

Building book buddies: Influencing academic self-concept and peer relations through paired reading

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Introduction and Justification

Classrooms serve many functions aside from being a place of academic learning. They are environments of socialization and emotional growth, and much of that education begins with peer interaction. Furthermore, classrooms are diverse settings where students of all backgrounds, reading levels, and skills come together as one to expand upon their established knowledge and skills. Cooperative learning, in which students work in small groups on activities, has been found to be useful in increasing student achievement, positive peer relations, and self-esteem (Abramczyk & Jurkowski, 2020; Slavin, 1980). Positive peer relations are an important factor in school engagement, school satisfaction, and academic skill development (Kiuru et al., 2015; Moses & Villodas, 2017; Verkuyten & Thijs, 2002).

At present, peer relations in primary elementary classrooms are in dire need of an intervention. Due to the COVID-19 pandemic, K-2 students have spent their early childhoods isolated from their peers in quarantine, virtual learning, and masks. This has stunted their social-emotional growth and led to inappropriate classroom behaviors such as inability to keep their hands to themselves, fights, and an altogether lack of social-emotional skills (Timmons et al., 2021). The pandemic has also disrupted academic development for students, as reading scores have declined (Kuhfeld, Lewis, & Peltier, 2022). The lack of strong academic development has also led to problems with confidence. As observed in a first grade classroom,

students report feeling as though they are wholly unable to read and have no confidence in their existing skills.

The purpose of this study was to examine whether having students read to one another will improve peer relations and reading confidence. Paired reading was implemented into a first grade classroom, with students of a higher literacy level being paired with a student of a lower literacy level, and they will read books aloud to each other. There were pre- and post-surveys conducted to measure for reading self-concept and peer relations, and an additional post-survey measuring student interest in the paired reading intervention. The goal of this study was to expand upon ways to improve students' self-concept and peer relations in early elementary classrooms.

Literature Review

Peer Relations

Social growth and learning are crucial aspects of early elementary education, as students are exposed to some of their earliest experiences with non-related peers. Therefore, fostering positive peer relations in the classroom is paramount to ensuring students are well-rounded and happy, as it is associated with a number of beneficial outcomes, such as academic achievement, prosocial behavior, and school engagement. Peer acceptance and support in early grades is positively related to later academic skills as well as behavioral and emotional engagement (Kiuru et al., 2015; Li et al. 2011). Reciprocated friendships and friends' prosocial behavior likewise can predict an increase in an individual's own prosocial behavior (Wentzel et al., 2004). Friends also influence an individual's ability attributions for success and perceptions of school importance, and thus their overall academic motivation (Altermatt & Pomerantz, 2003). Positive

peer relationships - ones marked by high peer companionship, intimacy, and low conflict - serve a protective role on school engagement for students with adverse childhood experiences (Moses & Villodas, 2017). Having Positive peer relations also mediate the negative effects of adverse childhood experiences on perceived school importance and satisfaction (Moses & Villodas, 2017). Favorable relationships with peers are also a mediator in the relationship between parenting styles and academic achievement (Llorca et al., 2017). Peer relationships at school are linked to the treatment they receive there, which is in turn linked to later school adjustment (Buhs, 2005). Classrooms are prime environments for socialization and social emotional learning, and peer relations and relatedness are important factors in improving school achievement and satisfaction.

Academic Self-Concept

Academic self-concept (ASC) has two components: students' perceptions of their academic competence and their commitment to/involvement/interest in schoolwork (Liu & Wang, 2005). It is crucial for students to see themselves as competent readers and that encouragement starts early in education. It is therefore important to bolster students' academic and reading self-concept to make them more comfortable with reading earlier. Elevated ASC is also associated with positive educational outcomes. For example, higher ASC is correlated with academic achievement, and this correlation becomes stronger with age: throughout their later education, higher-achieving students tend to have higher ASC (Guay et al., 2003).

Developmentally, early elementary students rely on how they feel about themselves and their self-esteem is largely implicit; into later elementary grades, students have learned about their academic strengths and their self-esteem is explicit and more tied to academic achievement (Cvencek et al., 2018). Accordingly, interventions aimed at improving ASC will in turn

positively affect academic achievement and confidence. Academic-related self-perceptions influence achievement by affecting motivation and self-regulation processes of metacognition (Borkowski et al., 1992; Ningsih et al., 2022; Schunk, 2011). As it specifically pertains to reading, students with negative ASC tend to have lower phonological sensitivity skills and letter-name knowledge (Chapman et al., 2000). Academic self-concept has important ramifications in academic achievement and social competency, especially in the classroom where much social growth occurs.

Link Between Peer Relations and Academic Self-Concept

Leon Festinger, in his 1954 social comparison theory, posited that individuals evaluate their own social and personal worth by comparing themselves to others. School serves as an environment full of social comparisons, as students feel required to show off their strengths to a room full of peers, often placing themselves in competition with one another to feel personally successful. These social comparisons are inevitable in a classroom full of friends and peers and are crucial in forming their academic self-concept. ASC development is defined by interpersonal and intrapersonal comparisons (Marsh, 1986). There are several associations between peer relations and ASC. For one, victimization and exclusion by peers are both linked to children's attitudes and behavior. Exclusion predicts low ASC and classroom engagement (Buhs, 2005). ASC also mediates the effects of social exclusion and victimization on change in achievement (Buhs, 2005). Therefore, peer relationships and ASC are both involved in influencing academic achievement, while also affecting each other. Peer relations in school also has a significant positive relationship with ASC because of the ability to interact with friends who have similarities (Ningsih et al., 2022). Peer relations and academic self-concept are linked variables

that can have great effects on one another, especially considering the implications of what could occur to one while boosting the other.

Paired Reading (Peer Assisted Learning)

Peer assisted learning (PALs), peer tutoring, cooperative learning (CL), and paired reading are all classroom interventions that have students collaborate on an activity to foster mutual growth and learning. There are a variety of cooperative learning procedures that all differ from each other in terms of pairings, disciplines, teacher involvement, etc. This makes it difficult to operationalize/narrow down the cooperative learning utilized in this study. However, in the present research, I utilize Flores & Duran's (2013) definition of peer tutoring as a cooperative learning method where students from similar social groups (peers in the same classroom) help others to learn and, in doing so, learn by teaching. There are two types of peer tutoring: fixed-role, where each student is assigned a role (as a tutor or a tutee) and those roles stay the same throughout the intervention; or reciprocal, where both students switch roles (Fantuzzo et al., 1992). These programs boost both peer relations and academic-self concepts and are related to academic achievement, particularly in reading.

A meta-analysis of PAL strategies and interventions found strong correlations between social/academic outcomes and self-concept and academic outcomes. PAL programs that had higher levels of student self-management, individualized evaluation procedures, and more structure are associated with greater self-concept and social effects. Within PAL programs, social-emotional and academic outcomes are related: as students develop socialization through group work, they increase their feelings of confidence and self-esteem. It was also found that programs with more minority students had even greater gains (Ginsburg-Block et al., 2006).

Taken together, these results indicate that PAL is effective in enhancing ASC and socialization among peers.

These intervention programs require students to work with their peers, which demands companionship and cooperation. One peer tutoring intervention was found to improve the tutor's reading self-concept by providing a positive work environment, giving positive assessment of efforts, and read-aloud tasks with an active listener (Flores & Duran, 2013). Cooperative learning fostered supportive relationships among group members which in turn increased ASC, intrinsic motivation, and academic achievement (Lynch, 1996). Cooperative learning boosted cognitive processing and supportive peer relationships, which were associated with positive ASC (Lynch, 1996). These programs also reduced bullying in middle school by enhancing affective empathy and peer relatedness (Van Ryzin & Roseth, 2019). The social nature of cooperative learning and the emphasis on group work and collaboration enhances interpersonal relatedness which contributes to an understanding of the cognitive and emotional states of others (Van Ryzin & Roseth, 2019). Classwide peer tutoring increased academic achievement and social interactions, specifically for students with autism, who valued working with their peers (Kamps et al., 1994).

Peer tutoring and cooperative learning have been found to be effective in all disciplines, but especially for language arts and reading. Poor readers who participated in peer tutoring showed less task/school avoidance and less frustration and anxiety related to school, with increases in interest in books and reading and an enhanced motivation to read independently and together at home and at school (Nelson, 1996). There was also a positive effect of peer tutoring on students' perceptions of themselves as readers (Nelson, 1996). PALs programs have enhanced reading fluency and comprehension and word-level reading skills, even when the program was not paired with additional comprehension, decoding, or phonological awareness interventions

(Fuchs & Fuchs, 2005). Peer tutoring boosts comprehension, reading skills, motivation, and self-confidence by reducing teacher dominancy and taking a student-centered approach where students are active contributors to their learning (Rahmasari, 2017). A peer-coaching-fluency-building intervention saw significant growth in students' oral reading fluency (Marr et al., 2011). Word analysis, vocabulary, and self-confidence were all boosted for first grade students in a paired reading program (Muldowney, 1995). Finally, a cooperative integrated reading and comprehension program increased achievement in vocabulary, comprehension, and language expression by developing metacognitive abilities and such an effect that was maintained over 2 years after the program (Stevens & Slavin, 1995). Taken altogether, this previous literature establishes a strong, clear link between the variables and gives models for these variables interactions.

When considering the existing literature regarding PALs and peer-tutoring programs, there is a clear link between [peer relations and ASC]. Building upon these previous models for variable interactions, I have built my own paired reading program in which I examined for myself the

Present Research

The purpose of the present research was to examine paired reading in a first grade classroom and its effect on academic self-concept and peer relations of the students. I also wanted to consider how students respond to such an intervention, whether or not they enjoy partaking in the paired reading. The resulting research questions I sought to answer were:

1. How does paired reading affect students' academic self-concept?

2. How does paired reading affect peer relations between students?
3. Do students enjoy paired reading?

Methods

To examine the research questions, a paired reading intervention was introduced to the class over the course of three weeks. Pre- and post-tests of academic self-concept and peer relations were conducted to measure changes in those variables. Finally, a short, open-ended interview was conducted to determine student interest in the intervention.

Participants

This research was conducted in a suburban/rural elementary school in St. Mary's County, in Southern Maryland. The school is a Title 1 school, meaning there is a higher number of low-income students and the school therefore receives additional federal funds. Participants were 24 first grade students: 10 girls, 14 boys. The racial/ethnic make-up was very diverse, with 10 White students, six Black students, three biracial/mixed race students, three Hispanic students and two Asian students. Two students were unofficially receiving special education services; and one student was receiving speech therapy.

Intervention

This paired reading intervention took place over the course of three weeks, during ELA/reading rotations, which occur for 55 minutes every day. There were five rotations of 10 minutes each with a one minute break/transition time between each. The paired reading intervention was inserted into one of the rotations.

During the paired reading rotation, students within that rotation were paired up according to reading level. Within the dyads, one student was at a reading level higher than their partner (based on DIBEL scores, students with the higher scores were placed with those with the lowest

and those in the middle were paired accordingly) During the 10 minute rotation period, the students read to each other from their preassigned book bucket. The books were at a level each individual student can read, so students with higher DIBEL scores selected more advanced books to read to their lower-scoring partners and vice versa. The book genres range from fiction to nonfiction, narrative to informational, from a number of different subjects. They read the entire book aloud to their partner and then switch- the reader then becomes the listener and vice versa - and the new reader would read their chosen book. The partners assisted each other in reading fluency and decoding words.

Data Collection Process

Prior to the introduction of the paired reading rotation, students were given a short questionnaire of two surveys to assess initial academic self-concept and peer relations. Then, a short introduction to the paired reading occurred. Students will be shown how to locate their book buckets, who their partners are, where to read, appropriate noise level, and other rotation etiquette. Paired reading rotations were introduced and implemented for three weeks. After the intervention period, the same questionnaires measuring academic self-concept and peer relations were administered to assess changes in perceptions. Finally, a short interview was conducted to measure student interest in the paired reading.

Data Sources

Table 1 describes the data that was collected and how they directly relate to the three research questions.

Table 1. Data sources in connection with the research questions.

	Data Source 1	Data Source 2
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Research Question 1: How does paired reading affect students' academic self-concept?	Pre-Post survey: SDQ-I, ECLS-K Reading subscale 8 items Likert scale of 1-4	
Research Question 2: How does paired reading affect peer relations between students?	Pre-Post survey: SDQ-1, ECLS-K Peer relations subscale 6 items Likert scale of 1-4	
Research Question 3: Do students enjoy paired reading?	Post-test survey: Yes/no interview	Post-Test survey: Open-ended interview

Assessing Academic Self-Concept

Academic and reading self-concept was measured using the Self-Description Questionnaire-I, Early Childhood Longitudinal Study-Kindergarten (SDQ-I ECLS-K; Niehaus & Adelson, 2013) version, reading subscale. Students completed a short, 5 item questionnaire in which they rated statements on a scale of 1 to 4. Words corresponding to the scale numbers were replaced with smiley faces, so it would be easier for students to respond to the statements and not get perturbed by having to read too much. 3 items were removed for brevity and complexity. For example, the statement “I like to read long chapter books” was removed because none of these students read chapter books. Prior to the questionnaire, students will be taught how to respond using Likert scales and will be assessed to ensure they fully understand what is required. During

administration, the statements will be read aloud to students and they will be able to mark their answers verbally or in writing. The SDQ-I ECLS-K reading subscale has an internal reliability of $\alpha = 0.87$. Reading self-concept statements are listed below.

1. I get good grades in reading.
2. I like reading.
3. Work in reading is easy for me.
4. I am good at reading.
5. I enjoy doing work in reading.

Assessing Peer Relations Classroom peer relations were measured with the Self-Description Questionnaire-I, Early Childhood Longitudinal Study version, peer relations subscale (Niehaus & Adelson, 2013). Students completed a short, 5 item questionnaire in which they rated statements on a scale of 1 (frowny face) to 4 (happy face). Again, words were replaced with smiley faces on the scale responses. One item was removed for brevity and unnecessary. Peer relations subscale statements are listed below. Again, students are taught how to respond using Likert scales and statements are read aloud to the students and answers are accepted in writing or verbally. The SDQ-I ECLS-K peer relations subscale has an internal reliability of $\alpha = 0.79$.

1. I have lots of friends.
2. I make friends easily.
3. I get along with kids easily.
4. I am easy to like.
5. Other kids want me to be their friend.

Assessing Interest in Paired Reading

Students' enjoyment of the paired reading intervention was measured with an informal, short survey/interview. In small groups of 4-6, students were asked to put a thumb up if they liked reading with their partner over the past weeks, and put a thumb down if they did not like it. They were then asked to elaborate on their thumb placement. Responses were collected by the administrator taking notes. All students participated in the interview.

Data Analysis

After all data has been collected (pre- and post-tests for the academic self-concept and peer relations variables, and post-test interviews for interest in the intervention), a two-tailed t-test was conducted to examine changes in academic self-concept and peer relations from before to after the intervention. The qualitative data, student responses to the interview, was coded for positive or negative affect.

Results

Research Question 1: *How does paired reading affect students' academic self-concept?*

The results from the pre-test ($M = 3$, $SD = 0.86$) and post-test ($M = 3.3$, $SD = 0.64$) ASC surveys indicated that the paired reading program did not significantly influence students' academic/reading self-concept ($p = 0.26$) (see Table 2). This data's small to medium effect size suggests that the results did deviate from the null hypothesis much, meaning the null hypothesis is accepted ($d = 0.40$). In other words, students' academic self-concept did not increase or decrease as a result of the paired reading program.

Table 2. Paired, two-tailed t-test Comparing Students' Academic Self-Concept Before and After Paired Reading Implementation.

n	M	SD	p	d
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Pre-Paired Reading	21	3	0.86	0.26	0.40
Post-Paired Reading	19	3.3	0.63		

Research Question 2: *How does paired reading affect peer relations between students?*

Results from the pre-test ($M = 3.1$, $SD = 1.0$) and post-test ($M = 3.4$, $SD = 0.89$) peer relations surveys demonstrated a significant change in peer relations among the students as a result of the paired reading program ($p > .05$) (see Table 3). This data's small to medium effect size suggests that the program had a small to medium influence on peer relations ($d = 0.32$). Peer relations increased after implementing the paired reading program.

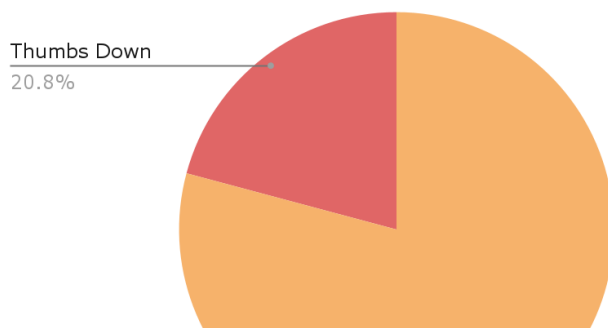
Table 3. Paired, two-tailed t-test Comparing Students' Peer Relations Before and After Paired Reading Implementation.

	n	M	SD	p	d
Pre-Paired Reading	21	3.1	1.0	$> .05$	0.32
Post-Paired Reading	19	3.4	0.89		

Research Question 3: *Do students enjoy paired reading?*

When asked to put a thumbs up if they enjoyed the paired reading program, and a thumbs down if they did not, 19 students put a thumbs up and five put a thumbs down (see Figure 1). When asked to explain their choice, students who enjoyed the paired reading said they liked that everyone got a turn to read; they liked their partner; they found it relaxing, fun, and easy; they got to learn new things; and they liked the books they read. All five students who gave a thumbs-down explained that they did so because they felt they couldn't work with their friends.

Figure 1. Student Enjoyment of Paired Reading Program.



Discussion

Based on previous research, I hypothesized that paired reading would increase students' academic/reading self-concept and peer relations. However, only some of my hypotheses were supported by my results. First, results indicated that the paired reading did not have any significant influence on students' academic/reading self-concept. Although these results were statistically insignificant, there was a slight increase in average ASC scores after the program compared to those before the program. This demonstrates that the intervention had a slight effect on academic self-concept. In response to the second research question, the study's data demonstrated a significant influence of paired reading on peer relations in the classroom. Students perceived their peer relations to be higher following the paired reading program as compared to before program implementation. Despite these inconsistent results, there was evidence that students overwhelmingly enjoyed the paired reading program. The reasons students gave for why they enjoyed the program gives evidence to the data results. For one, students' responses suggested that their perceptions of the program were largely social rather than academic. They seemed more focused with the *paired* aspect of the program than with the *reading*. Students regard the time spent in the program as a social activity rather than a learning experience. Students' only complaint with the program was also social: they didn't like that they

could not work with their friends. This can explain why the only significant result of the study was for the peer relations variable and not the academic self-concept variable.

The results of this study are largely consistent with previous research. This study established an association between paired reading, peer-assisted learning interventions and peer relations, by giving students the opportunity to develop socialization skills and in-turn increase their feelings of confidence and self-esteem (Ginsburg-Block et al., 2006). This intervention boosted supportive peer relationships/relatedness and collaboration (Luncy, 1996; Van Ryzin & Roseth, 2019). This PAL intervention also increased social interactions and students found value in working with their peers (Kamps et al., 1994).

Limitations

There are a number of limitations that have impacted both the generalizability and the significance of these results. Primarily, the sample size of the study was very small and concentrated. The intervention was only implemented in one first grade classroom in a single school in one school district. Therefore, the results cannot be applied to a larger population of students. Similarly, the program was not implemented for very long. My study of paired learning, in total, took only three weeks from pretest to implementation to post-test. Thus, my study does not provide long-term analysis and the results are not as strong and clear as a consequence.

Within those three weeks, there were several other limitations that may have hampered the results. For example, there were days when other lessons and activities ran long and we therefore had to skip the paired reading rotation. This means that students had less exposure to the program, and the intervention had a lesser effect. On days where we did paired reading, there were several instances where a student was absent or disagreements between students, so

partners had to be switched or shuffled. This could impact both a student's confidence with their partners and the peer relations between the students.

This year, the classroom where this intervention was studied had several behavioral issues with certain students that caused distractions and disruptions that strongly affected the other students in many ways. This was another strong influence on the success of this program as there were days where a student had a very loud and public emotional/behavioral breakdown and we had to evacuate the classroom as a result. This would obviously disrupt the current activity, but would also throw all the students off for the rest of the day. It would be difficult to keep the students on task and learning. It was often around the time of paired reading that this would occur. Therefore, the program did not function as efficiently as it was designed to.

Although the results of this intervention were not as strong as I had anticipated due to a series of limitations with the classroom environment, they were not universal. The intervention could easily be replicated in another, broader environment (such as throughout numerous classrooms in a grade or a whole school) and would likely show more promising results.

Implications

Despite the aforementioned limitations, this study does still provide some interesting findings that are vital to the educational community. The results lend strong evidence in support of using paired reading in the classroom. Not only did students report enjoying the program, but it also improved peer relations between students. In a time where students (and teachers) are still recovering from the prolonged social isolation that results from the COVID-19 pandemic, interventions that can increase a students' sense of belongingness and comfort around peers should be welcomed and implemented. And although this program did not *significantly* increase students' academic self-concept, there was a slight improvement and the paired reading did

expose them to various texts, a practice that does lead to a development in reading skills. Paired reading is valuable in a number of ways. It fosters mutual respect, understanding, and friendship by allowing students to share their strengths with each other to improve their personal skills; and it gives students a space to practice their reading skills with like-minded peers.

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Appendixes

Date: _____

Circle the image that best describes how you feel about the statement.

1. I get good grades in reading.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

2. I like reading.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

3. Work in reading is easy for me.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

4. I am good at reading.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

5. I enjoy doing work in reading.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

6. I have lots of friends.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

7. I make friends easily.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

8. I get along with kids easily.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

9. I am easy to like.



Strongly
Agree



Agree



Disagree



Strongly
Disagree

10. Other kids want me to be their friend.



Strongly
Agree



Agree



Disagree



Strongly
Disagree