



Published in final edited form as:

J Lit Res. 2004 June 1; 36(2): 111–140. doi:10.1207/s15548430jlr3602_1.

Interaction Quality during Partner Reading

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Abstract

The influence of social relationships, positive interdependence, and teacher structure on the quality of partner reading interactions was examined. Partner reading, a scripted cooperative learning strategy, is often used in classrooms to promote the development of fluent and automatic reading skills. Forty-three pairs of second grade children were observed during partner reading sessions taking place in 12 classrooms. The degree to which the partners displayed social cooperation (instrumental support, emotional support, and conflict management) and on/off task behavior was evaluated. Children who chose their own partners showed greater social cooperation than those children whose teacher selected their partner. However, when the positive interdependence requirements of the task were not met within the pair (neither child had the skills to provide reading support or no one needed support), lower levels of on-task behavior were observed. Providing basic partner reading script instruction at the beginning of the year was associated with better social cooperation during partner reading, but providing elaborated instruction or no instruction was associated with poorer social cooperation. It is recommended that teachers provide basic script instruction and allow children to choose their own partners. Additionally, pairings of low ability children with other low ability children and high ability children with other high ability children should be avoided. Teachers may want to suggest alternate partners for children who inadvertently choose such pairings or adjust the text difficulty to the pair. Overall, partner reading seems to be an enjoyable pedagogical strategy for teaching reading fluency.

The development of fluent reading skills is a primary educational goal for elementary school-aged children. Partner reading, a form of paired reading, is a classroom strategy used to facilitate the development of fluent reading skills. In partner reading, children are paired together for the purpose of supporting each other through the oral reading of connected text. Partners listen, follow along, and provide needed words or assistance while taking turns reading, switching roles every other page. Partner reading is used mainly as a strategy to promote the development of fluent reading by increasing the time children spend orally reading connected text (Stahl, Heubach, & Crammond, 1997). In addition, partner reading provides an opportunity for teachers to monitor children's reading progress by listening to the children read to their partners (Kuhn & Stahl, 2000).

Paired reading was originally developed as a parent tutoring strategy by Morgan (1976); however, it has also been used for peer- and teacher-implemented tutoring. Paired reading generally involves a less able reader reading simultaneously with a more able reader such as parents (DeAngelo, Reents, & Zombacz, 1997; Murad & Topping, 2000; Topping & Lindsay, 1992b; Topping & Whitley, 1990), teachers (Topping & Lindsay, 1992b), and peers (Topping,

1987b; Topping, 1989; Topping & Lindsay, 1992b). If the child feels confident that he or she can read independently, then the child gives the tutor a signal and proceeds to read the text alone. If the child cannot decode a particular word, the word is provided after several seconds and then simultaneous reading resumes (Topping, 1987a; Topping & Lindsay, 1992a). Participation in paired reading is associated with fewer reading refusals, fewer errors, more self-corrections of errors, greater use of context, and better use of phonics skills compared to pretests (Topping & Lindsay, 1992b) as well as improvements in reading comprehension and fluency (DeAngelo et al., 1997; Murad & Topping, 2000). Benefits of paired reading are not limited to the tutee but include benefits to child tutors as well (Topping, 1987b).

Although paired reading and partner reading share essential components (the oral reading of text with a partner for assistance), their procedures differ. Paired reading involves the pairing of a more capable reader (the supporter) with a less capable reader (the reader) for the purpose of providing support and practice in reading connected text. The support and assistance provided by the more capable reader not only facilitate the reading of higher-level texts, but also provide an opportunity for participant modeling and reinforcement of reading behavior (Topping & Lindsay, 1992a). In contrast, partner reading extends the role of supporter and reader to both participants by including a turning taking procedure. In partner reading, children alternate the role of reader and supporter page by page through the oral reading of the text. Also, unlike paired reading, the children read the text sequentially rather than chorally.

Partner reading has been utilized in several comprehensive literacy programs that take a cooperative learning framework, such as *Cooperative Integrated Reading and Composition (CIRC)* (Madden, Slavin, & Stevens, 1986) and *Success for All* (Slavin & Madden, 2000). *CIRC* is a cooperative learning program designed for reading and language/arts instruction of elementary school-aged children. *Success for All* is a school wide reform model designed for pre-kindergarten through grade 5 to prevent reading failure by promoting strong early literacy skills. Once students reach the grade 2, an adaptation of *CIRC*, called Reading Wings, is implemented (Slavin & Madden, 2000) in *Success for All*. In both *CIRC* and *Success for All*, children read the text silently prior to partner reading. Then partners take turns reading aloud to one another, alternating every other paragraph, such that while one partner reads, the other follows along, and corrects reading errors. Studies examining *CIRC* and *Success for All* have demonstrated significant gains in reading, writing, and language skills compared to controls (Madden et al., 1986; Slavin & Madden, 2000; Stevens, Madden, Slavin, & Farnish, 1987).

Partner reading is often a key component of programs that aim to facilitate the development of reading fluency skills. Although the definition of reading fluency is debated, one common definition is the ability to read text quickly, accurately, and with appropriate expression (National Reading Panel, 2000). Oral reading fluency is most often measured in terms of oral reading rate, or the number of correctly read words per minute. Partner reading is a major component of *Fluency-Oriented Reading Instruction (FORI)*, a reading program designed to promote reading fluency in second grade students (Stahl et al., 1997). In the partner reading aspect of that program, children take turns reading pages of grade-level texts and providing assistance for unknown words. Participation in *FORI* has been associated with significant gains in children's instructional reading level and in oral reading rate and accuracy (Stahl et al., 1997). Partner reading is also a central component of *Peer-Assisted Learning Strategies in reading (PALS)*, a program used to improve reading fluency and comprehension skills in Grades 2–6 (Fuchs, Fuchs, Mathes, & Simmons, 1997). In *PALS*, a more capable reader reads aloud for five minutes, followed by a less capable reader reading the same text for five minutes. The more capable reader provides corrective feedback for unknown or misread words. After both readers complete the text, the less capable reader retells the story. *PALS* has produced significant gains in oral reading accuracy and reading comprehension (Fuchs et al., 1997). In sum, the inclusion of partner reading in successful programs such as *FORI*, *PALS*, *CIRC*, and

Success for All suggests that it may be a useful instructional strategy. However, given that partner reading represents only one component of these programs, the effectiveness of partner reading as an independent strategy is unclear.

Several studies meeting our definition of partner reading (two children reading along, providing assistance, and taking turns reading) have examined its effectiveness as an independent strategy and suggest benefits of this practice to the development of fluency. Vaughn et al. (2000) compared the effectiveness of partner reading to a comprehension-oriented strategy for third grade students. In that study, more capable readers were paired with less capable readers. First, the more capable readers read the story aloud, modeling fluent reading to the less capable reader. Then, the less capable reader read the story. Each child alerted his or her partner to errors and provided unknown words and feedback to the reader. Significant improvement for reading rate was observed for partner reading as compared to the comprehension-oriented strategy. In another study by Muldowney (1995), emergent readers in a first grade classroom were paired with more capable readers. Children alternately read pages of the text and helped each other with unknown words. Unknown words were also recorded in a notebook. Significantly larger gains in word and story reading were observed in paired versus unpaired children. However, the small sample size ($N = 12$) greatly limited the conclusions drawn from this work.

Several studies have examined the effectiveness of the Classwide Peer Tutoring program (*CWPT*) in reading, a program that uses peer mediated lessons to facilitate student learning across content areas (Simmons, Fuchs, Fuchs, Hodge, & Mathes, 1994). During *CWPT* in reading, teachers typically pair lower and higher functioning students to read together three times a week for 35–40 minutes. First, the more able reader models reading the story aloud for 10 minutes, while the less capable reader provides assistance and support as needed. Then, for 5 minutes the partner asks the reader questions about the story (e.g., who, what, when, where, why) to facilitate comprehension. Next, the children switch roles and the less capable reader reads the story. One investigation of second through fifth grade students found that average, low performing, and learning disabled children who participated in *CWPT* read a significantly greater number of words correctly than did control students (Simmons et al., 1994). One longitudinal study following children from grades 1 through 4 found that at the end of fourth grade children who participated in *CWPT* demonstrated significantly greater gains in overall reading skill and significant increases in the oral reading rates of children with learning disabilities compared to control students (Greenwood, Delquadri, & Hall, 1984).

Partner reading requires that children interact collaboratively with one another, yet little research has examined variables that affect the quality of either paired or partner reading interactions. One qualitative study investigated the interactions of grade 1 children engaged in paired reading with students of similar reading skills (Griffin, 2002). In this study, children used one of three turn-taking structures during the reading session: five pairs chorally read stories; seven took turns reading entire stories to one another, and eleven pairs alternately read every other page. Greater attention, involvement, and collaboration were observed among children reading every other page. Partners who achieved smooth and fluent reading were quick to assist their partners by providing unknown words. The oral discourse between children during the reading activity appeared to assist in the maintenance of the interaction and turn-taking structure. Results of this study suggest that the nature of the children's interactions affected whether students achieve smooth and fluent reading during paired or partner reading.

A number of different suggestions have been made regarding how to teach, manage, and organize paired or partner reading. One suggestion is that teachers maintain a moderate ability differential between tutors and tutees (Topping, 1989). Pairings of children with similar reading skill has also been suggested (Griffin, 2002), as well as consideration of existing relationships

and personalities of children when pairing them (Stahl et al., 1997; Topping, 1989). Teacher monitoring and observation during paired reading sessions has also been posited as essential; children may need to be grouped or regrouped to ensure that they work collaboratively (Griffin, 2002; Topping, 1989). Instruction of student on the basic procedure of paired reading including knowing how to listen to their partners, making positive remarks to their partners, selecting appropriate reading material, or discussing effective paired or partner reading strategies has been also suggested (Griffin, 2002; Koskinen & Blum, 1986). Lastly, Griffin (2002) has suggested that children be allowed to organize the paired or partner reading activities in ways that are appropriate for them. Little evidence for these suggestions is available to date.

Research suggests that partner reading may gain its effects through two mechanisms. First, the extra practice gained through reading connected text (Taylor, Frye, & Maruyama, 1990) and through repeated readings (Chard, Vaughn, & Tyler, 2002; Martinez & Roser, 1985; Rasinski, 1991) should facilitate the development of fluency. Second, the mutual support offered in partner reading should promote cooperative interactions with peers around literacy. It is to this second, less researched benefit that this study is directed.

The aim of this study was to identify variables that promote high quality interactions during partner reading sessions. The cooperative learning literature has extensively examined the relationship between student interactions during academic activities and provided a rationale for why partner interaction is central to what is learned during the partner reading session. Additionally, the cooperative learning literature served as a framework for evaluating the quality of the partner reading interaction.

Quality of Partner Interactions in Academic Settings

Cooperative learning strategies are widely used to structure and facilitate student interaction and achievement. Essentially, cooperation means that children work together for the purpose of accomplishing shared goals (Johnson & Johnson, 1992). In this respect, partner reading can be thought of as a type of cooperative learning interaction in which children take turns reading, listen and support each other to accomplish the goal of orally reading a selected text jointly. Other researchers have conceptualized partner reading as a cooperative task, as evidenced by the inclusion of this strategy in several cooperative learning programs such as *Success for All* and *CIRC*.

The efficacy of cooperative learning strategies has been demonstrated in numerous studies. Large reviews of research on cooperative learning have concluded that cooperative learning results in enhanced academic achievement and productivity as well as interpersonal attraction, social support, self-esteem, psychological health, and academic attitudes (Johnson & Johnson, 1989; 1991; Stevens & Slavin, 1995). One variant of cooperative learning, scripted cooperative interaction, is thought to promote learning and decrease negative social processes through the imposition of structure in the interaction. In scripted cooperative interactions, children are assigned alternating roles that correspond to specific cognitive activities (O'Donnell, 1999; O'Donnell & Dansereau, 1992). In this context the term "script" is similar to a theatre script, in that children are asked to play specific roles in a particular order (O'Donnell, 1999). Scripted cooperative interactions have been shown to promote enhanced metacognitive activity and text comprehension (Hall, Dansereau, O'Donnell, & Skaggs, 1989; Hall et al. 1988). Partner reading can be considered to be a form of scripted cooperative interaction. Children alternate roles of reader and supporter throughout the reading, and each role requires a specific cognitive activity (i.e., oral reading versus silent reading). As a form of scripted cooperative learning, partner reading may have social as well as academic benefits. For example, because of its structured yet social nature, partner reading interactions may serve to reduce and prevent behavioral maladjustment in school (Boyle et al., 1999).

In sum, findings from the cooperative learning literature suggest that the cooperative, positive interactions between children during academic activities may have educational, social, and emotional benefits. It is believed that by identifying variables associated with successful partner reading interaction, learning within the partner reading context will be promoted.

For the benefits of cooperative learning to emerge several essential components are usually present in the interaction: positive interdependence, face-to-face promotive interaction, individual accountability, social skills, and group processing (Holubec, Johnson, & Johnson, 1995; Johnson & Johnson, 1999). Of these, the first four are most relevant to partner reading and can be used to identify behavioral dimensions important for evaluating the quality of partner reading interactions.

Positive interdependence occurs when group success can only be achieved through the coordinated efforts of all members (Holubec et al., 1995; Johnson & Johnson, 1999). Without positive interdependence, cooperative interaction does not take place (Johnson & Johnson, 1992). The structure of the task determines how individuals are cooperatively linked. In partner reading, the turn-taking procedure requires children to alternate the role of reader and supporter, with both children successfully negotiating and participating in their alternating roles. The job of supporter is to help the reader when he or she experiences difficulty reading a text. Instrumental support behaviors such as providing unknown words, helping decode unknown words, or helping one's partner find the correct page ensure that both individuals will successfully complete the reading task.

Face-to-face promotive interaction emphasizes positive interaction among group members such that they support, help, and encourage one another (Holubec et al., 1995; Johnson & Johnson, 1999). Social processes can either promote or interfere with cooperative interactions. In partner reading, children show positive emotional support behaviors by encouraging each other when struggling through text by making positive verbal comments such as "that's right," or nonverbally through nodding, leaning forward, and listening. However, negative comments such as "why can't you get it" or nonverbal behaviors such as rolling the eyes or looking away may not only cause conflict, but may directly interfere with role of the supporter in the interaction.

Individual accountability is crucial in cooperative learning mainly to ensure that all members of a group contribute to the group goal (Holubec et al., 1995; Johnson & Johnson, 1999). In partner reading, if one child does not fulfill his or her role as reader or supporter, then the interaction breaks down. Teacher monitoring is often to ensure individual accountability during partner reading sessions. On-task behaviors, then, indicated by adherence to their roles as readers and supporters should be observed in successful partner reading sessions, whereas off-task behavior such as engaging in activities unrelated to the partner reading should be observed in less successful sessions. Lastly, group members need to possess the social skills necessary for the successful completion of the specific cooperative activity. Often, cooperative activities require a variety of social skills needed for negotiating group discussions such as leadership, communication, conflict management, and trust-building (Holubec et al., 1995; Johnson & Johnson, 1999). The ability to negotiate conflict successfully seems most relevant to partner reading. Successful conflict management might be shown by quick resolution of disagreements over turn taking or decoding issues in such a way that the conflict does not interfere with the quality of the reading interaction.

Purpose of the Present Study

The aim of this study was to identify factors that affect the quality of the partner reading interaction in order to provide teachers with research-based strategies for organizing,

managing, and implementing partner reading. Based on suggestions from the paired and partner reading literatures, several variables were identified as potentially important to predicting the quality of partner reading interactions: teacher monitoring, student- selected versus teacher-selected pairings, friendship, reading level of the pair, and the amount of initial instruction about partner reading (Griffin, 2002; Koskinen & Blum, 1986; Stahl et al., 1997; Topping, 1989). Four theoretically driven behavioral dimensions were derived from the cooperative learning literature and were used as indicators of interaction quality: instrumental support, on-task and off-task behavior, emotional or social support, and conflict management (Holubec et al., 1995; Johnson & Johnson, 1999). These behavioral dimensions formed the basis for the development of an observational rating scale designed specifically for evaluating the quality of the partner reading interaction.

Hypotheses

Three hypotheses regarding partner reading interaction quality were examined. These hypotheses were not meant to be mutually exclusive, but instead were designed to assess the reasonableness of various suggestions regarding how to structure classrooms for partner reading.

The *social relationships hypothesis* assumes that positive or negative social relationships existing between children prior to the partner reading session will either promote or interfere with the interaction. Two variables, friendship and teacher-selected versus student-selected pairings, were included in tests of this hypothesis. It is expected that partner reading will be more successful when children are allowed to choose their own partner. Previous research has shown that children choose partners primarily on the basis of friendship and that student-selected pairs may be important for effective partner reading (Stahl et al., 1997). It is also expected that higher friendship ratings will correspond to a more positive and on-task partner reading session, whereas lower friendship ratings will be associated with a less successful interaction.

The *positive interdependence hypothesis* assumes that the goal of partner reading can only be achieved through the coordinated efforts of both children. That is, in partner reading, this hypothesis requires that the capability and need to assist exists within the pair. Several pairings meet the demands of this hypothesis. First, pairing a more capable reader with one less capable may promote a successful partner reading interaction because the more capable reader can provide needed assistance to the less capable reader. Additionally, dyads composed of typical readers should also be successful because each reader may at times need assistance but also may be able to provide assistance to his or her partner. The demands of the hypothesis cannot be met in two situations. First, when two capable readers are paired together, both can read the text independently. Neither child really needs the assistance of the other especially when reads text at or below grade level. Subsequently, these high ability dyads may become bored with the partner reading task and may not fully engage in the activity. Second, when two struggling readers are paired together, neither may possess the ability to provide needed assistance. Thus, they may not possess the decoding skills necessary to successfully read through the text.

Two variables were included in the test of this hypothesis, teacher use of an ability discrepancy strategy for pairing (pairing more and less able readers) and whether the cooperative interdependence needs of the pair were met (at least one member of the pair could provide or need support during the reading). It was expected that the teacher use of an ability discrepancy strategy for pairing children would be associated with successful partner reading interactions. It was also expected that when the cooperative interdependence needs of the pairs were met, the quality of the partner reading interaction would be promoted. Specifically, it was expected that pairings of high ability children with other high ability children, as well as pairings of low

ability children with other low ability children, would be associated with less successful interactions.

The *teacher structure hypothesis* posits that the imposition of structure through the explicit instruction of a script facilitates success in partner reading. The imposition of such structure is believed to enhance learning and eliminate negative social processes (O'Donnell, 1999). Two variables, initial teacher instruction of the partner reading script and teacher monitoring during partner reading, were included in this hypothesis. It is expected that adequate instruction in the beginning of the year on the basic partner reading script is essential for the success of the partner reading interaction. Once children possess a clear understanding of their roles in the interaction, it is expected that teacher monitoring will also be important to ensure that all children fulfill their roles in the partner reading script.

Method

Participants

Participants were 43 pairs of second-grade children from 12 classrooms across 3 elementary schools located in the Southeastern United States. The schools had large numbers of children from families with limited incomes, indicated by relatively high free/reduced lunch rates reported by the schools. Of the children participating, 60.5% were African American, 25.6% European American, 11.6% Latino, and 2.3% other race. Approximately 91% of pairs were of the same gender, and 53.5 % were of the same race. Participants were 62.8% female. On average, participants were 8.00 years of age. Ten teachers participated (4 African Americans, 6 European Americans).

Partner Reading Observation Scale

The partner reading observation scale was adapted from Pomplun's (1996) *Cooperative Group Rating Scale* for the purpose of evaluating the quality of the partner reading interaction. This scale was comprised of four behavioral dimensions aimed at capturing the interaction of children during a partner reading session. These four dimensions include off-task behavior, instrumental support, emotional support, and conflict management. Each pair was rated on a 5-point Likert scale for each behavioral dimension. Dimension ratings represent the interaction within the dyad rather than the behavior of an individual child. Specific descriptions of the behavioral dimensions are as follows:

On-task behavior occurred when children engaged in behaviors related to the partner reading session or typical script behaviors of turn taking, listening, and reading along with their partners. *Off-task behavior* included not reading along, listening, or taking turns with one's partner, ignoring or looking away from one's partner, or off-subject talking. Ratings of on/off task behavior ranged from 1 to 5, with a rating of 1 characterizing a dyad completely off-task such that the reading interaction broke down and the reading was not completed, to a rating of 5 to describe a dyad that was completely on-task. If a dyad was off-task a significant, but not complete, portion of the time, then a rating of 2 was assigned. A rating of 3 described a dyad that was momentarily but completely off-task, such that neither partner was at that time fulfilling their roles as the reader and supporter. However, if only one child was momentarily off-task (i.e., one partner was not turning-taking, listening, or reading along), then a rating of 4 was assigned.

Instrumental support included any behavior that aided one's partner in reading the assigned book or chapter. Some examples of instrumental support included helping one's partner decode a word or phrase, providing unknown words, and providing a reading strategy such as reading along with one's finger. Ratings of 1 described the occurrence of help being needed but not

provided by one's partner. When help was needed but only occasionally provided, a rating of 2 was assigned. For instances where help was neither needed nor provided, a rating of 3 was assigned. Ratings of both 4 and 5 described instances where help was given. A rating of 4 described help in the form of providing known words or information. Ratings of 5 described more complex help where one child provided a reading strategy or when partners combined efforts to decode words.

Emotional supportiveness included any comments or nonverbal behaviors that indicated emotional support. Examples of emotional supportiveness include: offering verbal agreement such as "that's right" making encouraging or positive comments like "you can do it" and any nonverbal behavior that demonstrated the partner's supportiveness such as nodding, smiling, and leaning forward. Ratings of 5 described an occurrence of both positive nonverbal behavior and verbal comments. Ratings of 4 described instances where nonverbal behaviors such as nodding and smiling were demonstrated, but where only neutral verbal comments, if any, were made. Ratings of 3 described neutral interactions. Ratings of 1 and 2 were assigned to interactions where negative verbal or nonverbal communications occurred. Ratings of 2 described instances where negative nonverbal communication (e.g., turning away from one's partner or making faces) but no negative comments were made. If a partner made negative comments such as "you're stupid" or "why can't you read this" and exhibited a general, obvious negative attitude towards the interaction, a rating of 1 was assigned.

Conflict management referred to how conflicts were resolved and the extent to which they interfered with either the quality or the process of the partner reading session. For example, partners might initially disagree on who would read first but resolve this conflict quickly and begin reading. When conflicts and disagreements were resolved positively and did not interfere with the reading, then a rating of 5 was assigned. If no conflicts emerged, then a rating of 4 was assigned. Instances where conflict was resolved quickly and without interfering with the interaction were rated higher than instances when no conflict occurred because it was believed that the ability to resolve conflicts quickly and in a positive manner is more indicative of a positive social relationship than simply the absence of conflict. For example, Pellegrini, Galda, Bartini, and Charak (1998) and Dunn, Cutting, and Fisher (2002) found that friends resolved conflicts more quickly and effectively than nonfriends and that this was the mark of a well-functioning relationship. If conflicts interfered with the quality or progress of the reading session only briefly, then a rating of 3 was assigned. For example, partners may have argued over whose turn it was to read for some time but resolved the conflict quickly enough so that they were able to complete the reading assignment. Ratings of 2 described instances where conflicts interfered with the quality and progress of the reading session, but where the reading eventually resumed. Lastly, a rating of 1 described instances where conflicts were not resolved in a positive manner such that the reading and turn taking was not resumed. After a disagreement, partners may have begun to read the text independently or may have walked away from the reading interaction altogether.

Procedure

Data were collected via informal teacher interviews, teacher questionnaires, and direct observations of teachers and students during partner reading by two researchers.

Partner Reading Observation—Observations of partner reading took place during the scheduled reading block, as partner reading was part of the reading curriculum. The researchers arrived approximately 20 minutes prior to the partner reading activity to allow the teachers and children to become accustomed to their presence. During observations, teachers typically transitioned to partner reading by announcing to the class that it was time for partner reading and assigning the text that the children would read. Due to a county-wide curriculum

requirement, all children read from grade level texts, usually from their basal readers. Then, teachers either assigned partners or allowed the children to choose their own partners. Further instruction by teachers was generally related to management issues (e.g., where the children could sit, to read quietly, what to do after completing the reading, assisting children to find a partner if needed). Once paired, dyads sat at various locations around the classroom, such as on the floor, at desks, or at tables. Dyads, each with their own texts, read the same grade-level passage assigned by the teacher, typically from the grade-level basal reader.

Before dyads began reading, the researchers positioned themselves on either sides of the classroom in areas where multiple dyads could be observed. They sat, stood, or squatted a few feet away from the children being observed close enough to hear children's verbal interactions but not so closely that the children felt directly observed. Two researchers observed the first dyad simultaneously to gather reliability data. Observations of each dyad were done in a one-minute on, one-minute off, fashion. After observing the first dyad together, each researcher then independently observed up to two other dyads. This allowed the researcher's time to record ratings and reposition if needed before observing the next dyad. The researchers observed the children who were closest to them. After the researchers had independently observed their dyads, the observation cycle resumed with the researchers together observing the reliability dyad. Observation continued until all dyads had completed the text, typically 10–15 minutes. Thus, each dyad was observed approximately three times per observation session.

The number of dyads observed within each classroom depended on the number of children for whom consent was obtained. On average, 4–5 dyads were observed in each classroom. Each child was observed for only one session. Data were collected in 2 classrooms in mid-spring of year one and in 10 classrooms in the subsequent school year (6 in the mid-fall and 4 in the mid-spring). Even when observed in the mid-fall, the partner reading script was fully entrenched in classroom routines (the school year began in mid-August; observations occurred approximately two months later). Two teachers participated in both years and reported using differing pairing strategies on the days they were observed.

Teacher Observation and Interview—Questions pertaining to teacher strategies and procedures for conducting the partner reading session were answered either directly through teacher interview or based on observations of the reading activity:

- a. **Teacher Strategy:** Teachers were asked whether they paired the children or allowed the children to choose their own reading partners. If teachers chose the reading partners, then they were asked what strategies were used to pair the children. Teachers were also asked about other strategies they had used to pair children for partner reading.
- b. **Teacher Instruction:** Prior to the classroom observations, teachers were asked to describe the instruction they gave to children at the beginning of the school year on how to implement partner reading. The level of teacher-reported initial instruction was rated on a 3-point scale. Ratings of 1 (inadequate) were assigned if a teacher reported not explaining all components of a basic partner reading script or did not use a consistent script. The basic script needed to contain instructions regarding turn-taking, reading along with, staying on-task, and providing help to one's partner. A rating of 2 (adequate) was assigned if the teacher reported instructing students on all components of the basic partner reading script. A rating of 3 (elaborate) was assigned if a teacher reported providing instruction beyond teaching the basic partner reading script, such as by modeling or discussing the script extensively or by providing specific strategies that aided in the partner reading interaction. Additionally, ratings of 3 were assigned if the teacher reported engaging in two or more of the following

behaviors: modeling, extensively discussing, and/or teaching specific strategies for partner reading.

- c. **Teacher Monitoring:** The presence and type of teacher monitoring of any dyads, even ones not participating in the study, during partner reading such as reading along with a child, helping children identify word(s), disciplining off-task behavior, and listening to children read were recorded. If the teacher did not engage in monitoring, then his or her activity (e.g., grading papers, working with a small group, left room) was also noted.
- d. **Teacher Friendship Questionnaire:** Following an observation, the teachers were given a list of the observed dyads and were asked to rate the children's reciprocal friendship level on a 4-point scale. Teacher ratings generally correlate with child ratings of peer status (Kleck & DeJoong, 1981; La Greca, 1981; Lanceolotte & Vaughn, 1989; Landau, Millich, & Whitten, 1984). Reading dyads were rated on a 4-point scale where 1 indicated that the two children did not get along with each other and were not friends, 2 indicated that the two children got along adequately but were not friends, 3 indicated that the two children got along with each other well and were friends but not close friends, and 4 represented that the two children were very good or best friends.

Reading Ability Assessment

Prior to the partner reading observations, participants were administered the Test of Word Reading Efficiency (TOWRE; Torgeson, Wagner, & Rashotte, 1997) which consists of word reading efficiency and phonemic decoding efficiency subtests. The phonemic decoding efficiency task assesses the ability to decode unknown words quickly, whereas the sight word efficiency task primarily assesses the ability to identify words that were already in one's sight vocabulary quickly. The TOWRE test was chosen because recognizing known words and decoding unknown words are key skills minimally necessary for partner reading. The TOWRE reports test-retest reliabilities between .90 and .97, and validity estimates with other decoding measures between .91 and .94. The mean sight word efficiency standard score was 98.7 ($SD = 13.3$, range 70–124). The mean phonemic decoding efficiency standard score was 96.1 ($SD = 12.6$, range 81 – 134). On average, children demonstrated age-appropriate word reading and decoding skills on these assessments.

Results

Partner Reading Rating Scale

Scale Description—Across the 43 pairs, a total of 100 observations were collected. The observations of individual pairs were averaged to produce a mean score for each dimension for each session. Across pairs, the total partner reading rating scale average was moderately high ($M = 3.68$, $SD = 0.43$). Dimension means for instrumental support ($M = 3.51$, $SD = 0.53$), emotional support ($M = 3.36$, $SD = 0.63$), conflict management ($M = 3.94$, $SD = 0.32$), and on/off task behavior ($M = 3.90$, $SD = 0.97$) were also high. These observations revealed that the partner reading interactions in the classroom were generally successful. The children observed typically helped each other when needed. They were on-task or were just momentarily off-task. They were generally emotionally supportive, and had very few conflicts, the majority of which were resolved quickly and did not interfere with the partner reading session.

Pearson correlation coefficients were computed to determine the inter-coder reliability for the overall scale and four dimensions. The overall scale inter-coder reliability was 0.93, $p < 0.001$. Inter-coder reliability was .96 for on-task behavior, .88 for emotional support, .82 for

instrumental support, and .80 for conflict management, all $p < .001$. Disagreements were typically one scale point and were resolved through discussion.

Evidence for content validity, criterion-related validity, and construct validity are typically used to validate measurement instruments. Content validity refers to the extent to which test or scale items represent the construct being measured and relies heavily on expert knowledge and theoretical grounding. The four behavioral dimensions of the *Partner Reading Rating Scale (PRRS)* were based on components identified by theorists as being most essential to the cooperative learning interaction (Holubec et al., 1995; Johnson & Johnson, 1999). Construct underrepresentation, which occurs when the measure is too narrowly defined such that the domain of interest is not adequately sampled, and construct irrelevancy, which occurs when the domain is defined too broadly such that the domain specificity is lost, are two major threats to content validity (Messick, 1995). As the *PRRS* included four behavioral dimensions based on the essential components within the cooperative learning literature that were most relevant for partner reading, it appears that this scale is neither too broad or too narrow. Criterion-related validity requires external empirical evidence, such as data from another scale thought to measure the same construct that would allow comparisons between the two scales. Such information is not available for the *PRRS*. Construct validity refers to the extent to which the test or scale scores support the construct being measured. Examining the internal structure of the test or the relationship between the construct, scales, and items can assess construct validity. Factor analysis of the *PRRS* (see below) revealed that three of the four behavioral dimensions shared substantial variance, so they were collapsed into one variable. Thus, the two dependent variables created by the *PRRS* are supported by statistical evidence from this study regarding its internal structure. In sum, some evidence exists for the content and construct validity of the *PRRS*.

Factor Analysis—The dimensions were factor analyzed to determine whether a single factor would capture the variance in observations so that scores could be combined or whether more dimensions would be more descriptive. Factor analysis can be used as a data reduction technique in this way. Factors were extracted using the principal axis method. The results of these analyses can be seen in Table 1. A one-factor extraction suggested a great deal of shared common variance among ratings for *instrumental support*, *emotional support*, and *conflict management*, but less so for *on/off task behavior*. The single factor solution accounted for only 40.0% of the variance in the ratings. When two factors were extracted, the second factor seemed to absorb variance from *on/off task behavior* but not from the other three dimensions. Further, dropping *on/off task behavior* from the single factor solution resulted in a better fit such that the resulting single factor accounted for 51.3% of the variance in ratings. These findings suggest that *instrumental support*, *emotional support*, and *conflict management* share great commonality, but that *on/off task behavior* is somewhat distinct. Given these findings, the first three rating scales (*instrumental support*, *emotional support*, and *conflict management*) were averaged, labeled *social cooperation*, and treated as a single dependent variable. *On/off task behavior* was treated as a second dependent variable.

Teacher Organization of Partner Reading

Script Instruction—Generally, teachers reported providing adequate instruction on the partner reading script at the beginning of the year. The average rating regarding the adequacy of script instruction was 2.08 ($SD = .79$). Only 3 teachers reported failing to give adequate instruction or gave inconsistent instruction regarding the partner reading script. Because data were collected in both the fall and spring semester of the school year, correlations between the time of year and the independent and dependent variables were conducted. After adjusting the p value of significance to .005 due to the number of variables examined, only a relationship was found between time of year (fall or spring semester) and the level of instruction teachers

reported to have provided at the beginning of the school year, $r = .459, p = .002$. Teachers who participated in the study during the spring semester of the school year reported providing higher levels of instruction regarding the partner reading procedure to their classroom at the beginning of the school year than those who participated in the fall. Thus, teachers who participated in spring may have remembered teaching the script more favorably than the way they actually taught it.

Teacher Monitoring—The majority of the classroom teachers (8 of 12) directly monitored children during partner reading (e.g., walked around the room, listened to children read, disciplined off-task behavior). Of those not directly monitoring during partner reading, three worked with small groups of struggling readers in the room and another assigned a student to monitor the class while she did paperwork. In some sense, then, all of these teachers could be viewed as at least indirectly monitoring students. Interestingly, a negative relationship existed between the level of script instruction and the occurrence of direct teacher monitoring during partner reading $r = -.68, p < .001$. It seems that the more instruction teachers provided students at the beginning of the year, the less they deemed direct monitoring as necessary.

Pairing Strategy—The majority of teachers (7 of 12) allowed children to choose their own reading partners. Of the remaining, teachers used seating arrangement (pairing children sitting next to one another) or reading ability (pairing more capable readers with less capable readers) as pairing strategies. Although none of these teachers cited gender as a strategy for pairing the children on the day partner reading was observed, 85.7 % of the teacher-selected pairs were of the same gender. Similarly, 93.1% of student-selected pairs were of the same gender.

The majority of teachers (75%) reported that, in the past, they did not always use the same method for pairing the children for partner reading. Teachers reported having shifted between student- and teacher-selected pairings. When asked what strategies they may have used to select the children's reading partners in the past, teachers most frequently cited using reading ability in combination with other strategies such as seating arrangement, friendship, temperament of the children, and gender to pair children for partner reading.

Tests of Hypotheses

To discern the characteristics of the partner reading setting that best predicted the quality of the partner reading interaction, the variables connected with each hypothesis were analyzed in relation to the social cooperation and on/off task scale scores separately. In some cases, the characteristics of the variables included in the model necessitated the use of regression strategy to test model predictions. In others, it necessitated the use of an ANOVA strategy, and in others, a nonparametric approach. The correlation matrix for all variables can be found in the Table 2.

Social Relationships Hypothesis—The social relationships hypothesis posits that the quality of the partner reading interaction is influenced by the nature of the social relationship between the children prior to the partner reading session. Specifically, we hypothesized that higher teacher ratings of friendship and student-selected pairings (partner selection) would promote higher levels of *on/off task behavior* and *social cooperation* than pairings with low friendship ratings and teacher-selected pairings. Because friendship was a scaled variable, regression analyses were conducted regressing friendship ratings and partner selection (teacher- versus student-selected pairing) onto *on/off task behavior* and *social cooperation* scores.

As shown in Table 3, a regression analysis regressing both teacher ratings of friendship and partner selection found no relationship between either main effects of teacher ratings, $t(39) =$

1.36, $p = .18$ or partner selection, $t(39) = 1.81$, $p = .08$, or interaction between the variables, $t(39) = 1.61$, $p = .12$, on *on/off task behavior*. The combined main effects and interaction terms taken together did not account for a significant proportion of the variance observed in *on/off task behavior*, $F(3, 35) = 1.70$, $p = .33$, adjusted $R^2 = .012$. In sum, the quality of the social relationships prior to the partner reading activity did not affect levels of *on/off task behavior* during partner reading.

The findings for *social cooperation* were somewhat different. A regression analysis regressing both teacher ratings of friendship and partner selection found a significant relationship between partner selection and *social cooperation*, $t(39) = 2.03$, $p = .05$, $\beta = 1.01$. Children exhibited higher levels of *social cooperation* when they chose their own partners than when the teacher selected their partners. There was no significant effect of friendship ratings on *social cooperation*, $t(39) = 1.47$, $p = .15$. The friendship \times partner selection interaction approached statistical significance, $t(39) = 1.98$, $p = .055$, in the direction that lower teacher ratings of friendship corresponded to lower levels of *social cooperation* only when teachers rather than students selected the reading partners. However, the social relationships hypothesis taken as a whole also did not account for a significant proportion of the variance observed in *social cooperation* during partner reading, $F(3, 35) = 1.52$, $p = .226$, adjusted $R^2 = .036$.

Positive Interdependence Hypothesis—The positive interdependence hypothesis posits that both the capability and the need to assist in the reading must exist within the pair for a successful interaction to take place. Specifically, it was hypothesized that teacher use of an ability strategy to pair children for partner reading (pairing a more capable reader with a less capable reader) would be associated with higher levels of *on/off task behavior* and *social cooperation*. However, pairs with two high-ability children would not be ideal because the need to assist would not exist within the pair. Pairs with two low-ability children would create too many instances of help being needed but not provided. Lower levels of *on/off task behavior* and *social cooperation* might be expected for both of these pair types because of this mismatch between task demands and children's skills.

For the purposes of this analysis, we were interested in identifying pairs of children for which the positive interdependence needs were potentially unmet. This was done on the basis of the standard scores children received on each subtest of the TOWRE. First, for each subtest separately, children with standard scores at or above 115 (1 standard deviation above the mean) were labeled "high" ability readers, children with standard scores at or below 85 (1 SD below the mean) were labeled "low" ability readers, while children whose standard scores between 85–115 were labeled "average" ability readers. Then, pairings were described in terms of both partners' ability level (i.e., high-high, high-average, high-low, average-average, average-low, low-low) on each subtest. It was assumed that high-high and low-low pairs on a given subtest could be grouped together for the purposes of testing this hypothesis because either the need for or the availability of support is not present in these pairs. It was assumed that the rest of the combinations (average-low, average-average, average-high) all met the positive interdependence demands of this hypothesis. Children were grouped into the *positive interdependence needs met* group if at least one member of the pair could provide or potentially need support on both subtests. Children were grouped into the *positive interdependence needs unmet* group if, on at least one of the subtests, both members were either unable to provide support (low-low) or both members did not need support (high-high) through the passage.

The means for *on/off task behavior* and *social cooperation* are shown for each positive interdependence group in Table 4. Because only 8 out of 43 pairs were classified as having positive interdependence needs unmet, we resorted to a nonparametric test of the effect of this variable on *on/off task* and *social cooperation behavior*. A Kruskal-Wallis test indicated that the *on/off task behavior* was higher for children whose positive interdependence needs were

met than those whose needs were unmet, $X^2(1) = 4.60, p = .032$, but their *social cooperation* was not higher, $X^2(1) = .642, p = .423$.

Teacher use of an ability discrepancy strategy was another variable used to test this model. Teachers who use such a strategy do so because they believe that one child could help the other. Presumably, teachers using an ability discrepancy strategy should have children who show greater *on/off task behavior* and *social cooperation* because of positive interdependence. Teacher use of an ability discrepancy strategy was determined by self-report of pairing more capable children with less capable children on the day partner reading was observed. Differences between partners' standard scores were not significantly larger on either subtest for children whose teachers reported using an ability discrepancy strategy compared to teachers who did not report it (sight word efficiency subtest $X^2(1) = .04, p = .835$; phonemic decoding efficiency subtest $X^2(1) = .16, p = .690$), suggesting that teachers reported using a strategy that they did not consistently use. In retrospect, we realized that, within a given classroom, even if the teacher wants to create discrepant pairs, there may be some students for whom they will be unable find a suitably discrepant partner, so other strategies must be used. In any case, the availability of only 5 pairs for which teachers reported using an ability discrepancy strategy required the use of a nonparametric approach to analyzing this variable. In fact, as was hinted above, teacher reports of an ability strategy use was not indicative of higher levels of *on/off task behavior*, $X^2(1) = .45, p = .503$, or *social cooperation*, $X^2(1) = 1.35, p = .245$, as indicated by Kruskal-Wallis tests.

Teacher Structure Hypothesis—The teacher structure hypothesis posits that the imposition of a structured interaction by including instruction and monitoring of the partner reading script will facilitate learning and eliminate negative social processes in partner reading. It was hypothesized that the level of instruction provided to students by teachers at the beginning of the school year as well as the presence of teacher monitoring during the reading activity would promote higher levels of *on/off task behavior* and *social cooperation*.

As noted earlier, teachers whose classrooms were observed later in the year reported higher levels of script instruction than those whose classrooms were observed in the fall. Thus, we decided to include time of year as a factor in the analysis. A 3 script instruction (inadequate, adequate, elaborate) \times 2 time of year (fall or spring) ANOVA was conducted for *on/off task behavior* and *social cooperation*, separately. No main effects for time of year, $F(1, 37) < 1, p > .05$, or interaction between time of year and script instruction, $F(2, 37) < 1, p > .05$, was observed for *on/off task behavior* or *social cooperation*. There was a marginally significant main effect of script instruction on *on/off task behavior*, $F(2, 37) = 2.64, p = .084$, and a significant main effect for *social cooperation*, $F(2, 37) = 7.42, p = .002$, partial $\eta^2 = .281$. A Tukey post hoc test indicated that levels of *social cooperation* displayed by students provided adequate instruction were higher than both those who received inadequate instruction, $p = .005$, and highly elaborate explanations of the partner reading script, $p = .003$ (see Table 5). Apparently, both too little instruction and too much elaboration of the partner reading script were associated with poorer cooperation on the children's part.

This model also predicts that children who are monitored by the teacher will show higher levels of *on/off-task behavior* and *social cooperation* than children who are not monitored. Consequently, a one-way ANOVA comparing monitored with unmonitored children was carried out. This analysis indicated no effect of this variable for either *on/off task behavior* or *social cooperation*, both $F < 1$.

In sum, when the information from these ANOVAs is combined, it suggests that the best levels of social cooperation occurred when adequate instruction was provided and when teachers did not feel the need to monitor partner reading. Given the negative relation ($-.68$) between degree

of script instruction and monitoring behavior, it suggests that, when children already understand what they are supposed to do, they will cooperate with each other, and, as a result, may not need monitoring.

Discussion

Partner reading is a common classroom strategy used to promote the development of fluent reading skills in elementary school children. Partner reading is often embedded in larger literacy programs but has less frequently been examined outside of those programs. However, several previous studies have suggested that partner reading promotes reading fluency. In contrast, little research attention has been paid to the quality of interactions that occur between children within the partner reading context, despite the view that partner reading is a cooperative learning strategy. Research on cooperative learning suggests that the interaction among group members may facilitate or impede learning. Thus, the more we can learn about the effectiveness of classroom strategies on the quality of partner interactions, the better we can potentially realize its impact on promoting reading skills. The aim of this study was to identify factors that affect the quality of the partner reading interaction for the purpose of providing teachers with empirically based strategies for organizing, managing, and implementing partner reading. This study contributes to our knowledge of partner reading by identifying strategies that promote high quality interactions during partner reading. Three hypotheses were proposed to explain variation observed in the quality of partner reading interaction. Although not all three were found to predict both on-task behavior and social cooperation, several important factors were identified.

The *social relationships hypothesis* posits that the nature of the social interaction that occurs between children affects the quality of the partner reading interaction. Specifically, positive or negative social relationships that exist between children prior to the partner reading session should either promote or interfere with the interaction. Although the model as a whole was not significant, partner selection was identified as an important factor for social cooperation in partner reading. Children who were allowed to choose their own partners exhibited higher levels of social cooperation than children who were paired by their teacher. These findings suggest that children generally choose partners with whom they will interact cooperatively.

The *positive interdependence hypothesis* posits that instances where assistance is needed and can be provided within a partner dyad will facilitate successful partner reading interactions. Moreover, high-high ability pairings (instances where help is unlikely to be needed by anyone during the partner reading session) and low-low ability pairings (instances where help may be needed but is unlikely to be provided) should be less successful than other ability pairings because the positive interdependence requirements of partner reading are not met. Some support for this hypothesis was found. Both the ability to provide assistance and the need for assistance must be met for children to stay on task.

Participants in this study read from grade level materials (typically their basal readers). However, the extent to which assistance is needed and able to be provided within the dyad is likely to depend on the difficulty level of the text being read. Adjusting the relative difficulty level of the text to the ability level of the partners may promote an interdependent interaction by creating a situation where both partners possess both the capability and the need to provide assistance to one another. For example, if pairs of highly skilled readers do not need each other's assistance to complete the reading, increasing the difficulty level of material might create a more interdependent situation. Conversely, if pairs of struggling readers were provided less difficult text, they might be better able to support and assist one another through the reading of the text. The nature of the reading material is a potentially important factor for facilitating cooperative interactions during partner reading and deserves future inquiry. In this study,

teachers rather than children typically chose the reading materials. However, the choice of reading material (i.e., whether the teacher or students chose the text as well as the type of text children choose when given the opportunity) could also affect the partner reading interaction and also deserves examination in future studies.

Interestingly, we found that teacher reports of pairing more and less capable readers were unrelated to on/off task behavior and social cooperation and to the actual discrepancy in reading skill between children in their classrooms. There may be an inherent limitation of this strategy in some classrooms. In some classrooms, teachers may have a limited number of high-skill readers to pair for partner reading. In this study, it is possible that teachers did not conceptualize reading level in terms of decoding skills. If so, future research might examine how different conceptions of reading skill might influence partner reading success. Finally, and more troubling, it may be that teachers simply did not know their students' ability, so they could not use this pairing strategy effectively. Regardless, our findings suggest that the positive interdependence pairing strategy should be used only for dyads in which one partner can clearly be of help to a less-skilled reader.

The *teacher structure hypothesis* posits that the imposition of structure through the inclusion and monitoring of a script facilitates success in partner reading. The imposition of such structure is believed to enhance learning and eliminate negative social processes (O'Donnell, 1999). In support of this view, teacher instruction was found to predict levels of social cooperation but not on/off task behavior. As expected, inadequate instruction led to lower quality interactions. Unexpectedly, the highest levels of social cooperation were not found when teachers reported providing highly elaborated scripts at the beginning of the year. Instead, the highest levels of cooperation were displayed when teachers reported merely providing adequate instruction in partner reading. It may be that high levels of elaboration for a very simple script may be perceived as externally controlling by students and may, instead, be more reflective of a teacher who is having difficulty organizing or managing the students in the classroom. That is, a teacher who has poor classroom management skills may choose to be highly elaborative and directive in his or her instruction in an effort to exert control over the classroom. Regardless, our findings do suggest that a basic level of instruction of the script is needed. Direct teacher monitoring may not be necessary after this basic instruction has been provided.

Partner reading seemed to be a successful classroom strategy in general. As evidenced by the means on the Partner Reading Rating Scale, children were generally cooperative and on-task during the sessions. Overall, most teachers provided at least adequate instruction of the partner reading script and, as a result, children seemed clear about what they were supposed to be doing and stayed on task. Most teachers elected to allow children to choose their own partners and this turned out to be successful for promoting social cooperation. Moreover, when children formed pairs for whom an ability discrepancy was present, this too promoted high quality interactions during partner reading. Most teachers showed flexibility in moving between student- and teacher-selected pairings.

In sum, several recommendations can be made based on the findings of this study for how teachers should organize, manage, and implement partner reading in classrooms. Adequate instruction should be provided at the beginning of the year about the partner reading script. Specifically, students should be provided instructions regarding taking turns, reading along, staying on task, and providing help to their partners. Children should be allowed to choose their own partners. Children are capable of choosing a partner with whom they will interact cooperatively. However, pairings of low-ability children with other low-ability children and high-ability children with other high-ability children should be avoided. Instances where either both partners require assistance but do not possess the skills to assist one another or pairs where

neither partner requires assistance appear to interfere with the completion of the partner reading activity. These suggestions are not mutually exclusive. Teachers may allow children to choose their own partner and still avoid low-ability or high-ability pairings by suggesting alternate partners for the few struggling readers who inadvertently choose another low ability partner. Alternatively, they might adjust the difficulty of the text that the pair reads.

In regression analyses, the number of variables and observations, and the reliability of predictors and dependents determine power. Our analyses showed considerable reliability across raters, and we included only two variables to test a model. We conducted power analyses for ANOVAs, and they were highly adequate for all tests of the hypotheses. For the nonparametric ANOVAs, power is only slightly lower than that found for parametric ANOVAs. Thus, it would seem that power issues do not limit us from drawing the conclusions that we do.

Several limiting factors are associated with this investigation of partner reading. The partner reading interaction quality was generally good. While this good behavior suggests that children enjoy and willingly participate in partner reading, it does make it difficult to discern variables that influence high and low levels of interaction quality in such a setting. Additionally, children were not assigned into experimental groups (e.g., explicitly pairing children with friends versus non-friends). Moreover, we were perhaps overly dependent on teacher reports of their own behavior.

The current study focused on the quality of interactions during partner reading. Future investigations of partner reading should explore how social relationships, positive interdependence, and teacher structure affect the improvement of reading skills over time. Future investigations should employ assignment of children to groups so that clearer causal inferences can be made. Lastly, several potentially important variables such as the relative difficulty level of the text and who is allowed to choose the text should be explored.

In sum, the present study offers some empirically-based suggestions regarding how to structure partner reading to promote high quality interactions in second grade classrooms. In general, it appears that partner reading in this study is usually associated with high quality interactions. Consequently, it can serve as an enjoyable and beneficial pedagogical tool for enhancing the development of fluent reading skills.

Acknowledgments

This project was supported by the Interagency Education Research Initiative, a program of research managed jointly by the National Science Foundation, the Institute of Education Sciences in the U.S. Department of Education, and the National Institute of Child Health and Human Development in the National Institutes of Health. Funding for the project was provided by the National Institute for Child Health and Human Development HD407-03 and the National Science Foundation. Portions of this research were presented at the National Reading Conference in December 2002 in Miami Beach, FL.

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Table 1
Factor Loadings of the Partner Reading Rating Scale (N=43)

Dimension	Single 1	1	Two 2	Single (reduced) 1
Instrumental Support	0.73	.68	.07	.69
Emotional Support	0.60	.57	.07	.57
Conflict Management	0.79	.90	-.28	.86
On/Off Task Behavior	0.30	.33	.49	

Note. Using principal axis extraction method

Table 2

Correlation Matrix for the Variables in the Study (N=43)

	1	2	3	4	5	6	7	8
1. On-Task Behavior	--							
2. Social Cooperation	0.28	--						
3. Time of Year	0.18	0.10	--					
4. Friendship Ratings	-0.00	-0.10	-0.06	--				
5. Partner Selection	-0.12	-0.05	-0.02	0.23	--			
6. Ability Strategy	-0.19	0.25	-0.37*	-0.12	--**			
7. Interdependence Needs	0.41**	-0.11	-0.23	0.24	-0.52**	--		
8. Teacher Monitoring	-0.04	0.00	0.06	-0.14	-0.18	-0.20	--	
9. Teacher Instruction	0.16	-0.05	0.46**	0.17	-0.08	-0.08	-0.05	--
					0.03	-0.35*	-0.01	-0.64**

* Note. $p < .05$;** $p < .01$

Table 3
Summary of Regression Analysis for the Social Relationships Hypothesis (N=43)

	B	SE	t
On/Off Task Behavior			
Friendship Ratings	0.59	0.43	1.36
Partner Selection	2.21	1.22	1.81
Friendship × Partner Selection	-0.77	0.48	-1.61
Social Cooperation			
Friendship Ratings	0.26	0.18	1.47
Partner Selection	1.01	0.50	2.03*
Friendship × Partner Selection	-0.39	0.20	-1.98

* Note. $p < .05$;

** $p < .01$

Table 4
Partner Reading Rating Means for Positive Interdependence Hypothesis (N = 43)

Positive Interdependence	On/Off Task Behavior		Social Cooperation	
	Mean	Standard Deviation	Mean	Standard Deviation
Needs Met n = 35	4.08	.817	3.58	.426
Needs Not Met n = 8	3.08	1.22	3.69	.250
Ability Discrepancy Strategy				
Used n = 5	3.40	.710	3.88	.303
Not Used n = 38	3.96	.141	3.57	.656

Table 5
Partner Reading Rating Means for Teacher Structural Hypothesis (N = 43)

Script Instruction	On/Off Task Behavior		Social Cooperation	
	Mean	Standard Deviation	Mean	Standard Deviation
Inadequate n = 10	3.31	.323	3.41	.167
Adequate n = 18	4.27	.182	3.86	.070
Elaborate n = 15	3.83	.259	3.43	.055
Teacher Monitoring				
No Monitoring n = 13	3.96	.281	3.61	.121
Monitoring n = 30	3.87	.177	3.60	.071