to learn (Carnine & Carnine, 2004; Schieffer, Marchand-Martella, Martella, Simonsen, & Waldron-Soler, 2002). Depending on their learning needs, students may have different strengths and challenges as they relate to comprehension skill development; this means successful teaching approaches and learning environments must also vary (Block et al., 2009). There is neither one way to learn to comprehend text, nor just one cognitive process involved (Cantrell et al., 2010; Ghelani, Sidhu, Jain, & Tannock, 2004). Possessing a strong motivation to want to learn to read as well as developing word-reading skills is imperative for students to become effective readers. Teaching students to understand what they read is one of the targeted areas within a Response-to-Intervention (RTI) service model (Neddenriep & Hale, 2011; discussed below).

**Oral Reading Fluency and Reading Comprehension**

Oral reading fluency (ORF) is strongly and positively correlated with students’ comprehension ability, such that as ORF improves, so does reading comprehension (Carnine & Carnine, 2004; Ergul, 2012; Fuchs and Fuchs, 2005; Hamilton and Shinn, 2003; Reschly, Busch, Betts, Deno, & Long, 2009; Shinn & Good, 1992). A widely used
form of ORF assessment is part of a type of measure known as curriculum-based measurement (CBM). Evidence has consistently supported the use of ORF as an accurate assessment of overall reading achievement, including comprehension (Ergul, 2012; Fuchs, Fuchs, Hosp, and Jenkins, 2001). Fuchs et al. (2001) administered standardized reading tests to students in sixth grade who were underachieving and receiving special education. These students completed several activities to assess their comprehension, including oral retell, cloze items, questions and answers, and ORF. The researchers found that ORF was the strongest predictor of students’ overall reading achievement. In their meta-analysis, Reschly et al. (2009) examined the association between ORF scores and those from other standardized reading achievement tests. The results suggested that ORF is a strong indicator of how well students are likely to perform on other reading measures, including measures of comprehension.

**School-Based Reading Skills Development**

Most children learn to read by second grade (Compton, Fuchs, Fuchs, & Bryant, 2006; Neddenriep & Hale, 2011; Slavin, Lake, Chambers, Cheung, & Davis, 2009). Schools typically use many different types of curricula and instructional programming that target reading skills development. However, while there is a plethora of research about what children need to develop reading skills, there is less research about school-based reading program quality and effectiveness (Slavin et al., 2009).

**Response to intervention.** The RTI framework is an evidence- and prevention-based model that provides intervention at three levels: Tier 1, Tier 2 and Tier 3 (Brown-Chidsey & Steege, 2010; described below). RTI uses a screening-based logic such that all students are assessed briefly three times per year (e.g., fall, winter, spring) at grade
level to identify weaknesses in basic reading, writing, mathematics, and behavior skills. The screenings are intended to address deficits in these areas before students require special education support. Screening data are used as a guide at the classroom and school levels to develop systematic instruction and intervention methods that correspond to each student’s needs (Abbott & Wills, 2012; Brown-Chidsey & Steege, 2010; Hauerwas, Brown, & Scott, 2012). While all students receive Tier 1 core instruction, data from the tri-annual screenings enable school personnel to identify students who require additional assistance. National data suggest that 80% of students will succeed with Tier 1 alone; the remaining 20% require additional intervention at either the Tier 2 (15%) or Tier 3 (the lowest 5%) level (Brown-Chidsey & Steege, 2010). Thus, students who meet the established benchmarks for tested skills participate only in Tier 1 intervention, which is the core classroom instruction.

Tier 2 interventions are implemented in addition to Tier 1 core instruction, and typically are used three to five times weekly. Usually, Tier 2 interventions are delivered at the classroom level, either by the classroom teacher or by another trained professional. In Tier 2, students’ progress is regularly and closely monitored at least monthly, and interventions are adjusted based on students’ skill development. Tier 3 interventions are more intense, involving individualized instruction, occurring daily if necessary, and are monitored at least weekly (Brown-Chidsey & Steege, 2010). At each of the three levels of instruction it is crucial that students receive evidence-based programming.

**Peer Learning Strategies**

Several studies show that peer-tutoring, also called peer-mediated or peer-learning strategies, can be an effective way to combine academic and social skills instruction
(Dion, Fuchs, & Fuchs, 2005; DuPaul, 1998; Falk & Wehby, 2001; Locke & Fuchs, 1995). This approach can strengthen peer relationships as well as academic skills, including ORF and reading comprehension, as a result of specific, structured reading activities included in the curriculum (Dion et al., 2005; Fuchs & Fuchs, 2005; Van Keer, 2004). Research suggests that having children work together to support each other’s learning improves performance across a broad range of skills (Dion et al., 2005; Fuchs & Fuchs, 2005). For example, in a study by Locke and Fuchs (1995), peer-mediated activity improved the on-task behavior of fifth and sixth grade boys with emotional and behavioral disorders.

Peer-Assisted Learning Strategies (PALS) for reading is an evidence-based Tier 2 reading intervention (Dion et al., 2005; Fuchs & Fuchs, 2005). The PALS for reading intervention offers both specific reading intervention activities, as well as structured social engagement with a classmate. PALS help students develop reading and social skills, as well as independent growth and development in the context of fluency and reading comprehension (Fuchs & Fuchs, 2005). In a study by Fuchs, Fuchs, Mathes and Simmons (1997) groups of elementary and middle school students, including both low and high achieving, and those with and without disabilities, participated in PALS for reading. There was also a control group who did not participate in PALS. The authors found that the students who were involved in the PALS for reading program demonstrated greater gains than those who were not enrolled in the program regardless if they had a disability. In a follow-up study by Mathes, Grek, Howard, Babyak, and Allen (1999), first-grade students demonstrated significantly higher gains in reading after participating in a PALS program, further support that PALS is an effective intervention.
A more recent study by Slavin et al. (2009) found that cooperative learning strategies, such as PALS, improve students’ reading achievement, as students work in small groups to help each other master reading so that their team is successful.

**Research Questions**

Although PALS has been shown to be effective with typically developing students, as well as with students with learning disabilities, there is little research about its use with students who have SEBD. This study sought to answer the following research questions about the effect of PALS when used with students who have SEBD.

1. Does PALS for reading improve the reading skills of elementary grade students with social-emotional behavioral disabilities?

2. What level of engagement by student peers is observed when implementing PALS for reading with students who have SEBD?
Chapter 2: Method

Design

This study used a multiple baseline across dyads design to assess whether the PALS for reading program improved reading skills in children with SEBD. Dyads were the unit of measurement because PALS requires student-to-student lessons.

Participants and Setting

Participants in the study were six male students in grades 1 through 3, who were enrolled in a specialized day treatment program for students with SEBD located in the Northeast U.S. Each of the subjects was identified as having one or more federally recognized disabilities, including emotional disturbance (ED), specific learning disability (SLD), or other health impairment (OHI), such as attention deficit hyperactivity disorder (ADHD). Eligible students were those who demonstrated reading difficulties per teacher identification. Students who were reading at or above grade level were ineligible to participate. Students with a history of significant interruptive behavior problems during reading instruction, as documented in their Individual Education Program (IEP), also were excluded so that they did not experience additional negative interactions. Parent consent and student assent were obtained from all participants. The University of Southern Maine Institutional Review Board approved all procedures prior to the start of the study.

Demographic information about each participant is shown in Table 1. Students ranged in age from 7 years, 4 months to 10 years, 6 months. As previously noted, all participants were male and diagnosed with one or more SEBD.
Table 1

<table>
<thead>
<tr>
<th>Student dyad</th>
<th>Age</th>
<th>Grade</th>
<th>Special Education Eligibility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>dyad A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7y-9m</td>
<td>2</td>
<td>Multiple Disabilities (OHI, ED)</td>
</tr>
<tr>
<td>2</td>
<td>8y-9m</td>
<td>2</td>
<td>ED</td>
</tr>
<tr>
<td>dyad B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10y-1m</td>
<td>3</td>
<td>Multiple Disabilities (OHI, ED)</td>
</tr>
<tr>
<td>4</td>
<td>10y-3m</td>
<td>3</td>
<td>Multiple Disabilities (OHI, ED)</td>
</tr>
<tr>
<td>dyad C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10y-6m</td>
<td>3</td>
<td>Multiple Disabilities (OHI, ED)</td>
</tr>
<tr>
<td>6</td>
<td>7y-4m</td>
<td>1</td>
<td>ED</td>
</tr>
</tbody>
</table>

Materials

Both Tier 1 (core) and Tier 2 (intervention) materials were used in this study.

Reading Mastery was used as the students’ Tier 1 core reading program and PALS for reading was used for Tier 2 intervention.

**Tier 1 core instruction.** Reading Mastery, a complete core-reading program that uses direct instruction methods, was the Tier 1 core instruction program (a sample Reading Mastery lesson is included in Appendix A; Schieffer et al., 2002). Research supports the reliability and validity of Reading Mastery as a form of direct instruction for students in kindergarten through fifth grade (Goss and Brown-Chidsey, 2012; Schieffer et al., 2002; Stockard & Engelmann, 2010). Stockard and Engelmann (2010) compared two core reading instruction programs, Reading Mastery and Open Court, and found that students who were given the Reading Mastery program demonstrated greater growth in oral reading fluency skills compared to those who used Open Court.

**Tier 2 intervention.** The PALS for reading program served as the Tier 2 intervention. The PALS kit for students in grades 2 through 4 was utilized since it was the closest grade-appropriate match for enrolled students, who were in grades 1 through 3. PALS materials include a teacher manual, student folders with coaching cards, and
reading worksheets. The PALS teacher manual includes photocopy rights for teachers to make copies of materials for student use. The manual also includes scripted instructions for teaching students how to use the PALS for reading program, as well as scripts for each lesson format (Fuchs, Fuchs, Simmons, & Mathes, 2008). A sample PALS lesson is included in Appendix B.

**Assessments.** Students’ reading skills were evaluated using a measure from the *Formative Assessment System for Teachers* (FAST\(^1\)) curriculum-based measurement of reading (CBM-R; FAST Research and Development, 2015; Thornblad & Christ, 2014). In addition, the participants’ percentage of engagement in the PALS lessons and accuracy of teacher implementation of lessons were evaluated through direct observations of teachers and students during PALS lessons.

**CBM-R.** CBM-R is a one-minute reading assessment that measures how many words a student reads correctly in 1 minute (WRC). When completing the CBM-R, the student is given a sheet of paper with a passage written at his/her grade level, and asked to do his/her best reading for 1 minute. If the student does not know a word after 3 seconds then the word is given to him/her and marked as incorrect. The total number of words read incorrectly is subtracted from the total number of words read, which gives a score for the total words read correctly per minute (e.g., if the student read 10 words with 3 errors, his WRC score would be 7). An example of an CBM-R assessment is provided in Appendix C. Several studies found that CBM-R, as a progress monitoring measure, provides evidence for moderate to robust criterion-related validity toward overall reading achievement (Carnine & Carnine, 2004; Reschly et al., 2009; Silberglitt & Hintze, 2005;

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\(^1\) This product was renamed *FastBridge* in April 2015.
Thornblad & Christ, 2013). As an extra motivator for completing this assessment, students were given the choice of a reinforcer, such as an extra break or more recess time, upon completion of the CBM-R session.

**Engagement.** Given the focus of PALS on partner interactions, each student’s level of engagement was measured through direct observation. Two specific types of engagement, active listening and prompting, were observed. These were defined using broad behaviors from and incorporated into the PALS Behavior Sheet Data (Appendix D). These behaviors were observed daily to evaluate student’s treatment integrity, and co-observed for 20% of sessions to assess for inter-observer agreement (IOA).

**Active listening.** Active listening was defined as: The coach (second PALS reader) reads along silently with the reader; the reader provides appropriate responses to the three paragraph shrinking prompts; first reader make predictions; reader responds with ‘yes,’ ‘no,’ or ‘I don’t know yet” when he checks the prediction.

**Prompting.** Prompting was defined as: The coach tells reader when there is a reading error; partner encourages partner to stay on-task and keep working.

The teacher, researcher, or teaching assistant recorded all engagement data on the PALS Behavior Sheet Data during each PALS lesson (see Appendix D). The students’ behaviors were recorded as either present (e.g., yes) or absent (e.g., no) during these lessons.

**Procedure**

The study lasted 6 weeks and 1 day, with five 35-minute PALS lessons offered per week. All students received 60 minutes per day of Reading Mastery instruction (Tier 1) in the classroom. The classroom teacher was trained in Reading Mastery through
review of *Reading Mastery* professional development materials, *Reading Mastery* videos, and consultations with trained personnel. The same procedures were used to train the teacher and researcher to lead the implementation of PALS for reading. The teacher, researcher, and teaching assistant also completed and passed the FAST CBM-R online training modules. Usually, PALS is conducted 2-3 times weekly for students in grade K-6 (PALS Research and Development, 2012). Given that students with SEBD benefit from structure and routine, and in response to the participants’ significant reading delays, daily PALS for reading lessons were provided in this study.

All parents of eligible students were contacted via email or in person to inform them of the study and to request parent permission for student participation. Students whose parents provided permission were invited to join the study and asked to complete the student assent form. All parent consent and student assent conversations were held in a private office at the program building, or by telephone. The researcher or classroom teacher reviewed the study procedures with all parents and students during the permission and assent process.

Upon receipt of parent permission and student assent, participants’ baseline reading skills were evaluated using CBM-R assessments. Students completed three CBM-R passages; based on their median CBM-R score, the students were ranked in ascending order, and then paired per the PALS for reading protocol (i.e., 1 paired with 4, 2 paired with 5, 3 paired with 6). Dyad A comprised students 2 and 5 by ranking; this dyad started the PALS for reading intervention first and, hereafter, the students are referred to as students 1 and 2, respectively, given their order of entry into the study. Dyads B (students 1 and 4 by ranking; hereafter referred to as students 3 and 4,
respectively) and C (students 3 and 6 by ranking; hereafter referred to as 5 and 6, respectively) entered the PALS reading intervention at weeks two and three, respectively. Enrolled students who had not yet started PALS engaged in non-reading instruction activities (e.g., math) during the PALS sessions. Students completed semiweekly reading progress measures using CBM-R. Please see Appendix E for detailed study implementation calendars.

Prior to the start of the intervention, students were given three days of PALS training by the teacher, per the PALS teacher’s manual. This training included instructions about how to enter the room, break into dyads, and gather materials for partner reading. After the students practiced these steps, the classroom teacher gave the students specific instructions about the various aspects of the PALS program, including how to correct each other, tally points, and retell what was just read by capturing the essential components. Students also were told how points would be tallied and when reward/reinforcement would be given. The tally sheets were on their desks. The dyad with the most points at the end of the week was given the choice of a reinforcer, such as extra recess, computer time, or access to a preferred activity. Students were told that once they completed the study, there would be a celebration of either a pizza or ice cream party for all participants.

Daily PALS lessons were led and implemented by the researcher, classroom teacher, or teaching assistant. If one member of a dyad was absent, the student worked with the teacher or teaching assistant using the same PALS routine, however, these lessons were not counted as a dyad PALS lesson for the purpose of the research. The PALS method included four structured activities during a 35-minute session: (1) partner
reading, (2) retell, (3) paragraph shrinking, and (4) prediction relay. Each student took turns being the coach and then the reader in five-minute intervals. Within the dyad, the stronger reader always was the first reader and the weaker reader was the first coach. The coach helped the reader by providing error corrections and asking questions as outlined in the PALS curriculum. By having the stronger reader, as identified in the baseline CBM-R scores, go first, modeling was available for the weaker reader (Mathes & Fuchs, 1994). Three of the structured activities (partner reading, paragraph shrinking, and prediction relay) were slated for five minutes per partner, for a total time of 30 minutes. The teacher set a timer for the intervals and prompted the students when to switch roles and change activities. Partner reading was comprised of a two-minute retell, completed by the second (weaker) reader only.

**Treatment integrity.** To ensure that all steps in the Tier 1 *Reading Mastery* and Tier 2 PALS intervention were implemented correctly, two people, the researcher, classroom teacher or teaching assistant, observed 20% of both types of lessons. During each observation, the observers used the treatment integrity checklist for the specific program (see Appendices F and G for sample checklists) and recorded whether each step was completed accurately (see Table 2). Integrity data were shared with the teacher after each observation to improve the overall accuracy of the lessons. An important component of the PALS intervention is the partner’s ability to stay engaged in the lesson and prompt, or coach, the peer when a mistake is made or when a peer does not know a word, and to count and tally points. These activities are essential to the PALS method and each student’s completion of them constitutes his treatment integrity. During each PALS session an observer assigned an overall rating of yes or no to indicate if the students were
engaged (as defined by their active listening and prompting as outlined in the procedures section). The students’ data for overall percentages of treatment integrity (e.g., active listening and prompting) are shown in Table 3. As needed, students were encouraged to stay on task throughout the intervention.

Table 2

<table>
<thead>
<tr>
<th>Program</th>
<th>Observer A</th>
<th>Observer B</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Mastery</td>
<td>94.5%</td>
<td>97.5%</td>
<td>96.0%</td>
</tr>
<tr>
<td>PALS</td>
<td>92.0%</td>
<td>95.0%</td>
<td>93.5%</td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>Student</th>
<th>Active Listening %</th>
<th>Prompting %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyad A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Dyad B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
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<td>Dyad C</td>
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<td>70</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td>70</td>
</tr>
</tbody>
</table>

As shown, while teachers delivered their components of the intervention package with a high degree of integrity, the students did not implement their aspects or components of the PALS treatment package with the same integrity, as evidenced by treatment integrity data indicating low levels of active listening and prompting.

In order to evaluate the accuracy of the observations of students’ active listening and prompting, 20% of the sessions were co-observed (n=10) by the researcher and an assistant. The two observers’ interval-by-interval ratings were compared and their total number of agreements was divided by agreements plus disagreements and multiplied by 100 to yield an accuracy percentage. See Tables 4 and 5.
Table 4

*Inter-Observer agreement of observations of Active Listening*

<table>
<thead>
<tr>
<th>Observation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent agreement</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
</tr>
</tbody>
</table>

Table 5

*Inter-Observer agreement of observations of Prompting*

<table>
<thead>
<tr>
<th>Observation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent agreement</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment integrity.** Assessment integrity (i.e., inter-observer agreement; IOA) was evaluated through comparisons of two examiner scores on 20% of the CBM-R assessments (n=10). Their totals of word-by-word agreements were divided by agreements plus disagreements to yield an accuracy percentage (see Table 6). Accuracy of 90% or higher was considered acceptable (Byrington et. al., 2002).

Table 6

*Inter-Observer agreement of words read correctly*

<table>
<thead>
<tr>
<th>Observation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer 1</td>
<td>8</td>
<td>70</td>
<td>4</td>
<td>50</td>
<td>27</td>
<td>82</td>
<td>15</td>
<td>72</td>
<td>57</td>
<td>34</td>
</tr>
<tr>
<td>Observer 2</td>
<td>8</td>
<td>69</td>
<td>4</td>
<td>51</td>
<td>26</td>
<td>82</td>
<td>15</td>
<td>73</td>
<td>57</td>
<td>34</td>
</tr>
<tr>
<td>% agreement</td>
<td>100</td>
<td>98.5</td>
<td>100</td>
<td>98</td>
<td>96.2</td>
<td>100</td>
<td>100</td>
<td>98.6</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Data Analysis**

Data were evaluated in two ways. First, visual inspection comparing baseline and intervention data relative to immediacy of behavior change, the level of behavior change, and the trend of intervention data was conducted. Conclusions from visual inspection of data in MBD generally take into account the level (i.e., mean of data within a phase), the trend (i.e., are data going in the desired direction?), variability of data (i.e., can we predict effectiveness?) and the immediacy of intervention effect (Carr, 2005).
Second, the percentages of non-overlapping data points (PND) between baseline and intervention conditions were calculated based on CBM-R scores. PND is used commonly in single-case research design (Parker, Hagan-Burke, & Vannest, 2007), and was calculated based on the total number of CBM-R progress monitoring data points that were greater than the highest baseline value. The number of words read correctly that were greater than the highest baseline point were tallied, and then divided by the number of progress monitoring assessments. High percentages of non-overlap (>90%) suggest an effective intervention; 70-90% suggests moderate effectiveness; 50-70% suggests minimal effectiveness; and lower percentages (<50%) suggest the intervention was ineffective (Scruggs and Mastropieri, 1998).
Chapter 3: Results

Six students with social emotional behavioral disorders and below age-level reading skills, grouped into three dyads, received evidenced-based Tier 1 reading instruction paired with PALS for reading Tier 2 intervention. A review of the treatment integrity data indicated that the teachers completed their components of the Tier 1 and Tier 2 intervention packages with a high degree of fidelity. However, as indicated by low levels of active listening and prompting in the student’s treatment integrity data, the study participants did not implement, or participate in, the PALS program as expected.

Figure 1 shows participants’ words read correctly on progress monitoring measures. Visual analysis of the data indicates that Students 1 through 5 showed fairly stable baseline levels. None of the students showed an immediate improvement in their reading skills after starting intervention and, further, their trend lines did not achieve the expected marked acceleration in their words read correctly. Student 6 had a variable baseline, and although he had a very temporary improvement, this was not maintained. The responses across dyads indicate that the intervention did not yield the hypothesized results.

Individual student results, including PND values, corroborate the lack of intervention effect. Table 7 shows students’ individual PND results. Student 1 received 20 PALS lessons and had 11 progress monitoring assessments. His PND value was 0.36. His initial CBM-R score was 8 and his final CBM-R score was 11. Data collected during baseline sessions revealed stability; however, when the intervention was implemented, there was no immediate effect, his reading performance did not change, and the trend line did not show improvement.
Figure 1

*CBM-R progress monitoring scores*

![Graph showing progress monitoring scores for different students across multiple sessions.](image-url)
Student 2 received 20 PALS lessons, and had 11 progress monitoring assessments. His PND value was 0.27. His initial CBM-R score was 70 and his final CBM-R score was 74. Data collected during baseline session were relatively stable. When the intervention was implemented there was no immediate change from baseline. This student’s words read correctly scores were variable throughout the intervention but overall his trend line indicated no change from baseline.

Student 3 received 20 PALS lessons and nine progress-monitoring assessments. His PND value was 0.66. His initial CBM-R score was 4 and his final CBM-R score was 6. Data collected during baseline were stable. When the intervention was implemented there was no immediate change from baseline. This student’s words read correctly were consistent throughout the intervention and his trend line indicated no change from baseline.

Student 4 received 20 PALS lessons and nine progress monitoring assessments. His PND value was 0.33. His initial CBM-R score was 50 and his final CBM-R score was 64. Data collected during Student 4’s baseline were stable. When the intervention
was implemented there was no immediate change from baseline. This student’s words read correctly were consistent throughout the intervention and his trend line indicated no change.

Student 5 received 10 PALS lessons and five progress-monitoring assessments. His PND value was 0.80, the highest PND value of the group. His initial CBM-R score was 27 and his final CBM-R score was 34. Data collected during Student 5’s baseline were stable. When the intervention was implemented there was no immediate change from baseline. This student’s words read correctly were consistent throughout the intervention and his trend line indicated no change. The intervention ended for this student after 10 PALS lessons because he went on vacation.

Student 6 received 10 PALS lessons and five progress-monitoring assessments. His PND score was 0.40. His initial CBM-R score was 82 and his final CBM-R score was 112. He had the most change in his WRC among all participants. Data collected during Student 6’s baseline were stable. When the intervention was implemented there was no immediate change from baseline; however, after 8 PALS sessions this student made notable gains over 3 data points. This student stopped receiving intervention after 10 lessons because his partner went on vacation. Of note, he was the only identified student in the group who did not have a specific learning disability.
Chapter 4: Discussion

This study looked at the effects of the Peer-Assisted Learning Strategies (PALS) for reading on the reading skills of students with social, emotional and behavioral disabilities (SEBD). Visual analysis and calculation of PND in this study indicated no observable effect from the intervention. Lack of response across dyads indicates that the intervention did not yield the hypothesized results.

When looking at experimental control in research studies, treatment integrity is a major consideration. If the intervention was not implemented as planned, there can be no conclusion as to the effect of the intervention. Despite the teachers implementing their components of the PALS treatment package with a high degree of fidelity, the students did not participate in the PALS intervention as expected. As a researcher, it is imperative to be vigilant in making sure all participants, both researchers and subjects, are implementing the program as intended. If not, researchers need to give corrective feedback before proceeding. The students’ lack of treatment integrity to the PALS for reading procedures during this study appear to have influenced the overall results.

The frequency with which students were actively listening during the PALS lessons ranged from 20% to 70% of the lesson time; the frequency with which students prompted their peers ranged from 20% to 80% of the lesson time. These levels were well below acceptable for the treatments used. The students’ engagement during the PALS lessons varied across dyads, but was consistent within dyads. Although students were given high levels of reinforcement, frequent encouragement, and ongoing reminders to attend to their point sheets and stay on task, their level of engagement with the intervention was not consistent and typically below 80%, leading to questionable
treatment integrity. These results suggest that far more attention to the students’ engagement in PALS might be needed for it to achieve desired effects.

Student treatment integrity might be a new, but important, component of intervention protocols to consider. While previous research by Falk and Wehby (2001) made reference to treatment integrity by students, they did not say what, or to what degree, corrective procedures were used if students did not comply. Another study by Locke and Fuchs (1995) showed that peer tutoring was effective in increasing on-task behavior; however, the authors did not indicate whether the PALS protocol was revised to address the need for student integrity. Therefore, the Locke and Fuchs results might have been an unintended corollary effect.

In the current study, additional strategies could have been implemented to improve participants’ compliance with the protocol including, for example, using self-monitoring checklists or video modeling. The self-monitoring checklists could be combined with the points tally sheet that was taped to each student's individual desk. As necessary, the steps could be broken down with more explicit direct instruction given to each student to support compliance with the task. Another possibility would be to use video self-modeling. This is an effective way for students to view their own prior engaged behaviors as a cue for increased engagement in subsequent sessions (Dowrick, 2012). With the readily available use of iPads and other tablet devices in today's classrooms, this could be a cost-efficient way for students to increase active engagement in PALS lessons.

When conducting multiple-baseline design research it is imperative that baseline data be stable. While Students 1 through 5 had fairly stable baseline data, Student 6’s
data were more variable, although still within in the standard error of measurement (SEM) for CBM-R (e.g., 12; Christ & Ardoin, 2009). More importantly, a procedural error occurred during this study when dyads B and C entered the intervention despite the lack of effect for the students in dyad A. Given that no immediacy of effect was detected in the results from dyad A, dyads B and C should not have begun the intervention. Instead, a longer implementation of intervention for dyad A, with additional procedures for improving student integrity, should have been used.

Another factor that might have influenced the study outcomes was the process of assigning the dyads. Although students were ranked and paired according to the PALS methodology, the words read correctly between the stronger and the weaker readers were very large and exceeding the SEM for CBM-R. As a result, the students in each dyad has very different reading skills. The PALS procedures calls for using text matched to the lower performing reader in each dyad. As a result of the large reading skill differences in dyads the reading material might not have held the attention of the stronger reader. In prior research, Dupaul, Ervin, Hook, and McGoey (1998) found that students with ADHD did better when the material was more academically challenging, suggesting that text difficulty can affect intervention outcomes. The stronger readers in each dyad might have found the assigned text too easy and ultimately became disengaged faster.

Adaptations to the PALS for reading protocol to be certain that all dyads are more closely matched in reading skill might ensure more appropriate pairing and allow dyads to have the same reading text.
Limitations

As indicated, the study results showed no effect of the intervention on the participants’ reading skills. There are several possible limitations in the study design that might account for these results. The first one is that the subjects did not implement the PALS protocol as intended. Without student treatment integrity, conclusions cannot be drawn as to the effect of the intervention because it was not implemented as intended.

Another limitation is that students were paired according to the PALS protocol, but the gaps in their reading levels may have been too large for the PALS procedures to work effectively. Furthermore, CBM-R passages were selected based on the student’s grade level, as per the PALS manual instruction. All of the students’ reading skills were below grade level and the passages used for progress monitoring might not have been sensitive to capture the students’ growth over time.

Data were collected over a shorter time period (6 weeks, 1 day) compared to the longer standard PALS for reading intervention length of 12 weeks. Although Dupaul, Ervin, Hook, & McGoey (1998) found intervention effects with peer tutoring in as little as 2 weeks, this was not observed in the current study. While intervention sessions were increased to daily, student absences, vacations, meetings with the school social worker during the PALS lesson, and class field trips reduced the number of PALS lessons for all students. Executing a longer continuous intervention, with fewer absences, could allow more time for skill development.

The day treatment setting used in this study limits external validity because it did not reflect a typical classroom setting. For example, as part of their daily program, students were given prompt praise, reinforcement, and immediate feedback, which might
not be available in a less restrictive setting. Additionally, due to the treatment setting, consistent reinforcement and attention were readily available, which might have increased the students’ willingness to participate and, at the same time, decreased the value of the reinforcers available. Lastly, the inclusion of only males in the study was a result of convenience sampling, but should be considered a limitation because it was not possible to explore intervention effects among female students.

**Future Research**

Given that many students with SEBD have significant reading deficits, additional research is needed to identify what interventions might be effective, as well as what adaptations to the PALS for reading protocol would be necessary to increase student treatment compliance. For example, would students with SEBD be more likely to engage in the PALS for reading program if assigned to dyads with another reader whose skills are very similar to their own?

This study’s results suggest that a researcher has to be vigilant while attending to treatment integrity, not only by teachers, but also by the students when conducting peer-based interventions. Specifically, future research with peer-based interventions like PALS for students with SEBD should include procedures for directly teaching and maintaining student treatment integrity throughout the study. Procedures could include breaking down each 5-minute segment of the PALS lessons into smaller step-by-step components and having the students practice those to mastery before starting the intervention. To promote student engagement and treatment integrity during intervention, both cuing systems and self-monitoring might be effective. For example, having both classroom posters with the PALS steps as well as using video self-modeling
could provide cues for students to remain engaged. In addition, lesson component checklists on students’ desks could support students in completing all lesson steps accurately.

As noted, the CBM-R progress monitoring probes were given at the participants’ grade levels rather than their current reading levels. Future research may explore whether having students read probes at their reading level might be more sensitive to gains in reading and improve oral reading fluency.

An exploratory analysis of students’ moods, interpersonal interactions, and behaviors before and during PALS lessons could further explain the relationship between the PALS intervention and behavior, leading to more immediate refinements in the academic and social supports offered to students with SEBD. For example, conducting functional behavioral analysis prior to baseline could identify the specific interfering behaviors that likely impede the students’ reading progress. With these data, researchers could implement interventions that provide replacement behaviors or increased behavioral supports that facilitate acquisition of reading skills. Conducting a “Can’t Do vs. Won’t Do” (VanDerHeyden & Witt, 2008) assessment might be beneficial to identify whether changes in reinforcers could influence engagement. In addition, future studies should enroll both males and females to assess whether there are different intervention effects by gender in students with SEBD, as well as in mixed-sex dyads.
Chapter 5: Summary

Every person can and should be taught to read. According to the latest research findings, using an evidence-based core reading curriculum, in conjunction with progress monitoring, is one way to ensure that all students learn to read. Some students have learning and emotional challenges that can limit their ability to learn from the general education curriculum. In such cases, additional reading instruction provided through a multi-tiered system of supports is necessary. In addition, some students with learning difficulties have comorbid SEBD, which also can impair students’ on-task compliance and classroom behaviors; thus, these students warrant specially designed instruction.

This study examined the effects of an evidence-based core reading instruction curriculum, accompanied by a peer-tutoring Tier 2 reading intervention model, on the reading skills of students with SEBD. The study results indicated that the intervention was not effective; however, the findings did suggest important areas for future research, including modifications of the PALS for reading protocol to meet the needs of students with SEBD. In particular, future research should incorporate procedures to ensure student treatment integrity as well as revised methods for assignment of student to dyads. Additional research to identify effective reading interventions for students with concurrent SEBD remains needed.
References


Appendix A: Reading Mastery Sample Lesson Plan

Lesson 54

SOUNDS

EXERCISE 1
Teaching p as in pat
a. (Point to p.) My turn to say the sound for the letter p. It's a p sound.
b. My turn. (Pause. Touch p for an instant, saying p. Do not say push.)
c. Again. (Touch p and say p.)
d. (Point to p.) Your turn. When you touch the letter, you say the sound. (Pause.) Get ready. (Touch p.)
e. Again. (Touch p.)
f. (Repeat 1 and 2 until firm.)

EXERCISE 2
Individual test
(Call on different children to identify p.)

EXERCISE 3
Sounds firm-up
a. Get ready to say the sounds when I touch them.
b. (Alternate touching p and d. Point to the sound. Pause one second. Say.) Get ready. (Touch the sound.) The children respond.
c. (When p and d are firm, alternate touching p, p, d, and until all four sounds are firm.)

EXERCISE 4
Individual test
(Call on different children to identify p, p, d, or t.)

EXERCISE 5
Sounds firm-up
a. (Point to p.) When I touch the sound, you say it.
b. (Pause.) Get ready. (Touch p.)
c. Again. (Repeat b and c until firm.)
d. Get ready to say all the sounds when I touch them.

EXERCISE 6
Individual test
(Call on different children to identify one or more sounds in exercise 5.)
READING VOCABULARY

EXERCISE 7
Children rhyme with mop
a. (Touch the ball for mop) You’re going to read this word the fast way. (Pause three seconds.) Get ready. (Move your finger quickly along the arrow) Mop.
b. (Touch the ball for cop) This word rhymes with (pause) mop. (Move to c, then quickly along the arrow) Cop. Yes, What word? (Signal) Cop.
c. (Touch the ball for top) This word rhymes with (pause) mop. (Move to t, then quickly along the arrow) Top. Yes, What word? (Signal) Top.

EXERCISE 8
Children identify, then sound out an irregular word (was)
a. (Touch the ball for was) Everybody, you’re going to read this word the fast way. (Pause three seconds) Get ready. (Move your finger quickly along the arrow) Was. Yes, was.
b. Now you’re going to sound out the word. Get ready. (Quickly touch w, a, s as the children say wwaasaaaa.)
c. Again. (Repeat b.)
d. How do we say the word? (Signal) Was. Yes, was.
e. (Repeat b and d until firm.)

EXERCISE 9
Individual test
(Call on different children to do b and d in exercise 8.)

EXERCISE 10
Children read the fast way
(Touch the ball for old) Get ready to read this word the fast way. (Pause three seconds.) Get ready. (Signal) Old.

EXERCISE 11
Children read the words the fast way
(Have the children read the words on this page the fast way.)

EXERCISE 12
Individual test
(Call on different children to read one word the fast way.)
EXERCISE 13
Children identify, then sound out an irregular word (of)
   a. (Touch the ball for of.) Everybody, you’re going to read this word the fast way. (Pause three seconds.) Get ready. (Move your finger quickly along the arrow.) (Of. Yes, of.)
   b. Now you’re going to sound out the word. Get ready. (Quickly touch a, t as the children say oof.)
   c. Again. (Repeat b.)
   d. How do we say the word? (Signal.) Of. Yes, of.
   e. Repeat b and c until firm.
   f. (Call on different children to do b and c.)

EXERCISE 14
Children identify, then sound out an irregular word (be)
(Repeat the procedures in exercise 13 for be.)

EXERCISE 15
Children read the fast way
(Touch the ball for that.) Get ready to read this word the fast way. (Pause three seconds.) Get ready. (Signal.) That.

EXERCISE 16
Children sound out the word and tell what word
   a. (Touch the ball for goat.) Sound it out.
   b. Get ready. (Touch a, t as the children say ood.)
   c. What word? (Signal.) Yes, goat.

EXERCISE 17
Children sound out the word and tell what word
   a. (Touch the ball for goat.) Sound it out.
   b. Get ready. (Touch a, t as the children say ood.)
   c. What word? (Signal.) Yes, goat.

EXERCISE 18
Children read the words the fast way
(Have the children read the words on this page the fast way.)

EXERCISE 19
Individual test
(Call on different children to read one word the fast way.)
Storybook

STORY 54

EXERCISE 20

First reading—children read the story the fast way
(Have the children read any sentences containing words that give them trouble. Keep a list of these words.)

a. (Pass out Storybook.)
b. Open your book to page 37 and get ready to read.  ✓
c. We're going to read this story the fast way,
d. Touch the first word.  ✓
e. Reading the fast way. First word. (Pause three seconds.) Get ready.
   (Tap.) Th|m.
f. Next word.  ✓
   (Pause three seconds.) Get ready. (Tap.) Old.
g. (Repeat f for the remaining words in the first sentence. Pause at least three seconds between taps. The children are to identify each word without sounding it out.)
h. (Repeat a through g for the next two sentences. Have the children read the first three sentences until firm.)
i. (The children are to read the remainder of the story the fast way, stopping at the end of each sentence.)
j. (After the first reading of the story, print on the board the words that the children missed more than one time. Have the children sound out each word one time and tell what word.)
k. (After the group's responses are firm, call on individual children to read the words.)

EXERCISE 21

Individual test
a. I'm going to call on different children to read a whole sentence the fast way.
b. (Call on different children to read a sentence. Do not tap for each word.)

EXERCISE 22

Second reading—children read the story the fast way and answer questions

a. You're going to read the story again the fast way and I'll ask questions.
b. First word. ✓
c. Get ready. (Tap.) Th|m.
d. (Tap for each remaining word. Pause at least three seconds between taps. Pause longer before words that gave the children trouble during the first reading.)
e. (Ask the comprehension questions below as the children read.)

After the children read:
   You ask:
   The old goat had an old coat. What did she have? (Signal.)
   An old coat.
   The old goat said, "I will eat this old coat." What did she say? (Signal.) I will eat this old coat.
   So she did. What did she do? (Signal.) She ate the old coat.
   "That was fun," she said. What did she say? (Signal.) That was fun.
   "I ate the old coat." What did the goat say? (Signal.) I ate the old coat.
   "And now I am cold." What did she say? (Signal.) And now I am cold.
   Now the old goat is sad. How does she feel? (Signal.) Sad. Why? (Signal.) The children respond.

EXERCISE 23

Picture comprehension
a. What do you think you'll see in the picture? (Call on a child. Accept appropriate responses.)
b. Turn the page and look at the picture. ✓
c. (Ask these questions:)
   1. How does that girl feel? (Call on a child. Idea: COLD and sad.)
   2. Why is she out in the cold without a coat? (Call on a child. Idea: Because she ate her coat.)
   3. Did you ever go outside without a coat when it was cold? (Call on a child. Accept appropriate responses.)
SUMMARY OF INDEPENDENT WORK

EXERCISE 24

Introduction to independent activity
a. (Hold up worksheet 54.)
   Everybody, you’re going to do this worksheet on your own. (Tell the
   children when they will work the items.) Let’s go over the things
   you’re going to do.

Sentence copying
a. (Hold up side 1 of your worksheet and point to the first line in the
sentence-copying exercise.)
   Everybody, here’s the sentence you’re going to write on the lines
below.
   c. Get ready to read the words in this sentence the fast way. First
      word, ✓
      Get ready. (Tap.) Thél.
      d. Next word, ✓
      Get ready. (Tap.) Goat.
      e. (Repeat d for the remaining words.)
   f. After you finish your worksheet, you get to draw a picture about the
      sentence, the goat ate the goat.

Sound writing
a. (Point to the sound-writing exercise.) Here are the sounds you’re
   going to write today. I’ll teach the sounds. You say them.
   b. (Touch each sound.) The children respond.
   c. (Repeat the series until firm.)

Matching
a. (Point to the column of words in the Matching Game.)
   b. Everybody, you’re going to follow the lines and write these words.
   c. Reading the fast way.
   d. (Point to the first word. Pause.) Get ready. (Signal.) The children
      respond.
   e. (Repeat d for the remaining words.)
   f. (Repeat d and e until firm.)

Cross-out game
(Point to the boxed word in the Cross-out Game.) Everybody, here’s
the word you’re going to cross out today. What word? (Signal.)
Not. Yes, not.

Pair relations
a. (Point to the pair relations exercise on side 2.) You’re going to circle
the picture in each box that shows what the words say.

Reading Checkout
(Make a permanent chart for recording results of individual
checkouts. See Teacher’s Guide for sample chart.)

EXERCISE 25

2½-minute individual checkout: rate and accuracy
a. As you are doing your worksheet, I’ll call on children one at a time to
   read the whole story. If you can read the whole story the fast way in
   less than two and a half minutes and if you make no more than three
   errors, I’ll put two stars after your name on the chart for lesson 54.
   b. If you make too many errors or don’t read the story in less than two
   and a half minutes, you’ll have to practice it and do it again. When
   you do read it in under two and a half minutes with no more than
   three errors, you’ll get one star. Remember, two stars if you can do
   it the first time, one star if you do it the second or third time you try.
   c. (Call on a child. Tell the child.) Read the whole story very carefully
   the fast way. Go. (Time the child. If the child makes a mistake,
   quickly tell the child the correct word and permit the child to
   continue reading. As soon as the child makes more than three
   errors or exceeds the time limit, tell the child to stop.) You’ll have to
   read the story to yourself and try again later. (Plan to monitor the
   child’s progress.)
   d. (Record two stars for each child who reads appropriately.
   Congratulate those children.)
   e. (Give children who do not earn two stars a chance to read the story
   again before the next lesson is presented. Award one star to each
   of those children who meet the rate and accuracy criterion.)
Appendix B: Sample PALS for Reading Lesson

MINI-LESSON #1A
READING FOR INFORMATION: Introduction

Teacher Materials
1. Transparencies:
   - ML1.1 (Reading for Information, page 1)
   - ML1.2 (Reading for Information, page 2)
   - ML1.3 (Reading for Information, page 3)
2. Overhead projector
3. Transparency pen
4. Timer

Student Materials
1. Folder (one per pair) with:
   - Question Card
   - Correction Card
   - Point Sheet
   - PALS Bookmark
2. Reading books (one per pair)
3. Pencils
4. Post It Arrows
5. ML1 Activity Sheet

Notes
1. This is the first of a series of 3 mini-lessons on Reading for Information. These mini-lessons can be combined into a single 40-minute PALS session, or they can be used over the course of 1 week, with 1 mini-lesson taught at the beginning of each abbreviated PALS session.
2. In some states and some grades, fiction is referred to as “narrative,” and non-fiction is called “expository.” If your state or grade uses this (or other) language, feel free to substitute it.
3. Make copies of the Student Activity Packets such that you have enough for each student. Distribute these by placing two copies (one for each student) in the PALS folders.

Guiding Points
Tell students that they will be learning how to do PALS with nonfiction texts, or informational texts.

Ask students to take out their Activity Sheets from their PALS folders and write their names on them. You should have placed these in their folders prior to the beginning of the lesson.

It’s time for PALS!
Monitor as students move to their partners and prepare their PALS materials. Award PALS points to pairs who set up correctly.

Today we’re going to start learning how to read for information during PALS. Usually we read fiction, but now we’re going to learn how to do PALS with non-fiction, or informational, texts.

Please take your Mini-Lesson 1 Activity Sheets out of your PALS folder and write your name on it.
Guiding Points

Use T-ML1.1 (Reading for Information, page 1).

Students will use their Activity Sheets for Mini-Lessons 1B and 1C also.

Explain that students must understand the difference between fiction and informational texts before they can learn how to do PALS with informational texts. You will read two different passages aloud to them. Tell students to focus on the following questions while you are reading the passages:

I. Is the passage mainly about a who or a what?
II. Is the passage telling you a story or is it trying to teach you something new?
III. Does the passage have dialogue?
IV. Does the passage have headings before some of the paragraphs?

Use T-ML1.2 (Reading for Information, page 2).

Read the first two paragraphs of "Jana Plays Softball" aloud to the class. Afterwards, replace Transparency ML1.1 (Reading for Information, page 1) on the overhead projector.

Use Transparency ML1.1 (Reading for Information, page 1). Point to part A, How Are They Different. Students will use these Activity Sheets for Mini-Lessons 1B and 1C also. Make sure that they keep them in their PALS folder at the end of the day.

Before we learn how to do PALS with informational texts, we need to be able to tell the difference between fiction and informational texts. To begin, I'll read two passages to you. One of the passages is fiction, a story like we've been reading in PALS so far. The other passage is informational text.

After we read each passage, we'll be answering some questions on our Activity Sheets. There are 4 questions that help you know if a book or article is fiction or informational text. Let's read these together.

Read the following from the Activity Sheet and have students read along with you.

1. Is the passage mainly about a who or a what?
2. Is the passage telling you a story or is it trying to teach you something new?
3. Does the passage have dialogue?
4. Does the passage have headings before some of the paragraphs?

Use Transparency ML1.2 (Reading for Information, page 2).

"Jana Plays Softball" is fiction, or a story. So, we're going to fill in the Activity Sheet to learn the clues that tell us if a book is fiction or informational text.

Read only the first 2 paragraphs aloud to the class. Afterwards, replace Transparency ML1.1 (Reading for Information, page 1) on the overhead projector.
MINI-LESSON #1B
READING FOR INFORMATION: Partner Reading & Retell

Teacher Materials
1. Transparencies:
   ML1.3 (Reading for Information, page 3)
   ML1.4 (Reading for Information, page 4)
2. Overhead projector
3. Transparency pen
4. Timer

Student Materials
1. Folder (one per pair) with:
   - Question Card
   - Correction Card
   - Point Sheet
   - PALS Bookmark
2. Reading books (one per pair)
3. Pencils
4. Post-It Arrows
5. ML1 Activity Sheet

Guiding Points
When you are Reading for Information, Partner Reading stays the same.

Retell will be different. Instead of retelling the events that happened in the passage, Second Readers retell the important facts or ideas they learned from the passage.

Ask students to review “Giraffes” with you.

Today we’re learning to do Partner Reading and Retell in books where you will be reading for information. When you read for information, Partner Reading stays exactly the same. You will take turns reading for 5 minutes, catching mistakes, and helping the Reader with hard words. How do you help your partner when there are hard words?

STUDENTS: Use the following correction procedure: “Check it. That word is _____ . What word?”

That’s right! While Partner Reading will stay the same, Retell will be a little different. It will change because we will not be reading a story. What kind of passages will we be reading?

STUDENTS: Informational texts.

Yes, we’ll be reading for information. So, instead of retelling the events that happened in the passage, the Second Readers are going to retell the important facts or ideas they learned from the passage. Second Readers, you should try to retell facts or ideas in the order in which you learned them from the passage. Let’s look at “Giraffes” to see what I mean.
Guiding Points

Use T-ML1.3 (Reading for Information, page 3).

Re-read “Giraffes” aloud to the class. Retell the facts of the passage for the students. Get stuck on one of the facts to see if someone can help you recall a fact.

1. The passage was about giraffes.
2. Giraffes are very large animals.
3. Giraffes have a long neck.
4. Giraffes eat leaves from acacia trees.
5. Giraffes have dark tongues.

Use T-ML1.4 (Reading for Information, page 4).

Read the second page of “Giraffes” and have pairs practice Retell. Monitor students’ Retell. At the end of 2 minutes, ask a pair to share their Retell.

Are catching mistakes and helping with hard words different during Partner Reading when you are reading for information?

I am going to retell in order the facts that I read in the passage. Listen carefully and help me if I get stuck and can’t remember.

Read the following facts out loud to the class. Get stuck on one of them to see if someone can help you recall a fact.

1. The passage was about giraffes.
2. Giraffes are very large animals.
3. Giraffes have a long neck.
4. Giraffes eat leaves from acacia trees.
5. Giraffes have dark tongues.

So, instead of retelling what happened in the passage, I retold the facts or ideas that I learned about when I read. This is going to take some practice. Now I’m going to read the second page of “Giraffes,” and I want you and your partner to retell the facts. You can look back at the passage if you need to, but in your retell, try not to re-read any of the sentences.

You did a good job of retelling. Is there a pair of you who would like to share your Retell?

Ask a pair to retell the page and give them feedback.
MINI-LESSON #1C
READING FOR INFORMATION: Paragraph Shrinking & Prediction Relay

Teacher Materials
1. Transparencies:
   - ML1.5 (Reading for Information, page 5)
   - ML1.6 (Reading for Information, page 6)
2. Overhead projector
3. Transparency pen
4. Timer

Student Materials
1. Folder (one per pair) with:
   - Question Card
   - Correction Card
   - Point Sheet
   - PALS Bookmark
2. Reading books (one per pair)
3. Pencils
4. Post-It Arrows
5. ML1 Activity Sheet

Guiding Points
Use T-ML1.5 (Reading for Information, page 5).
Read the first paragraph of "Tornadoes" aloud. Direct students to ask you the Paragraph Shrinking questions.
When we read for information, the passage is usually about a what.
When we read for information, we are reading to learn something new. The most important thing about the who or what will be about this new information we are learning.

We've already talked about how to do Partner Reading and Retell with informational texts. Next, we're going to learn how to do Paragraph Shrinking. Let's look at this passage. I want all of you to be my Coaches as I read the first paragraph. Listen carefully.

Use Transparency ML1.5 (Reading For Information, page 5). Read the first paragraph of "Tornadoes" aloud.

Okay. I read the first paragraph. This section started with the heading "What a Tornado Looks and Sounds Like." That tells me that the main idea of the paragraph is probably about what a tornado either looks or sounds like.
I'll keep this in mind as I answer the Paragraph Shrinking questions.

Ask students to respond chorally with the 1st prompt.
STUDENTS: Name the who or what.
Appendix C: CBM-R Sample Scoring Sheet

Administrator Copy

Kim, Rick, and Nick

Kim had a fun mystery to solve. Yesterday, a girl at the
playground asked for her help. The girl was friends with twin brothers,
Rick and Nick. Twins are brothers or sisters who look exactly the
same. The only difference was that Rick wrote with his right hand.
Nick wrote with his left hand. Could Kim help the girl tell her friends
apart?

Kim agreed to help the girl. The next day, the girl brought the
brothers to the playground. Kim looked at the two boys very
carefully. They really did look exactly the same. Each had brown
hair, brown eyes, and brown t-shirts. But one boy had drawn a dog
on his right hand. The other boy had drawn a cat on his left hand.

Kim knew at once the names of each boy. She pointed at the
boy with the picture of a dog. Then she told the girl that this boy was
Nick. She pointed at the boy with the picture of a cat. Then she told
the girl that this boy was Rick. The girl and the twins were very
surprised. They wanted to know how Kim had solved the mystery.

It was easy for Kim to know which boy was which. She
remembered that Rick was right-handed. He could not have drawn
on his own right hand. He had to draw on his left hand. That was
why he had a cat on his left hand. Nick, who was left-handed, had
drawn on his right hand. Kim had solved the mystery.

Total Words Read: ______________ - # of Errors: ___________ = WRC/min: ___________
### Appendix D: PALS Behavior Sheet Data

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AL = Actively listening to their partner read
P = Prompting
### Appendix E: Study Calendars

#### March 2015

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<td>9</td>
<td>10</td>
<td>11 ENROLLMENT &amp; CBM-R PRE-PALS 4 consent forms received, collected CBM-R</td>
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<td>16 CBM-R PRE-PALS Collected CBM-R PALS Training</td>
<td>17 CBM-R PRE-PALS Collected CBM-Rs. PALS Training dyad ranking &amp; assignment</td>
<td>18 DYAD A STARTS dyad A: PALS #1</td>
<td>19 dyad A: PALS #2</td>
<td>20 dyad A: PALS #3 (PM) dyad B: CBM-R dyad C: CBM-R</td>
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**NOTES:** dyad A absences: student 1 on 3/24 and student 2 on 3/31.

PM = Progress Measure

---

#### April 2015

![Table content continues]
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NOTES:
dyad A absences: student 1 on 4/14 and 4/29; student 2 on 4/1 and 4/13
dyad B absence: student 3 on 4/10
dyad C absences: student 5 on 4/2; student 6 on 4/2, 4/8, and 4/15.
PM = Progress Measure
## Appendix F: Implementation Check Reading Mastery

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<tr>
<td>Begins lesson promptly.</td>
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<tr>
<td>Finishes lesson in allotted time.</td>
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<td></td>
</tr>
<tr>
<td>Students on task.</td>
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</table>

| Procedure                                         |     |    |
| Teacher follows steps and wording in exercises.  |     |    |
| Teacher uses clear signals.                       |     |    |
| Students respond on signal in a conversational tone. |     |    |
| Teacher allows think time when appropriate.       |     |    |
| Teacher corrects all errors (group and individual). |     |    |
| Teacher provides delayed tests for missed items. |     |    |
| Students are at mastery.                          |     |    |
| Teacher presents individual turns quickly.        |     |    |
| Teacher moves quickly from one exercise to the next. |     |    |
| Teacher completes lesson in expected amount of time. |     |    |
| Teacher has good pacing.                         |     |    |

| Monitoring Independent Work                       |     |    |
| Students are on task and working independently.  |     |    |
| Students complete assignments in the expected amount of time. |     |    |
| Work is neat and has few or no mistakes.          |     |    |
| Teacher monitors seat work and reinforces good work. |     |    |
| Teacher provides work checks and firms weak items. |     |    |

% of steps completed = _____________ Additional comments:
Appendix G: PALS for Reading Integrity Checklist

PALS for Reading Integrity Checklist

1. **Dyad**
2. **Date**
3. **Teacher**

**WATCHING PALS PAIRS CHECKLIST**

- + = Observed
- - = Not Observed

Once your students know the basic routines of PALS, you can focus on accuracy and quality.
- Watch one pair at a time.
- Sit down and listen to a pair for about 2-3 minutes.
- Provide the pair with specific, positive and constructive feedback.
- Award bonus points if they deserve them.
- Rotate to another pair.
- Continue watching pairs for the entire PALS session. Visit each pair at least once a week.
- From week-to-week, try to observe them doing different activities.

**ALL ACTIVITIES**

- The coach is reading along silently with the reader.
- Coach is catching reading errors.
- Coach uses correction procedure. If that doesn’t help, the coach provides the answer after 4 seconds.
- Students raise their hands if they come across a word they can’t read.
- Pairs have new books to use when they have finished a book. (Or, they know where to get them.)

**PARAGRAPH SHRINKING**

- First Readers start where the Second Reader left off in Partner Reading.
- Students provide appropriate responses to the 3 Paragraph Shrinking prompts.
- Students’ main idea statements:
  - Are not taken word-for-word from text.
  - Are good summary statements.
  - Are 10 words or less.
- Coach really listens to the reader’s responses. The coach corrects reader when needed.

**PARTNER READING**

- Coach marks 1 point for every sentence read correctly.
- Coach reads along with the reader.
- Second Readers start reading where the First Reader started.

**PREDICTION RELAY**

- Students are starting where the Second Reader left off in Paragraph Shrinking.
- The First Reader makes a prediction.
- The prediction is something that could actually occur in the next half-page.
- Readers read half a page and check their predictions.
- Readers respond with a brief, “yes,” “no,” or “I don’t know yet” when they check the prediction.
- Coaches mark 1 point for making a prediction, 1 point for reading and 1 point for checking the prediction.
- Coach awards a point for checking the prediction, even if it did not come true.
- Pairs continue predicting, reading and checking until the timer rings.
Biography of the Author

Jayne Boulos was born and raised in Portland, Maine. She attained a certificate in Respiratory Therapy from Southern Maine Community College in 1981 and an AS in Respiratory Therapy in 1989. While raising a family of four children and working, Jayne completed a BA in Psychology from the University of Southern Maine in 1993. She then continued her studies, receiving a Master’s Degree in School Psychology in 2001. Jayne continued her work at Maine Medical Center for over 30 years while developing her skills as a school psychologist. She has worked in various public schools helping to advocate for children and families. In 2009 she also began teaching graduate students at University of Massachusetts–Boston in their school psychology program. Jayne did her pre-doctoral internship at the Margaret Murphy Center for Children and Maine Child Psychology, further honing her advocacy, assessment, and report writing and clinical skills. She is eligible to graduate with her Psy D in School Psychology in December 2015. Jayne lives in Cape Elizabeth with her husband Chris.