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Effects of Upper Elementary Grade Reading Buddies on Literacy Skill Concepts Development in At Risk Preschool Students

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Abstract

The purpose of this study was to determine the effect of peer reading buddies on early literacy

skill acquisition in preschool students. Data was collected over an eight-week period. Following

a four-week period of general classroom instruction, a reading buddy partnership was developed

with a fifth-grade class. Peers from fifth grade read with preschool students twice a week over a

four-week period for a total of eight sessions. Following the treatment period, quantitative data

was collected and analyzed. Analysis suggests that peer reading buddies enhances literacy skills

in preschool students—especially in the areas involving the use and appreciation of books.

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   Literacy is the ability to read and/or write. Literacy skills range in development throughout stages of life. Within the age of preschool, it is expected for a typically developing child to gain a wide range of skills in literacy. The expected skills include letter recognition, rhyming, alliteration, using books, using print concepts, interacting during read-a-louds, engaging in book conversations, using emergent reading skills (such as indicating the direction to read), and retelling stories (Heroman, Burts, Berke, Bickart, Nelson, Taub, & Boyle, 2010). There is a wide variation of skills to be developed within each of these areas (Heroman et al., 2010).

   It is important to understand the typical development of each of these areas, specifically for four-year-old students. By the beginning of preschool, students should be able to identify a few letters within their name, join in songs and games with rhyming and begin to fill in missing rhyming words. Students should also be able to properly use books by orienting them correctly, turning one page at a time and ask and answer questions about the text while using pictures as a guide. Students should also be able to participate in retelling of stories they are familiar with (Heroman et al., 2010). Often, students from poverty situations lack exposure to books and literacy concepts and as a result lack experiences with these skills, thus creating a deficit when they arrive to a school setting. (Vernon-Faegans, Hammer, Miccio, & Manlove, 2002). With increased exposure to literature, students are provided the opportunity to develop skills previously lacking (Vernon-Faegans et al., 2002).

   Part of this deficit or lack of exposure is addressed by the State of Iowa voluntary four-year-old preschool program. This program is designed to address some of the issues schools are

seeing with students starting kindergarten with a lack of exposure to necessary skills. Many

forms of assessment work to identify students who are in need; however, the most telling is the

use of the Teaching Strategies GOLD developmental continuums for each area of literacy. These

continuums, which describe skills in the order they develop for each area of literacy from birth

through the end of kindergarten, provide not only guidance on typical development but are the

assessment tool used within the voluntary, four-year-old preschool program. This assessment

tool is valuable in identifying students who may be considered at risk.

At risk students, are students who are at risk of failing academically, or who have a

higher risk of dropping out of school. These students often demonstrate decreased academic

skills (especially literacy) in lower grades. This relates to several factors, and many theories exist

to explain why skills are diminished, or slowly acquired in these students. Historically in

Prescott Elementary School, students are at a lower achievement on literacy skills compared to

their district counterparts within the same program. Many within the program are identified as

struggling or in need of interceptive services.

In search of potential solutions to this issue, early intervention seems to be key. Many

questions arise as to possible solutions to a lack of exposure for students. Beyond typical

classroom exposure, is there a way to provide whole class intervention that increases exposure to

literacy concepts? In what ways can meaningful, early positive literacy experiences be

introduced to students? In what ways can peer relationships be used to develop not only

community within a building, but literacy skills in students? However, one question narrows

down the big questions into a possible solution. Would providing the opportunity for preschool

students to read with an older 'buddy' increase both interest in literacy concepts, and rate of

acquisition of literacy concepts?

Literature Review

When looking at the historic literature it is evident that literacy is and has been a topic of research and discussion for some time. A position statement of the International Reading Association and the National Association for the Education of Young Children (NAEYC) states "The single most important activity for building these understandings and skills essential for reading success appears to be reading aloud to children" (Bus, van Ijzendoorn, & Pellegrini, 1995, p. 33). A meta-analysis done by Bus et al., (1995) states "Book reading might, of course, increase children's interest in reading books, provide them with factual information about the world, and make them aware of letter-sound relations" (p. 2). In this meta-analysis, the studies of focus were based on reading books to preschool students. There were 29 studies considered for this analysis, five of these were unpublished to reduce bias. Bus et al. (1995) had five different hypotheses related to their analysis, including to "Expect book reading to be a predictor of language and reading skills" (p. 5). If this were the case, then it would suggest that reading to children is a way to enhance literacy skills.

In the conclusion of the meta-analysis "The results of the current meta-analysis support the hypothesis that parent-preschooler book reading is related to outcome measures such as language growth, emergent literacy, and reading achievement" (Bus et al., 1995., p. 15). The authors go on to say, "Even in lower-class families with (on average) low levels of literacy, book reading frequency affects children's literacy skills. This result is in accordance with the assumption that book reading is not just a minor part of a literate environment but rather a main condition for developing the knowledge necessary for eventual success in reading acquisition' (Bus et al., 1995, p. 15). This means that reading to at-risk students is an essential part of the development of literacy skills. While this relates to parent-preschool reading, it can be

hypothesized that the students would not be as at-risk in the areas of reading when in a literature rich environment. Any opportunity to expose students to literacy with increased frequency allows for the development of important literacy skills.

Additionally, Sulzby's (1985) emergent reading scale suggests that American children internalize knowledge about the written language register long before they turn into conventional readers. If this is the case, then any opportunity to expose children to written language, including reading with an older student or peer. Historically, the idea that reading to students benefits the acquisition of literacy skills.

Landry, Swank, Smith, Assel, and Gunnewig (2016) address steps teachers can take to allow for maximum growth in children's literacy skills. Many of these suggestions are directed to the development of programming provided within a classroom, centered on professional development in teachers. In many countries, the importance of the family in promoting literacy is operationalized in the intergenerational nature of literacy programs (Nickse, 1990).

To support the need for this research, it would be necessary to demonstrate that little research has been completed in this specific area. According to Meisinger, Schwanenflugel, Bradley, and Stahl (2004) "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" (p. 137). The idea of peer reading has been studied. In one such study, Topping (1987, 2007) found "The evidence reviewed suggests that peer tutored paired reading accelerates children's reading progress, with peer tutors gaining more than tutees" (p. 133). However, most of the previous research does not pertain to students younger than kindergarten.

Additionally, in older students as most of the research-conducted focuses on, it has been found that paired reading can be used as a fluency building strategy. According to Miller, Topping, and Thurston (2010) paired reading "Benefits include improvements in key reading skills, and also in affective aspects of learning" (p. 1). Not only can students benefit from paired reading, but also the establishment of a peer mentoring of sorts also has been shown to have a positive effect on the learning of older students.

The best definition of cross-age tutoring comes from Thorp and Wood (2000) "cross-age tutoring is a form of cooperative learning in which an older student often is paired with a younger student who may or may not be in need of remediation" (p. 239). While in our case the students that are part of the study are the younger students, the idea and benefits of cooperative learning do not change. Preschool students should show improvement as their older peers would within a cooperative learning situation like cross-age tutoring. Tymms, Merrell, Thurston, Andor, Topping, and Miller (2011) sought to use peer tutoring large scale across the district to "Engage schools in reform to change students' attainment and attitudes in schools across a whole district" (p. 256). Within this intervention, the authors discovered "The implementation was not perfect, but the results were positive with respect to cross-age tutoring" (Tymms et al., 2011, p. 256). This suggests that even when the program is not the ideal model, using cross age peer tutoring has a positive effect on students reading. Moore-Hart and Karabenick (2009) also "report evidence that a structured volunteer tutoring program successfully increased culturally diverse students' reading/writing performance" (p. 149). While a volunteer reading program is slightly different that the treatment that is proposed, the basic idea is the same—get multi-grade level students together to read. Ideally, the results will be similar within preschool as within upper elementary grades.

Overall research indicates that within elementary schools cross-age peer tutoring works as an intervention or support. Likewise, paired reading works as an intervention or support. The question becomes if these supports are effective within the preschool classroom, and how affective are they when implemented between an older student and a preschool student.

Methods

Participants

Prescott Elementary School is a charter elementary school in Northeast Iowa. Prescott is also recognized as an expeditionary learning academy for the arts. Expeditionary learning is based on the principles of outward bound, a program developed for at risk youth. These principles focus on ensuring that all students master rigorous content, develop positive character and produce high quality work (EL Education, 2017). Prescott also has the designation of a title 1 school. This designation indicates much of the enrolled population is of low socioeconomic status. The total student enrollment in preschool is seventeen, divided into two sections. This study takes place within a fully inclusive early childhood program, with one certified special education/regular classroom teacher and two-para professionals.

Ten of the seventeen total preschool students will be considered for this study. Eight excluded for lack of participation in the treatment, due to being in the morning section of preschool. Two of the afternoon section students were excluded from data collection due to lack of attendance. Of these students considered, three are female and seven male. Two of these students are entitled in speech and academics. Of these students, six identify as Caucasian, two as African American, and two as mixed race. Two students are enrolled all day, while the remaining ten are half-day students.

Other factors that are not considered during this study are the age of students, as students range from young three to five in a preschool classroom. Cognitive abilities and learning disabilities are also factors that need to be considered as well as students with special learning needs or Individual Education Plans (IEP). Other considerations not factored into the study are gender, socioeconomic status, behavior, language development, home life, parent support and involvement, and attendance. Each of these additional, not evaluated factors could affect the results that are seen within the study. While they are not being studied, they need to be acknowledged.

Data Collection

The focus of this project was to determine if a biweekly program, involving older students rather than teachers had a positive effect on the development of literacy skills. Data was collected on eight specific skills in literacy. These skills include: demonstrating phonological awareness, phonics skills, and word recognition through rhyme discrimination, noticing and discrimination alliteration, noticing and discrimination of units of sound; demonstrating knowledge of the alphabet with letter identification; demonstrating knowledge of print and its uses by using and appreciating books and text, using print concepts; comprehending books and other texts through interaction of read aloud, book conversations, using emergent reading skills, and retelling stories (Heroman et al., 2010).

Qualitative data methods were chosen, given the age of the students considered in the study. Using interviewing techniques with young children can skew results as often answers are based on the immediate feelings rather than long-term beliefs. Qualitative methods will yield a more concrete result of potential growth related to the treatment.

The data was collected over an eight-week period occurring from September 2017 to November 2017. This data came in performance-based observations in each area of literacy. Observation of skills in literacy occurred in large and small group settings, as well as during independent play during three observation periods. The first period was a baseline period at the start of the preschool year (September) to determine what skills the preschool students had at the start of the school year. The second period was observed at the beginning of October, after four weeks of no treatment to determine normal patterns of growth under typical classroom conditions. The third observation period was conducted during the last week of October/beginning of November, four weeks after start of treatment with reading buddy program. Students received four weeks' total, or eight, twenty-minute sessions.

Observations of skills in literacy areas were documented by photos, observational notes and videos. Students were also observed during games and activities designed to target and assess specific skills in literacy (i.e. known letters and letter sounds). Observations of students were then recorded in Teaching Strategies GOLD documentation portfolio and ranked on a numeral continuum of development within the portfolio. The rankings were then applied to benchmark ranges within each skill.

Each literacy skill has a specific pattern of development that applies across an age progression—children typically develop certain skills during a certain period of development (or age). Each skill ranks typical childhood development--of the eight areas of literacy studied--from 1 to 9, or birth through the end of kindergarten year. These scales are then broken into patterns of typical development with indicators of development. These indicators are even numbers on the scale, and indicate that a student has developed and maintained that specific indication of growth across materials, people and location. Even numbered indicators are

concrete learned skills. Odd numbers on the scale are indicative of development in a skill—

achievement of the previous indicator of development but showing development toward the next

indicator. These are often instances where a child has developed part of the skill, or does the

indicated skill intermittently, with only one person or in a specific location. Benchmark levels of

achievement are included for each age group for each specific literacy skill as part of the skill

development indicator scale. This numerical ranking is the data that was evaluated/analyzed

during the project.

This qualitative data comes from a developmental measurement tool that is both valid

and reliable. Teaching Strategies worked with the Center for Educational Measurement and

Evaluation and the University of North Carolina to test the validity and reliability of the

instrument. The Center for Educational Measurement and Evaluation and the University of North

Carolina (2011) states "The Teaching Strategies GOLD® assessment system yields highly valid

and reliable results. The results of the current research strongly validate that teachers are able to

use Teaching Strategies GOLD® to make valid ratings of the developmental progress of children

across the intended age range from birth through kindergarten" (p. 9).

Findings

Data Analysis

Potential for researcher bias exists, as the evaluator is the teacher in the classroom.

However, this is addressed with the evaluation tool selected. Teaching Strategies GOLD is based

on observations of a trained teacher, who has been through interrater reliability training. This is a

program offered through Teaching Strategies GOLD, to ensure the reliability of the persons

utilizing the tool. All persons involved with the assessment and evaluation have been through

this process to validate the ability to reliably use the tool. Additionally, an entire team of people

makes any decisions regarding the program, to address potential for bias within the study. All students will receive the same treatment, under the supervision of this team to reduce bias.

The data was gathered at the beginning of the school year to determine baseline levels, and then assigned a level according to the levels in Teaching Strategies GOLD. At the beginning of the study, students were proficient in a mean of 1.6 of the eight skills. This means the assessed level was below the age expectation by one or more levels. No students were proficient in all areas. In the four observed areas concerning use of books, 9 out of 10 students were below proficient in all areas concerning knowledge and use of books.

At the end of four weeks, students were again assessed to determine growth within a typical classroom setting. Following this period, the mean of proficient skills increased to 1.8, which is a mean of 23% of students achieving proficiency in one or more areas. This is a 3% increase of proficiency in skills. While not scoring proficient in the skills assessed, students increased levels within all eight skills. Students during this time increased a mean of 2.9 levels throughout the skills assessed.

Table 1

Number of literacy skills proficient

Number of literacy skills proficient					
	Number of Proficient Students at Benchmark	Number of Proficient Students Before Treatment	Number of Proficient Students After Treatment	Number of Students Proficient Increase	Percent Increase in Proficient Students
1pkc	2	1	5	4	50%
2pkc	6	6	8	2	25%
3pkc	2	3	7	4	50%
4pkc	0	0	5	5	63%
5pkc	1	1	6	5	63%
6pkc	0	1	4	3	38%

7pkc	2	4	7	3	38%
8pkc	0	0	0	0	0%
9pkc	3	2	7	5	63%
10pkc	0	0	0	0	0%

After treatment, students were assessed a final time in all eight areas, and these scores were then again applied to the levels within Teaching Strategies GOLD. Students were proficient in a mean of 4.9 of the eight skills. This is a mean increase of 39% when compared to the gains without treatment. When looking at the number of skills students made gains in—while achieving proficiency or not—the mean number of skills that show increase of one level or more is 5.6 skills per student. This is a 34% increase from the levels before treatment.

Table 2

Number of skills increased

	Number of skills increased			
	Number of Skills Increased-Before Treatment	Number of Skills Increased--After Treatment	Difference	Percent Increase Skills Increase
1pkc	1	7	6	75%
2pkc	0	7	7	88%
3pkc	3	6	3	38%
4pkc	4	7	3	38%
5pkc	4	7	3	38%
6pkc	6	6	0	0%
7pkc	5	7	2	25%
8pkc	2	3	1	13%
9pkc	2	6	4	50%
10pkc	2	0	-2	-25%

Discussion

Summary of Major Findings

The findings show that reading buddies can have a positive effect on at risk student's literacy skills. The student's rankings on the developmental continuum increased more while engaged in reading activities with older students, than with regular classroom instruction. The greatest areas of improvement were in the areas related to using books. The largest gains were made in using and appreciating books, using print concepts, interacting during read a louds and book conversations, and using emergent reading skills. While these gains were not statistically significant when compared to the standard deviation, gains were more rapid following the program than before it, which would suggest that the program is beneficial to students who are at risk.

Conversely, the highest gains before reading buddies program was in letter identification. These areas did not develop as rapidly with the reading buddies program. The areas of rhyming, alliteration, and noticing smaller units of sound (words within sentences, syllables within words) also made smaller gains. While these areas gained, they were not as rapid gains in the areas related to the proper use of books.

Limitations of Study

The first limitation is relationship vs. treatment. Because of unstudied factors, such as relationships between students and reading buddies, results from this study could potentially be from either variable. Another potential limitation for the proposed research is student attendance. Students may not be subject to the proposed benefits of the treatment, if they are not in attendance for the treatment. One in five students at school are considered at risk for attendance, or miss more than 20% of the school year. This has been a limitation, as two students were

excluded from the study due to lack of attendance to gather data. An additional two students missed much of the treatment (greater than 75% or 6 of 8 days of the program).

Further Study

The results of this study raise other questions that should be considered for study. The program has a positive effect on students in preschool. It should be measured if the program would continue to have a similar affect all throughout the year. A study could also be considered for the effect of the reading buddy program on students in the older grades that are providing the treatment. With increased reading of lower level books, it would make sense that students would gain oral reading fluency, but how much more?

It should also be considered to look at this program building wide to determine if the program influences not only reading scores, but building community within a school through the development of inner age groupings.

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Conclusion

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In conclusion, reading buddies has a positive effect on students. The data collected and analyzed suggests that student's skills increase, or are acquired at a higher rate of gain than without the program. The biggest gains are found in the skills that pertain to using and appreciating books, using print concepts, interacting during read a louds and book conversations, and using emergent reading. These skills increase faster than with typical classroom instruction when paired with an older student reading books, when compared to all literacy skills studied. While the rate of growth in skills gained were not necessarily statistically significant, there is enough of a gain in a broad range of skills to justify a reading buddies program in at-risk preschool students. Additionally, while not studied, peer relationships formed during reading buddies program could also be beneficial for students at all grade levels.

Resources

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