

AN EXPLORATORY STUDY OF LITERACY-FOCUSED VS. LITERACY PLUS SOCIAL-
EMOTIONAL-FOCUSED SHARED BOOK READING ON YOUNG LEARNERS' EARLY
LITERACY AND AFFECTIVE KNOWLEDGE

by

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ABSTRACT

AN EXPLORATORY STUDY OF LITERACY-FOCUSED VS. LITERACY PLUS SOCIAL-EMOTIONAL-FOCUSED SHARED BOOK READING ON YOUNG LEARNERS' EARLY LITERACY AND AFFECTIVE KNOWLEDGE

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Under the Supervision of Professor Karen Stoiber, Ph.D.

Early literacy and social competencies are critical skills for preschool-aged children. This exploratory study examined whether young low-income Black children enrolled in Head Start showed differences in early literacy and affective knowledge after participating in either a literacy-focused (LF) shared book reading (SBR) intervention or a literacy plus social-emotional learning (LF+SEL) SBR intervention. Participants included 54 children ($M = 4.5$ years) from urban Head Start classrooms who were assigned to the LF or LF+SEL group, with a control group ($n = 21$) included for post-only comparisons. Literacy outcomes were assessed using the Phonological Awareness Literacy Screening – Pre-Kindergarten (PALS-PreK), and affective knowledge was assessed using the Affective Knowledge Test (AKT). One-way ANOVAs showed the LF+SEL group outperformed the control group at posttest on Alphabet Recognition and Rhyme Awareness when pre-intervention scores were not controlled. However, ANCOVA results indicated no significant differences between the LF and LF+SEL groups after controlling for children's pre-test performance. Pre-intervention skills were the strongest predictor of posttest outcomes. No significant differences were found in post-only comparisons of the LF, LF+SEL, and control groups in affective knowledge scores. Power analysis indicated insufficient power to detect small effect size differences for the post-only ANOVA analyses, suggesting the study may have lacked sensitivity to identify meaningful group effects. Findings suggest SEL integration in SBR is

potentially feasible and does not hinder literacy development. Future research with larger samples and longer interventions (beyond the 4-week duration in the current study) is needed to determine whether embedding SEL in SBR yields measurable gains in literacy and social-emotional development for low-income preschoolers.

Keywords: shared book reading, emergent literacy, rhyming, alphabet knowledge, social-emotional learning, affective knowledge, low-income preschoolers, Head Start.

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An Exploratory Study of Literacy-Focused vs. Literacy plus Social-Emotional Focused Shared Book Reading on Young Learners' Early Literacy and Affective Knowledge

The acquisition of knowledge is paramount for children. As young children advance in school, the significance of their ability to read and comprehend text becomes increasingly central to their related academic instruction. Thus, acquiring the prerequisite reading skills prior to entering kindergarten is essential for leveraging reading as a foundational learning mechanism. Later reading difficulties are often traced back to deficits in emergent literacy skills (Stanovich, 1986; Stanovich et al., 1986; Wagner & Torgesen, 1987). Hence, the prevention of reading difficulties begins with the establishment of a robust foundation in emergent literacy skills during preschool, achieved through heightened exposure to essential literacy content. Rhyming and letter naming are two critical skills that contribute to literacy development, and explicit instruction of these concepts should be provided in preschool classrooms (Castles et al., 2018; Ehri et al., 2001; Foulon, 2005; Gallagher et al., 2000; Goswami, 2002; Muter & Diethelm, 2001; Snowling et al., 2019; Stoiber & Gettinger, 2021; Zhang, 2018).

In parallel with literacy development, the social and emotional demands of the school setting continue to grow. Consequently, social-emotional competence is crucial for facilitating learning, fostering active classroom participation, and navigating complex social interactions (Blankson et al., 2017; Di Maggio et al., 2016; Huber et al., 2019; Kwon & López-Pérez, 2021; Stoiber & Gettinger, 2011; 2021). Encountering novel situations may evoke a range of emotions (e.g., excitement) and physiological responses (e.g., impulsivity), potentially impeding higher-order cognitive processes essential for learning such as working memory and executive functioning (Blair, 2002). Social-emotional competence in preschool has been associated with performance on standardized achievement tests (Howse et al., 2003), literacy skill development

(Stoiber & Gettinger, 2021) and predicted later behavioral and emotional outcomes (Blankson et al., 2017; Di Maggio et al., 2016; Huber et al., 2019).

Social-Emotional Competence and School Readiness

Like the development of reading ability, social-emotional competence builds upon a foundation of prerequisite skills. The Affective-Behavioral-Cognitive-Dynamic (ABCD) developmental model emphasizes the importance of *affective knowledge*, which includes recognizing and identifying emotions, in building social-emotional competence (Greenberg & Kusché, 1993; Kwon & López-Pérez, 2021). To meet the increasing demands of formal schooling, children must enter kindergarten with well-developed *school readiness* skills in preschool, such as affective knowledge of themselves and others (Kwon & López-Pérez, 2021).

School readiness refers to the prerequisite skills, or preschool skills, that allow children to thrive at kindergarten entry (Dusenbury et al., 2014). The transition from the home and preschool environments to kindergarten brings a qualitatively different set of demands, obstacles, and expectations. Rimm-Kaufman and Pianta (2000) refer to this shift as the Ecological Dynamic Model of Transition. In addition to learning content, children must also regulate their emotions: kindergarten classrooms typically have larger class sizes and lower adult-to-child ratios, requiring children to be more autonomous and self-regulate to meet academic standards (Bronson et al., 1995).

Literacy Crisis and Sociodemographic Differences

Given that the National Association of Educational Performance reported that only 33% of fourth graders demonstrated a proficient level in reading (National Assessment of Educational Progress [NAEP], 2022; NSLP, 2022), it seems likely that many children never fully developed the necessary school readiness skills. Therefore, children are required to build a solid foundation

of preliteracy and social-emotional skills in preschool because preliteracy skills, for example, are no longer explicitly taught in later grades and are expected to already be mastered (Snow et al., 1998). For instance, third graders are required to read with sufficient accuracy and fluency to support comprehension, which is a skill of focus in their classroom instruction (versus letter naming, for example). As such, children with underdeveloped preliteracy skills will continue to fall behind their peers, and even with intensive intervention, children who struggle to read in second grade will continue to struggle throughout elementary school (Snow et al., 1998). The reported continuation of reading struggles during the elementary grades is especially concerning, as those who cannot read in fourth grade have a higher probability of high school dropout (Scarborough, 2001).

While the NAEP data indicates a severe and pervasive literacy crisis in the United States, it is notable that among the small percentage of proficient fourth-grade readers, an even smaller percentage consisted of children eligible for the National School Lunch Program due to their low-income status (NSLP, 2022). Children from low-income households often confront academic challenges due to their entry into kindergarten with fewer school readiness skills. Therefore, providing children with a solid foundation of social-emotional and literacy knowledge in preschool will aid in the transition to kindergarten and later academic success. It is essential that children, particularly those from impoverished backgrounds, receive intensive and explicit instruction in preschool to fill any gaps (Stoiber & Gettinger, 2021).

Socioeconomic constraints create differences in experiences and opportunities, yielding varying academic outcomes among sociodemographic groups (National Household and Education Surveys [NHES], 1990, 1993, 2007; Lindsay, 2010). For example, the number of books and level of access to stories being read aloud in the home emerges as a critical

opportunity-type resource (Gonzalez et al., 2009; Krashen et al., 2012; Lindsay, 2010; Logan et al., 2019; Nisbett, 2009; Shapiro, 1994). Books are less accessible to low-income households, resulting in fewer opportunities to interact with print material and consequently acquire early literacy skills (Krashen et al., 2012; Le Roux, 2012; Myrttil et al., 2019; Neuman & Celano, 2001). In addition, only 53% of children in the United States are read to daily by a caregiver, and the percentage is much lower for children experiencing poverty (Bradley et al., 2001; Justice et al., 2016; Khan et al., 2017; Vernon-Feagans & Bratsch-Hines, 2013). Moreover, children living in high-poverty communities also lacked resources outside the home; public libraries in these neighborhoods, for example, had fewer children's books than those situated in middle- or upper-class communities (Krashen et al., 2012; Neuman & Celano, 2001). The lack of exposure and access to books places this demographic of children at a disadvantage before kindergarten, resulting in a gap in educational outcomes.

Addressing the Gap

From 1965 onward, there was a consistent gap in educational achievement among different sociodemographic groups (Williams, 2002). Bronfenbrenner's ecological systems theory explains that a child's development depends on direct and indirect environmental factors and systems surrounding a child's life (Bronfenbrenner, 1979). His theory suggests that differences in achievement among demographic groups stem from environmental factors and systems outside a child's control, determining their access to enriching opportunities and experiences (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998; 2006). Based on this theoretical perspective, the observed differences among sociodemographic groups reflect the differences in children's environments, such as book exposure (Justice et al., 2016; Shapiro, 1994; Vernon-Feagans & Bratsch-Hines, 2013). Considering this perspective, researchers have

offered the notion of the *opportunity gap* as an alternative conceptualization for understanding the role of environment and experience on academic achievement.

The opportunity gap aligns with several theories related to learning and development. Behaviorists, for example, purport that a child's environment determines intelligence and temperament in addition to all other characteristics (Watson & Rayner, 1920). Social learning theory presents a similar concept: observing and imitating others is how children learn social behavior (Bandura, 1977). The attitude-behavior theory (Ajzen & Fishbein, 1977) suggests that environmental factors impact human behavior. Given these theoretical perspectives, a child's environment is critical to academic and social-emotional development. Disparate academic and social-emotional outcomes among sociodemographic groups are commensurate with the variability among children's environments.

Head Start Programs

Government-established Head Start programs, initiated in 1965, aim to reduce the achievement gap by providing high-quality preschool instruction for children from low-income households (Barnett, 1995; Ramey & Ramey, 2004). While these programs have yielded positive outcomes (NICHD-ECCRN, 2002; Peisner-Feinberg et al., 2001), there are persistent disparities in reading achievement among sociodemographic groups (NAEP, 2022). This trend suggests that while high-quality preschool instruction may benefit children from low-income households, more rigorous and comprehensive preschool instruction is needed to support children's development of school readiness skills.

Shared Book Reading

Standard instructional methods in preschool include reading books aloud, which the National Early Literacy Panel states is one of the most important things an adult can do with a

child to promote early literacy skills (The National Early Literacy Panel [NELP], 2008). While standard book reading (e.g., reading aloud from cover to cover) increases exposure to literacy content, intentional shared reading activities, such as shared book reading (SBR), have shown tremendous learning potential (Gettinger & Stoiber, 2014, 2018; Justice & Ezell, 2002; Justice et al., 2010; Stoiber et al., 2018; Stoiber & Gettinger, 2021). SBR is a dialogic reading approach and an evidenced-based literacy intervention that involves direct and intentional adult-led instruction, guidance, and conversation to engage children in the reading experience. It has proven effective in teaching early literacy skills to preschoolers from low-income households (Gettinger & Stoiber, 2018; Justice et al., 2005, 2010; LeFevre et al., 2011; Mol et al., 2009).

The interactive style of SBR leads to increased engagement by providing more opportunities for children to interact with text and become involved in the learning process (Gettinger & Stoiber, 2014, 2018; Greenwood et al., 1994; Moor Partin, 2010; Skinner et al., 1997). The structure of SBR actively engages children in the reading process through participation, print referencing, and providing opportunities to respond (OTR; Greenwood et al., 1994). Research has demonstrated that providing elevated levels of OTR increases engagement and is linked to positive academic outcomes (Bartsch-Hines et al., 2019; Darling-Hammond et al., 2020; Gettinger & Stoiber, 2014; Greenwood et al., 1994; Lonigan et al., 2011; Moor Partin, 2010). In addition to the number of opportunities the adult provides, the quality of instruction and prompts moderate the intervention's effectiveness (Gettinger & Stoiber, 2014; Hindman et al., 2008, 2019).

Versatility of Books

Books, considered a standard tool for preschool literacy instruction, serve as versatile assets capable of teaching various school readiness skills (Guo et al., 2012; Justice et al., 2018;

Mesmer, 2016). SBR offers a unique approach that extends beyond standard book reading, providing a substantial opportunity for enhanced learning: SBR, with its interactive style, serves as a vehicle to impart both literacy and social-emotional content (Blachman et al., 1994; Chow et al., 2008; Justice et al., 2010; Lefevre et al., 2011; Logan et al., 2019). Social-emotional competence and the ability to regulate emotions and behavior are necessary to learn in order to navigate the social nuances of school (O’Conner et al., 2017; Rose-Krasnor, 1997; Stoiber & Gettinger, 2021). The contexts of books and illustrations provide opportunities to explore social dynamics, develop perspective-taking skills, and identify different feeling states on characters’ faces (Schlund, 2019).

Preschoolers from low-income households emerge as children who would likely benefit from interventions targeting multiple school readiness skills, such as rhyming, letter identification, and affective knowledge (Bracken, 2019; Gettinger & Stoiber, 2018; Justice et al., 2016; Justice et al., 2018; Krashen et al., 2012; Le Roux, 2012; Mol et al., 2009; Myrttil et al., 2019; Neuman & Celano, 2001; Stoiber & Gettinger, 2021). Exposure to explicit instruction of such key foundational literacy skills and social-emotional content can provide preschoolers from low-income households with a solid foundation to build later skills. Books have the potential to provide a variety of learning opportunities, and adding social-emotional content to a literacy-focused SBR intervention would be beneficial to explore to improve academic outcomes for all children and consequently minimize the achievement gap. Book reading is a customary practice in preschool settings and incorporating explicit literacy and social-emotional content into one intervention may be a feasible and effective strategy for teachers, as a dual-focused SBR intervention seems intuitive to target social-emotional and literacy skills—critical components of school readiness (Dusenbury et al., 2014; Stoiber & Gettinger, 2021). Furthermore, previous

research has found that adding another concept or focus to an intervention does not detract from the other (Gettinger & Stoiber, 2018).

The Importance of Preschool Literacy and Social-Emotional Development

In preschool, fundamental literacy skills (e.g., letter naming and rhyming) and social-emotional knowledge (affective knowledge) are critical indicators for later academic success and social wellbeing (Blankson et al., 2017; Di Maggio et al., 2016; Huber et al., 2019; Kwon & López-Pérez, 2021; Zhang, 2018). Differences in opportunity-type resources among sociodemographic groups, such as accessibility of resources and opportunities to engage with educational stimuli inside and outside the home (Bradley et al., 2001; Khan et al., 2017), impact a child's school readiness (Shapiro, 1994). Children lacking prerequisite skills at kindergarten entry are at risk for later academic difficulties. For children from low-income households, preschool can provide opportunities to fill in gaps in knowledge due to contextual factors. Therefore, this demographic group should receive high-quality teaching practices and explicit intervention in fundamental literacy skills and social-emotional competence.

Schools with fewer resources need time-efficient, feasible, and cost-effective interventions that can be integrated into standard practices already taking place in the classroom. Books are commonplace in all classrooms, and though some classrooms have access to higher-quality books or a more comprehensive range of options, all schools have and use books daily (Ezell & Justice, 2000; Logan et al., 2019). The most impactful factor in reading is the way adults read books aloud with children; nevertheless, more studies are needed to examine SBR interventions with multiple foci for preschoolers from low-income households.

Exploratory Study

This exploratory study aimed to investigate whether a literacy-focused plus social-emotional learning (LF+SEL) group versus a literacy-only focused (LF) group resulted in

different outcomes in children's language and affective knowledge measures. The exploratory study added to the existing literature regarding effective LF+SEL preschool instruction and provided direction for future studies. The SBR intervention in this study incorporated standardized SBR guides for supporting interventionists' administration of high-quality instruction targeting necessary school readiness skills, such as letter naming, rhyming, and affect recognition (Foulin, 2005; Gettinger & Stoiber, 2018; Justice & Ezell, 2002). Several researchers had reported that shared book reading interventions with multiple foci (i.e., included a focus on other learning domains such as social competencies) may not have deterred early literacy skill development as compared to interventions with a single early literacy target (Gettinger & Stoiber, 2018; Gonzalez, 2024). In addition, due to the ease of implementation, a LF +SEL intervention was thought to be appealing and had the potential to become a sustainable practice.

However, this dual-focused SBR intervention was exploratory in nature due to the limited time of this study and research has indicated that longer-term intervention (that is, longer than over a period of 4 to six weeks) could be needed to produce significant increases in young children's learning of early literacy and/or affective knowledge (Gettinger & Stoiber, 2018; Gonzalez et al., 2009). Other researchers have reported disaggregated findings on the effects of SBR that indicated that children with lower vocabulary scores benefit less from SBR than students with better or higher vocabulary scores prior to the intervention (Mol et al., 2009). These results point to how the efficacy of SBR may vary depending on contextual and child factors (Gonzalez et al., 2009), and that additional research is needed to determine whether it had the potential to impart multiple school readiness skills and promote more equitable outcomes for all children, including those from low-SES backgrounds and with limited prior early literacy skills (U.S, Department of Education, 2016).

Research Questions

1. Are there significant differences among the three groups (LF vs. LF+SEL vs. Control) on literacy and affective knowledge post-intervention performance, without controlling for pre-performance?
2. Are there significant differences in post-intervention Alphabet Recognition and Rhyme Awareness scores for the LF+SEL group compared to the LF group when controlling for preschoolers' pre-intervention performance?

Literature Review

Early childhood marks a pivotal phase—one during which children cultivate the knowledge and skills essential for future academic and social triumphs. Reading stands out as a fundamental method of academic instruction, facilitating the absorption of content and the acquisition of new information. When students grapple with reading challenges in their early years, these difficulties endure throughout elementary school, posing a hindrance to effective learning (Catts et al., 2006; Elwer et al., 2013; Phillips et al., 2021). The failure to cultivate emergent literacy skills during preschool can impede the capacity to read with comprehension and grasp information (Storch & Whitehurst, 2002). Indeed, longitudinal studies indicate that students who struggle with reading by the end of first grade may never attain proficient or average reading skills by the conclusion of elementary school without intensive and sustained intervention (Francis et al., 1996; Juel, 1988; Torgesen & Burgess, 1998). Moreover, these skills may endure persistent weaknesses over time (Nation et al., 2019; Verhoeven & Van Leeuwen, 2008). The explicit teaching of emergent literacy skills in early childhood is therefore imperative, as reading becomes progressively intertwined with educational learning and accomplishment as students' progress through their academic journeys.

High-quality early childhood literacy instruction in preschool plays a vital role in nurturing foundational school readiness skills among children. Consequently, a central objective of early childhood education is to establish a robust groundwork of preliteracy skills, encompassing fundamental aspects such as phonological awareness (e.g., rhyming) and alphabet knowledge (e.g., letter naming) (Neuman & Dickinson, 2001, 2003; Snow et al., 1998; Whitehurst & Lonigan, 1998). Beyond preliteracy skills, the cultivation of social-emotional competence proves indispensable for the holistic development of children and their preparedness

for kindergarten. Social-emotional competence, involving affective knowledge, is an essential school readiness skill for fostering engaged learning behaviors (Dusenbury et al., 2014; Greenberg & Kusché, 1993; Stoiber & Gettinger, 2019). The opportunity for children to develop these readiness skills is intricately linked to their environment (Bronfenbrenner, 1979), with potential correlations to a family's socioeconomic status. Children hailing from families with lower socioeconomic status may encounter fewer resources of the opportunity type, such as access to books.

Researchers (Gonzalez et al., 2009; Krashen et al., 2012; Lindsay, 2010; Justice et al., 2015; Justice et al., 2016; Justice et al., 2018; Nisbett, 2009; Shapiro, 1994; Storch & Whitehurst, 2002) have emphasized that the presence of books in a home and the practice of parents or caregivers reading stories aloud both play a crucial role in shaping school readiness skill development. Flourishing communities commonly exhibit shared environmental factors, including easy access to books, well-stocked public libraries, and a high ratio of textbooks per student (Newman et al., 2001). Regrettably, books are less accessible to households with lower incomes, leading to reduced exposure to books and other printed materials (Justice et al., 2016; Justice et al., 2018; Krashen et al., 2012; Le Roux, 2012; Myrttil et al., 2019; Neuman & Celano, 2001). For instance, in the 1990s, over 60% of low-income households reported not owning any children's books (U.S. Department of Education, 1996). Adding to the challenge, families in high-poverty communities also contend with limited resources beyond the home: public libraries in such areas, for instance, have fewer children's books as compared to those situated middle- or upper-class communities (Krashen et al., 2012; Neuman & Celano, 2001). The scarcity of easily accessible books makes parents less likely to engage in shared reading with their children—a

practice identified by the National Early Literacy Panel as one of the most vital activities parents can undertake with their children (NELP, 2008).

Reading books aloud with children is especially important during early childhood (Lonigan et al., 2019). Researchers explored reading habits in children's homes and the relationship between reading frequency and vocabulary. The study included nationally representative data from the Early Childhood Longitudinal Study Birth Cohort (ECLS-B). Parents reported never reading, reading one to two times per week, three to six times per week, and parents that read to their child daily. The frequency of shared reading was used to estimate word exposure during book reading across a child's first five years of development. Based on their estimates of cumulative word exposure, children who are never read to are exposed to 4,662 words by age five while children who are read to daily are exposed to 296,660 words by age five. Although daily reading significantly increases the number of words heard daily, reading five books to children per day exposing them to 1.5 million words by age five.

This increase in vocabulary exposure provides a large advantage and demonstrates the importance of book reading in general. Targeted book reading provides exposure as well as explicit learning and opportunities to have conversations and deep interactions. Lonigan et al (2019) noted that the analysis likely underestimates the benefits of reading as it does not account for vocabulary exposure gained through conversations that take place during shared reading experiences.

Research indicates that children entering school with a richer vocabulary tend to become successful readers when caregivers engage in regular reading activities during early childhood (Bus et al., 1995). Unfortunately, many families are unable to provide such experiences due to socioeconomic circumstances (Bradley et al., 2001; Khan et al., 2017; Vernon-Feagans &

Bratsch-Hines, 2013). Disparities in early childhood experiences stem from environmental variation in homes and communities. The resulting imbalance in resources and opportunities places children from low-income households at a disadvantage, in turn contributing to divergent academic outcomes among sociodemographic groups. This educational achievement gap is commonly referred to as the ‘opportunity gap.’

In principle, offering enriching materials and expanding educational opportunities for preschoolers, such as providing access to books, holds the potential to alleviate disparities in academic experiences and narrow the gap in academic outcomes. One program aligned with this principle is Head Start. Since its establishment in 1965, Head Start programs have delivered high-quality early childhood education to children from low-income households, aiming to achieve more equitable outcomes. Despite Head Start’s positive track record, current reading trends still reveal disparities among sociodemographic groups (NAEP, 2022; Pages et al., 2019), particularly with disproportionately adverse outcomes for children from low-income households. The persistent gap observed among sociodemographic groups emphasizes the need for targeted instruction in foundational skills vital for subsequent learning—namely, the development of emergent literacy skills plays a crucial role in establishing the groundwork for acquiring later reading abilities.

Equally vital is the provision of sufficient social and emotional skills that enhance children’s active involvement in the learning process (Barnett et al., 2013; Puma et al., 2012). The implementation of strategies such as SBR has demonstrated positive outcomes in promoting literacy development among children from low-income households. Both SBR and social-emotional instruction employ similar instructional methods, incorporating elements like sequencing, active engagement, focus, and explicit instruction, collectively recognized as the

SAFE approach (Blair et al., 2005; Justice et al., 2008; Stoiber et al., 2021; Stoiber et al., 2022). Additionally, books provide a contextual backdrop for exploring social and emotional content through illustrations.

It is paramount to recognize the importance of, and commonalities between, effective teaching practices of literacy and social-emotional instruction. Moreover, those effective practices can be implemented through books—as such, there is a distinct advantage in integrating both social-emotional and literacy instruction into a cohesive intervention.

With its capacity to encompass both literacy and social-emotional content, SBR presents the opportunity to enhance social-emotional skills while delivering explicit instruction (Gettinger et al., 2018; Stoiber et al., 2019). The integration of a dual-focused approach within SBR holds potential benefits for children from disadvantaged backgrounds, providing increased exposure to critical foundational skills that might otherwise be underdeveloped due to environmental constraints (Gettinger et al., 2014). Offering preschoolers instruction in foundational skills essential for navigating social interactions, engaging in academics, regulating emotions, and developing discrete skills for future reading comprehension and fluency can contribute significantly to positive academic trajectories.

Reading with Fluency and Comprehension

This study aimed to investigate the foundational elements of emergent literacy skills, highlighting their crucial role in preparing children to utilize reading as a learning tool. These skills, encompassing alphabet knowledge and rhyming, lay the groundwork for subsequent literacy development, specifically reading fluency and comprehension. This section will delve into the essential concepts of reading fluency and comprehension, exploring their nature, significance, and relation to the emergent literacy skills identified as intervention targets.

The primary purpose of reading is to acquire knowledge from text, which is vital for understanding and navigating the world. Moreover, reading serves as a prevalent strategy for teaching academic content. As students' progress through school, their learning increasingly depends on reading proficiency—namely, the ability to read and comprehend text fluently. Fluency, characterized by speed, accuracy, and expression, is indispensable for efficient reading; comprehension involves understanding and extracting meaning from text (Durkin, 2004; Gettinger & Stoiber, 2012; Harris & Hodges, 1995). Proficient readers are more likely to comprehend what they read, enjoy the reading process, and choose to read. As children dedicate less time to decoding text and sounding out words, they can transition to reading for meaning and understanding (Mastropieri, 1976, 1996; Vaughn et al., 2000). Consequently, children must be taught—and then develop—the skills that support reading comprehension and fluency.

The Simple View of Reading theory posits that reading comprehension and fluency arise from the interplay between decoding skills and language comprehension (Gough & Tunmer, 1986). In the context of reading acquisition, decoding involves translating written text, comprised of letters and words, into spoken language. This process requires an understanding of the relationship between letters and their corresponding sounds (i.e., phonics) and blending them to recognize and comprehend words. The ability to decode text relies on phonics, a set of discrete skills that emerge during preschool, collectively referred to as emergent literacy skills.

Emergent Literacy Skills

Emergent literacy skills form the foundational bedrock of the reading process, encompassing key elements such as oral language, print awareness, letter knowledge, and phonological awareness (Casey & Howe, 2002; Clay, 1966; Neuman & Dickinson, 2001; Snow et al., 1998; Whitehurst & Lonigan, 1998, 2001). These skills serve as the critical undergirding

for acquiring the proficiency to read and comprehend text fluently. Challenges in fluency and comprehension can significantly hinder students' educational advancement (Francis, 1996; Juel, 1988; Shaywitz, 1992; Torgesen, 1998; Torgesen & Burgess, 1998).

The development of robust emergent literacy skills is particularly pivotal during the preschool years, with later reading difficulties often having their roots in emergent literacy deficits (Stanovich et al., 1986; Stanovich, 1986). Extensive research consistently underscores that children lacking sufficient emergent literacy skills are prone to ongoing struggles with reading (Francis, 1996; Juel, 1988; Shaywitz, 1992; Torgesen, 1998; Torgesen & Burgess, 1998). The predictive power of emergent literacy skills in preschool for subsequent reading achievement is well-established, forming the foundational basis for acquiring the ability to read and, consequently, utilizing reading as a tool for learning (Blank, 2012; Conner et al., 2006; Watson & Wildy, 2014).

It is essential to impart critical emergent literacy skills that contribute to decoding text, thereby supporting comprehension, fluency, and eventual reading success. Two key emergent literacy skills consistently identified as predictors of later reading success are alphabet/letter knowledge and phonological awareness (Gallagher et al., 2000; Goswami, 2002; Muter & Diethelm, 2001). Alphabet knowledge entails recognizing and naming letters of the alphabet, representing a visuo-orthographic skill. On the other hand, phonological awareness involves understanding that words are composed of distinct sounds and includes the ability to manipulate and comprehend sound structures. The development of phonological awareness skills follows a sequential order, beginning with rhyming, progressing to syllable awareness, then onset-rime awareness, and culminating in phonemic awareness. Hence, both letter knowledge and rhyming

skills play a foundational role in decoding written words, subsequently influencing reading fluency and comprehension (Foulin, 2005; Williams, 1980).

Alphabet Recognition

Recognizing and identifying letters, known as alphabet knowledge, constitutes a crucial step in the decoding process, wherein individuals determine the corresponding letter name for a given visual symbol (Burgess & Lonigan, 1998). Proficiency in graphemes, the visual symbols representing letters, is essential for learning phonemes, the individual speech sounds corresponding to these graphemes. Alphabet knowledge precedes the development of phonological awareness (i.e., the understanding that words are composed of distinct sounds), making alphabet knowledge a critical skill and robust predictor of later academic outcomes.

A longitudinal study by Zhang (2018) delved into the relationship between letter-name knowledge and future word reading and numeracy skills. Examining 109 children in Hong Kong's multilingual environment, the study proposed a theory suggesting that the multilingual setting, coupled with English letter learning, significantly contributes to children's acquisition of graphemes, fostering decoding and orthographic skills. The development of letter-name knowledge, acquired through English letter learning, was found to enhance competencies in both Chinese word reading and mathematics.

The findings demonstrate that alphabet knowledge measured at three years old consistently predicted Chinese word reading and numerical competencies at the start of kindergarten. This predictive ability persisted even after accounting for various confounding variables, including demographic, cognitive, and behavioral factors. The study concludes that letter-name knowledge in multilingual Hong Kong Chinese children plays a unique role in

forecasting later word reading and numerical competencies, emphasizing the key role of alphabet recognition in shaping future academic achievements (Zhang, 2018).

Apart from identifying and naming letters, phonological skills are indispensable for learning to read. Phonological skills include the ability to recognize and manipulate the sounds of spoken language, including phonological memory, processing, and phonemic awareness. The initial skill in this sequence is phonemic awareness, a broad skill involving the recognition and manipulation of spoken language sounds, including subskills such as rhyme awareness (rhyming). Both alphabet knowledge and rhyme awareness have been identified as predictors of later academic success (Foulin, 2005; Gallagher et al., 2000; Goswami, 2002; Muter & Diethelm, 2001; Zhang, 2018).

Rhyme Awareness

Rhyme awareness, an early manifestation of phonological awareness, involves recognizing the similar sounds and pronunciations of words, with rhyming words typically sharing identical or similar ending sounds (Vloedgraven & Verhoeven, 2007; Wagensveld et al., 2012). This skill acts as a robust predictor of early reading proficiency (De Jong & Van Der Leij, 1999) and facilitates the analogical transfer of knowledge from familiar to unfamiliar words (Bryant et al., 2002; Gaskins et al., 1988; Glushko, 1979; Goswami, 1986; Marsh et al., 1981). Rhyming words often exhibit similar letters and letter order in written forms, aiding children in analogizing unknown words with those they already know. Decision making about word rhyming relies on identifying phonological similarities, such as shared vowel and consonant sounds in final syllables (Bryant et al., 2002; Gaskins et al., 1988; Glushko, 1979; Goswami, 1986; Marsh et al., 1981). For instance, mastering the word “dog” facilitates the reading of an unfamiliar word such as “log.” The recognition and application of rhyme patterns empower

children to make inferences about unfamiliar written words, leveraging their rhyme awareness (Carroll & Snowling, 2001). Rhyming, a fundamental aspect of phonological awareness, assists children in recognizing and manipulating the sounds of language.

In the trajectory of early childhood literacy development, rhyme awareness emerges as a foundational skill. Recognizing sound similarities, particularly in words with corresponding ending sounds, lays the groundwork for robust phonological skills (Vloedgraven & Verhoeven, 2007; Wagenveld et al., 2012). In tandem with rhyming, the ability to identify and recognize letters (i.e., alphabet knowledge) is indispensable in the process of learning to read.

Having underscored the pivotal role of emergent literacy skills in early childhood education and elucidated critical terms related to emergent literacy, the following section directs attention to recommended interventions, specifically SBR. A resource frequently tapped by educators to identify evidence-based interventions will be reviewed. Furthermore, this section will delve into the necessity for heightened standardization in SBR research and propose a viable solution to ensure consistent frequency and quality of SBR interactions.

Resources for Educators

Educators frequently consult the What Works Clearinghouse (WWC) for guidance on effective interventions. Recognized as a reliable resource, the WWC offers evidence-based programs tailored for various age groups, encompassing initiatives that nurture language and literacy skills in preschoolers. Inclusion on the WWC list is contingent upon programs undergoing rigorous empirical research and demonstrating effectiveness in crucial domains such as cognition, early reading/writing, oral language, phonological processing, and print knowledge. However, a more in-depth analysis reveals that only a limited number of programs meet these stringent standards, particularly concerning preschool-aged children. Notably, a majority of

studies showcased on the WWC primarily address comprehension, with a disproportionately low emphasis on the critical emergent literacy skills essential for building a foundation for comprehension. These essential skills include print knowledge (Justice et al., 2008; Justice & Ezell, 2000, 2004) and phonological awareness (Chow et al., 2008; Gettinger & Stoiber, 2018; Lefevre et al., 2011).

While SBR is included among the interventions endorsed by the WWC, it's noteworthy that only six randomized control trials fully comply with the WWC design standards, receiving unconditional approval (Bochna, 2010; Box & Aldridge, 1993; Lamb, 1986; Mason, 1990; Mautte, 1991; Walsh, 2009), and two trials meet the standards with reservations (Justice et al., 2010; Pollard-Durodola et al., 2011). Nevertheless, there exists a discernible gap in the available evidence, particularly regarding the comprehensive exploration of positive effects on early literacy outcomes and studies that specifically measure school readiness skills. It is pertinent to observe that only two of the studies delved into alphabets, achieving intermediate effects (Justice et al., 2010; Lamb, 1986; WWC, 2015). Additionally, among the SBR studies, three obtained approval without reservations (Lamb, 1986; Mason, 1990; Mautte, 1991) and one received approval with reservations (Justice et al., 2010), but none included an assessment of rhyming skills.

Shared Book Reading

Shared book reading (SBR) is a dialogic reading method commonly used to teach emergent literacy skills and support language development, vocabulary growth, print awareness, and phonological awareness (Chow et al., 2008; Elley, 1989; Farrant & Zubrick, 2012; Gettinger & Stoiber, 2008; Justice et al., 2010; Justice & Ezell, 2000, 2004; Lefevre et al., 2011). SBR involves direct and intentional adult-led instruction to teach fundamental literacy skills while

reading books aloud. SBR provides opportunities for children to interact during the reading process, which leads to increased engagement (Bratsch-Hines et al., 2019; Darling-Hammond et al., 2020; Gettinger & Stoiber, 2014, 2018; Greenwood et al., 1994; Lonigan et al., 2011; Moor Partin, 2010).

SBR prompts follow the fundamental reading prompts and questioning techniques known as PEER and CROWD (Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). PEER refers to a dialogic reading technique that guided the adult's interaction with the child while reading in which the adult:

- “Prompts the child to say something related to the book,
- Evaluates the child's response related to the book,
- Expands the child's response by rephrasing and adding additional information, and
- Repeats the prompt to ensure the child learned from the expansion (LaCour, 2013, pp. 2–3).”

CROWD refers to questions designed to build emergent literacy skills and is used in the Prompt phase of PEER. CROWD includes the following types of questions:

- “Completion prompts—usually used with rhyming books or books with repetitive phrases, reader leaves a blank at the end of the sentence for the child to fill in. Aim: Provides child with information about the structure of language that is critical to later reading.
- Recall prompts—questions about what happened (to be used after a child has read the story). Except alphabet books, recall prompts can work with nearly every book. Aim: Helps the child understand the story plots and describe sequences of events.

- Open-ended prompts—these questions work best with books that have detailed illustrations, as the prompts focus on the pictures themselves. Aim: Assisting the child in increasing expressive fluency and attention to detail.
- Wh-prompts—focus on what, where, when, why, and how questions. Aim: Using the pictures in the book to teach new vocabulary.
- Distancing prompts—help form a bridge between books and the real world by asking the child to relate their own experiences to a picture or words in the book. Aim: To form a bridge between the books and the real world, as well as increasing verbal fluency, conversational abilities, and narrative skills (LaCour, 2013, pp. 2–3).”

Through the structured approach of SBR, teachers can actively nurture crucial skill development, including vocabulary growth (e.g., Elley, 1989; Farrant & Zubrick, 2012; Gettinger & Stoiber, 2018; Gonzalez et al., 2024), print awareness (e.g., Justice & Ezell, 2000, 2002, 2004), and phonological awareness (e.g., Chow et al., 2008; Gettinger & Stoiber, 2018; Lefevre et al., 2011). Consequently, engaging preschool children in shared reading experiences should yield positive literacy outcomes. However, preschool teachers may not naturally incorporate these strategies frequently (Gettinger & Stoiber, 2016; Justice et al., 2008; Lennox, 2013), and attempts may lack quality, especially in terms of employing effective questioning techniques (Schmidt et al., 2023).

The transformative element within SBR lies in the dynamic interaction between the adult and the child as they explore the book together: the adult serves as a guide, facilitating the child’s engagement with the text at various levels (Whitehurst et al., 1988). Employing print referencing techniques, SBR intentionally directs the child’s attention to crucial elements of the text (Greenwood et al., 1994; Justice et al., 2010; Piasta et al., 2012, 2020; Zucker et al., 2009). It

also incorporates open-ended questions to stimulate language, steer discourse, and enhance overall engagement (Hargrave & Senechal, 2000; Whitehurst et al., 1988). Studies on SBR stress the significance of the number and quality of prompts used by adults, acting as moderators for intervention effectiveness (Bratsch-Hines et al., 2019; Hindman et al., 2008, 2019; Gettinger & Stoiber, 2014; Greenwood et al., 1994; Justice et al., 2018; Wiseman, 2011).

For example, the study conducted by Zucker et al. (2021) explores the dynamics of teacher and child interactions during shared book reading sessions in early childhood classrooms, identifying three distinct profiles of teacher talk: Moderate Comprehenders, Discuss & Reflect Comprehenders, and Preview & Discuss Comprehenders. These profiles differ in the timing and content of teacher talk, influencing the nature and extent of child talk during these sessions.

Despite the variations in interaction styles, Zucker et al. (2021) found that while certain profiles of teacher talk encouraged more extensive and complex child utterances during reading sessions, none of these interaction profiles directly influenced children's language and literacy outcomes by the end of the school year. This finding highlights the complexity of linking interaction strategies directly with long-term educational outcomes in language and literacy.

This research illustrated that while specific types of teacher-child exchanges can enhance immediate engagement and verbal responses, their impact on sustained literacy and language gains remains less certain. Such findings are crucial for framing the design and implementation of literacy interventions that aim to optimize teacher-student interactions for maximal educational benefit.

Recognizing the central role of teachers in the implementation of SBR interventions, the emphasis is often placed on equipping teachers with the necessary skills, particularly in print

referencing and questioning techniques. However, existing studies primarily measure teacher performance, with academic outcomes sometimes relegated to a residual status rather than direct targets (Schmidt et al., 2023).

This approach, which lacks standardized implementation, introduces additional extraneous variables and unaccounted-for covariates. Thus, shifting the focus from teachers acquiring SBR skills to providing them with a standardized script could prove instrumental in enhancing both the frequency and quality of prompts. By offering teachers a consistent and effective framework through scripts, they can learn, practice, and apply SBR skills with greater uniformity (Gettinger & Stoiber, 2016).

Illustrating this perspective, a 2019 meta-analysis delving into the impact of various SBR interventions on language development revealed modest effects on language outcomes. Intriguingly, outcomes were even less pronounced when control groups were introduced (Nobel et al., 2019). The meta-analysis criteria included studies measuring at least one objective oral language outcome and one oral language skill, such as expressive vocabulary, receptive vocabulary, expressive language, phonological awareness, or print concepts. The authors explored moderating factors, such as socioeconomic status (SES), gender, interventionist, duration of intervention, age, and types of dialogic reading techniques. Noble et al. (2019) reported smaller effects on language development as compared to previous meta-analyses (e.g., Flack et al., 2018; Mol et al., 2008). While the observed effects were not as substantial as anticipated, the authors highlighted critical caveats that require attention, including intervention dosage/attendance, standardization, absence of control groups, and the lack of pre-intervention assessment data (Flack et al., 2019; Mol et al., 2008).

Standardization and Intervention Dosage

Ensuring standardization is paramount in evaluating the efficacy of shared book-reading interventions. While educators may receive standardized instruction, the actual implementation often lacks uniformity. This absence of standardization in SBR research introduces challenges related to fidelity, study replication, and control over confounding variables. Consequently, this lack of consistency makes it arduous to generalize results and discern the fundamental mechanisms contributing to positive outcomes.

In a preschool study on SBR conducted by Bochna (2010) and listed on the What Works Clearinghouse (WWC), an SBR script developed by the researcher aimed to enhance text comprehension and recall in preschool children ($n = 45$) aged between 37 and 70 months (approximately six years) attending a Head Start program. The intervention involved reading books aloud to children in small groups, with the experimental condition receiving explicit instruction on identifying the story's main idea before, during, and after reading. In contrast, the comparison condition did not receive a preview or review, and interventionists read books cover-to-cover without engaging with the children.

Post-intervention data revealed that children in the experimental condition demonstrated improved identification of the topic of passages read aloud to them versus those in the comparison group. However, there were no significant differences in story recollection and main topic identification between the two groups. The use of broad and less-specific prompts in the SBR scripts may have contributed to the lack of significant differences. For instance, the scripts suggested a range of pages where general prompts could be inserted but did not provide exact wording. Additionally, the book previews and reviews were more detailed and explicit than the prompts used during SBR, making it challenging to discern the specific components influencing the results.

While the SBR scripts in the Bochna (2010) study included some standardization, the outcomes suggested that a more systematic, explicit, and consistent implementation may be necessary to achieve more robust results. Furthermore, the lack of standardization led to variations in the length of each lesson and, subsequently, the level of engagement among the children (Bochna, 2010). The authors noted that students became restless and inattentive during longer reading sessions, posing challenges given that engagement is a crucial factor for the success of any intervention.

The Exemplary Model of Early Reading Growth and Excellence (EMERGE) stands out as a comprehensive early literacy program that equips teachers with valuable resources, including SBR scripts, to elevate the quality of literacy instruction (Gettinger & Stoiber, 2007, 2012, 2016; Stoiber & Gettinger, 2021). Employing SBR within large groups and integrating additional intervention components, EMERGE underwent comparison with control conditions. This program is rooted in a response-to-intervention (RTI) framework and focused on a spectrum of literacy-promoting skills, especially targeting low-income preschoolers to enhance their early literacy proficiency (Gettinger & Stoiber, 2007; Stoiber & Gettinger, 2019).

EMERGE's multifaceted approach included ongoing progress monitoring to detect early signs of potential reading difficulties, followed by second- or third-tier support, such as individualized tutoring, leading to positive transformations over time (Gettinger & Stoiber, 2012; Stoiber & Gettinger, 2021).

Teachers participating in EMERGE underwent professional development (PD) and on-site coaching, emphasizing crucial early literacy teaching practices like SBR and the integration of enriching literacy materials. The PD and coaching initiative provided diverse levels of support, ranging from one-on-one assistance and group collaboration to mentoring, ensuring

fidelity to the program’s implementation. To assist teachers in focusing on essential skills during instruction, the researchers (Gettinger & Stoiber, 2007; 2012) introduced the SOAP acronym, representing “sound awareness (rhyming, alliteration, segmenting, blending), oral language (vocabulary development, expressive language, listening comprehension), alphabet knowledge (letter recognition), and print awareness.”

Program evaluation revealed that all 15 EMERGE classrooms outperformed control classrooms on early literacy measures one-year post-implementation, with effect sizes ranging from .13–.45. While these positive outcomes highlight the efficacy of EMERGE, it is necessary to consider the associated time and cost implications: the extensive nature of support, such as ongoing teacher professional development, regular coaching, SBR guides, and early literacy materials for both large- and small-group activities, may pose challenges for replication without dedicated funding.

In a recent investigation conducted by Gonzalez et al. (2024), researchers implemented a comprehensive approach involving standardized SBR scripts, professional development, and post-session feedback. The study centered on Spanish-speaking preschoolers identified as dual-language learners, with the primary focus on evaluating the impact of a vocabulary-focused SBR intervention on both expressive and receptive language skills, employing a diverse range of measurement tools.

To ensure standardized implementation, teachers received training, continuous feedback, and access to standardized SBR scripts, acknowledged by the researchers as crucial for consistent application. Interestingly, teachers were encouraged to transition away from the standardized scripts once they felt adept at conducting more natural readings. Despite this

transition, teachers continued to receive direct feedback after each session, introducing a unique aspect to the study.

Outcome measures included both standardized normative measures and a custom measure, the Researcher-Developed Receptive Picture Vocabulary Test (RRPVT), crafted by Gonzalez et al. (2024) to provide a more nuanced evaluation of children's vocabulary acquisition. The RRPVT, exhibiting an internal scale reliability of .72, mirrored the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4), a standardized normative measure. Interestingly, results indicated no significant differences in outcomes between the treatment and control groups when considering the standardized vocabulary measure (PPVT-4). However, the researchers identified distinctions between the groups using their more sensitive and specific measures, as evidenced by the outcomes from the RRPVT. The significance of employing this tailored measure lies in its ability to detect outcomes not identified in previous research, suggesting that preschoolers may necessitate more nuanced measures than their older counterparts. While the study underscores the call for increased standardization in intervention implementation, it also advocates for the advantages of employing researcher-crafted measures.

Intervention Dosage

Intervention dosage is key in interpreting and understanding research outcomes. Bochna's (2010) study involved children participating in a variable range of six to 18 sessions, with inconclusive evidence regarding whether the number of sessions attended influenced outcomes. However, it is imperative to scrutinize the quality of engagement during these sessions, particularly for those exposed to more extended sessions that lead to restlessness and inattention. Consequently, the evaluation of dosage impact necessitates the exploration of engagement quality. Bochna (2010) highlighted that, despite children being present for the

intervention, some struggled with challenges related to emotional regulation and attentiveness, which are important for learning.

Justice et al. (2010) conducted a comprehensive study comprising 60 lessons over 30 weeks, reflecting a substantial level of intervention dosage. The research introduced the Read It Again (RIA) curriculum supplement, designed to be cost-effective and accessible, aimed at bolstering language and emergent literacy skills in preschool programs. Notably, the findings revealed that children in RIA classrooms achieved significantly higher end-of-year scores in both language and emergent literacy skills as compared to their counterparts in classrooms employing traditional curricula. Effect sizes ranged from $d = 0.37$ to $d = 1.21$, emphasizing the impactful benefits of the high-dosage interventions. Furthermore, the study delved into the nuanced effects of RIA based on children's initial language abilities: while RIA consistently contributed to vocabulary and syntactic growth regardless of initial language skills, its influence on emergent literacy skills exhibited variations. Specifically, print concept development demonstrated a more pronounced impact on children with higher initial language skills, underscoring the crucial role of early alphabet and print knowledge.

In a recent meta-analysis encompassing 19 randomized control trials (RCTs) on SBR, Dowdall et al. (2020) shed light on the significance of intervention intensity. The RCTs, involving caregiver-child dyads (total $N = 2,594$) with children aged one to six, focused on training caregivers individually or in small groups in shared picture book reading strategies. The primary outcomes under investigation were expressive and receptive language, with various potential moderators explored (e.g., age, caregiver education, SES, modality, and dosage).

Dosage, defined as the number and duration of interventions, exhibited a spectrum from low to medium to high intensity. Low intensity involved less than 60 minutes of contact, while

medium to high intensity encompassed greater than 60 minutes. However, this classification posed challenges, as interventions labeled as medium to high intensity included instances like a single 120-minute session (Kotaman, 2008) and interventions with more sessions but shorter durations (e.g., Chacko, 2017; Vally et al., 2015; Weisleder, 2018). While time serves as one measure of intensity, considerations of frequency and explicit instruction are equally important. Nevertheless, caregivers exposed to medium-to-high-intensity interventions demonstrated enhanced SBR practices and competency. Compared to control conditions, caregivers receiving medium-to-high-intensity interventions not only improved child language outcomes but also exhibited greater fidelity in SBR practices as compared to low-intensity conditions. It is important to emphasize that “dosage” in this context pertains to the frequency of teacher intervention received, not the frequency or intensity of children’s participation or attendance.

Researchers identified a small-sized effect on expressive and receptive language skills, reaffirming the positive impact of SBR and highlighting the importance of frequent exposure and high-intensity interventions. Notably, contrary to prior research, child age and caregiver education level did not emerge as significant moderators. These findings emphasize that SBR can be beneficial across various age groups and caregiver education levels. Children derive substantial benefits from interventions that are administered frequently, with a focus on high intensity and quality (Justice et al., 2010). Offering educators easily implementable interventions utilizing commonplace classroom items, such as books, stands as a practical strategy to enhance SBR implementation frequency in educational settings.

Exploring Multi-Component Shared Book Reading Interventions

Shared book reading (SBR) studies have encompassed various areas of literacy development, including oral language, print awareness, letter knowledge, phonological

awareness, and comprehension (Casey & Howe, 2002; Clay, 1966; Justice et al., 2002; Justice et al., 2004; Snow et al., 1998; Whitehurst & Lonigan, 1998, 2001), which fall into two categories: meaning-related (MR) skills and code-related (CR) skills. MR skills involve oral language and concepts about print, while CR skills encompass print knowledge, visual processing, and reading readiness (Bianco et al., 2011; Bowyer-Crane et al., 2008; Connor et al., 2006; Lonigan et al., 2013).

The National Early Literacy Panel extensively analyzed early literacy outcomes from 500 experimental and quasi-experimental studies (NELP, 2009). This meta-analysis evaluated interventions with a combined focus on CR and MR skills, interventions that focused solely on CR skills, and interventions that focused solely on MR skills. The findings showed that interventions emphasizing both CR- and MR-related skills significantly impacted early literacy (NELP, 2009). Another quasi-experimental pre/post-test study corroborated their findings (Gettinger & Stoiber, 2018). The Gettinger and Stoiber (2018) study was conducted with preschoolers to explore the potential synergistic effects of multi-component SBR interventions. Researchers randomly assigned students to one of four conditions: code-focused (CF), meaning-focused (MF), CF and MF combined (CFMF), or a control (CON) condition in which books were read cover-to-cover. The study examined critical emergent literacy skills: alphabet knowledge, rhyme awareness, and beginning sound awareness. Gettinger and Stoiber found overall gains in all treatment conditions regarding CF skills.

Specifically, in the CF condition, students identified more letters than in all other conditions. All students progressed in rhyme and beginning sound awareness, with the CF condition achieving higher scores than the MF and CON conditions. Notably, the differences between the CF and CFMF conditions were not statistically significant regarding rhyming and

beginning sound awareness. The MF condition, which looked at picture vocabulary and definitions, outperformed the CON condition. However, there was no significant performance difference between the MF and CFMF conditions on measures of picture vocabulary. These results supported the idea that it is possible to integrate multiple skills into a single SBR intervention.

Across the board, single-focused (i.e., CF or MF) conditions demonstrated higher performance in their respective targeted skill areas. The CF condition excelled in alphabet knowledge as compared to the combined condition; however, there were no significant differences between single and combined conditions on measures of rhyme and beginning sound awareness. Notably, the CF, MF, and CFMF conditions outperformed the CON condition, suggesting that including multiple foci was not associated with interference effects. In other words, targeting one component through SBR was not found to hinder learning a second component and vice versa. Study results also supported the advantage of using a standardized SBR book reading script as well as for SBR compared to ‘typical’ reading (i.e., not incorporating dialogic reading).

One important takeaway from the Gettinger and Stoiber (2018) findings was that including multiple early literacy skills in a single intervention may not have adverse effects. Furthermore, the results raise the possibility that introducing an additional Social-Emotional Learning (SEL) component, such as teaching affect recognition, may not hinder progress in alphabet knowledge and rhyme awareness. It is worth considering that CF and MF skills are closely related concepts, which could explain the absence of interference. Therefore, incorporating a social-emotional component could affect alphabet knowledge and rhyme awareness gains. However, the content and context within books create a relationship between

the different skill sets. For example, books contain both symbolic (i.e., letters and words) and iconic (i.e., illustrations) components (Bruner, 1964; Mayer, 2002) that can connect two modalities during the reading process, such as early literacy and social-emotional skills.

Schmidt et al. (2023) investigated Drama-Based Instruction (DBI) during read-alouds. Teachers implement DBI to promote the use of imagination, engagement, and perspective-taking. DBI involves reading stories with dramatization and enthusiasm to capture children's attention while also improving comprehension. DBI incorporates instructional strategies like SBR interventions. Schmidt et al. (2023) were interested in measuring the instructional practices used during DBI. They created a rubric called Teacher's Use of Strategies for Storytime Drama (TUSSD) to evaluate teachers' frequency and quality of these practices. DBI and SBR utilize questioning techniques, print referencing, and teacher dialog, but the TUSSD rubric for DBI lists additional practices that touch on more social-emotional aspects of book reading. These additional components include vocal variety, teacher pantomime, directed pantomime, directed imagination, facial expressions, and character development (Schmidt et al., 2023). These DBI strategies draw attention to social and emotional events in books that can be learning opportunities.

Character development supports social-emotional learning by having children pretend to be different characters, which requires perspective-taking abilities (Lee et al., 2020). The act of pretending to be a story character and understanding the emotions and experiences of others encourages the development of Theory of Mind (TOM), which is an essential skill related to social-emotional development (Carlson et al., 2013; Smadja et al., 2021; Wellman, 2012). Children can make visual and verbal connections by using dramatized facial expressions and pantomiming, such as connecting the word 'smile' with the image of a smile or the act of

smiling. DBI is an intervention that incorporates these types of concepts and components. While the researchers were interested in the teachers' implementation of TUSSD during DBI read-aloud, they found a significantly positive correlation with students' ability to retell stories. Therefore, it is helpful to examine how adding a social-emotional learning component to an SBR intervention focused on alphabet knowledge and rhyming may be associated with literacy and affective knowledge outcomes.

Social-Emotional Skills

SBR has garnered considerable attention for its role in cultivating foundational literacy skills, including aspects such as letter naming and rhyming. However, it is increasingly recognized that the scope of SBR can extend beyond mere literacy development to encompass the holistic growth of children. SBR, when strategically employed, becomes a valuable tool not only for nurturing literacy skills but also for fostering crucial social-emotional competencies integral to overall school success.

The incorporation of social-emotional skills within the framework of SBR is particularly significant. These skills play a pivotal role in assisting children in managing their emotions, regulating behavior, and establishing meaningful relationships with peers and educators. Introducing explicit instruction in fundamental social-emotional skills during the preschool years equips children with the adaptive capacities needed to navigate evolving social dynamics as they progress through their educational journey (Rimm-Kaufman & Pianta, 2000). Much like literacy skills, the development of social-emotional competence relies on foundational abilities, such as affective knowledge, that lay the groundwork for subsequent proficiency (Greenberg & Kusché, 1993; Kwon & López-Pérez, 2021; Stoiber & Gettinger, 2011).

Moreover, it is essential to recognize that social-emotional skills are not inherently ingrained but rather are often cultivated through a combination of observation (Bandura, 1977), exposure (Ajzen & Fishbein, 1977), and deliberate instruction (Durlak et al., 2011; Weissberg et al., 2015). By embracing and integrating social-emotional components into the fabric of SBR, educators can create a more comprehensive and enriching learning experience that addresses not only the cognitive but also the emotional and interpersonal dimensions of a child's development.

A variety of factors, including socioeconomic status (SES), contribute to the diverse experiences and exposures of preschool-aged children, influencing the knowledge they bring to kindergarten. Consequently, children exhibit varying levels of school readiness upon entering kindergarten. School or kindergarten readiness encompasses the skills and knowledge most indicative of future academic success, including social-emotional competence (Blair, 2002; Dusenbury et al., 2014). The latest edition of the Bracken Basic Concepts Scale, Fourth Edition: Receptive (BBCS-4:R), a measure of school readiness, has recognized the significance of self-social awareness, further emphasizing its role alongside colors, letters, numbers/counting, sizes/comparisons, and shapes as a fundamental component of kindergarten readiness (Bracken, 2019). This supports the idea of social-emotional learning (SEL) as a foundational skill.

Recognizing the pivotal role of social-emotional competence, a group of researchers convened in 1994 to discuss practical strategies for teaching social-emotional skills that enhance academic performance and overall well-being (Consortium on the School-Based Promotion of Social Competence, 1994; Haggerty et al., 1996). This effort led to the development of the Collaborative for Academic, Social, and Emotional Learning (CASEL, 1994), which provided a framework for high-quality and evidence-based SEL. CASEL identified five interrelated competencies critical for SEL curricula: self-awareness, self-management, social awareness,

relationship skills, and responsible decision making (CASEL, 2017). Meta-analyses on SEL have demonstrated its effectiveness in improving various areas, such as behavior (Tyler et al., 2017), academic performance (Durlak et al., 2011; Sklad et al., 2012), and social skills (January et al., 2011; Yang et al., 2019). SEL equips children with the skills necessary for active engagement in the learning process and the establishment of meaningful friendships.

The experience of acceptance and belonging within a friend group in the school environment enhances motivation and engagement, providing a robust social support system for children (Blyth et al., 2019; Diaz et al., 2017; Veronneau et al., 2010). Teacher-child relationships also hold significant value, as positive interactions motivate teachers to allocate additional resources to enhance children's success in school (Diaz et al., 2017; Hamre & Pianta, 2001). Therefore, fostering positive socialization in preschool is essential. Similar to reading development, social-emotional competence builds upon prerequisite skills, such as affective knowledge, according to the Affective-Behavioral-Cognitive-Dynamic (ABCD) developmental model (Greenberg & Kusché, 1993).

As children transition into formal education, the cultivation of essential social-emotional skills and literacy development becomes crucial for holistic success in navigating evolving social demands (López-Pérez et al., 2016). Similar to the developmental trajectory of literacy, the journey toward social-emotional competence necessitates a scaffold of foundational elements, wherein affective knowledge stands out as a pivotal precursor (Greenberg & Kusché, 1993; Kwon & López-Pérez, 2021). This section will delve into the role of emotional competence, particularly affective knowledge, as an indispensable component in the construction of social competence. Additionally, it will explore meta-analyses examining the impact of social-

emotional curricula on both social and academic outcomes. The section will also underscore the scarcity of interventions tailored explicitly for preschoolers.

Social-Emotional Competence

Social-emotional competence comprises the skills and knowledge essential for navigating both the academic and social landscapes of school. This multidimensional competence involves emotional, social, cognitive, and selfhood components, which develop through processes of socialization, observation (Bandura, 1977), and explicit instruction (Durlak et al., 2011; Weissberg et al., 2015; Stoiber & Gettinger, 2011; Stoiber et al., 2022). While these areas of competence overlap, they are distinct constructs, with emotional and social competence functioning as separate domains amalgamated under the term *social-emotional competence* due to their interdependent relationship.

Social competence, in tandem with emotional competence, produces practical interpersonal skills and prosocial behaviors that children can apply to adapt to the social dynamics within the classroom (Jones & Bouffard, 2012; Rimm-Kaufman & Hulleman, 2015; Rose-Krasnor, 1997). This domain encompasses a fusion of cognitive and self-skills. Cognitive skills enhance students' ability to focus, solve problems, and reason. Inhibitory control, as a cognitive skill, empowers children to override dominant responses and select more appropriate alternatives in challenging situations, which is crucial for classroom participation and forming friendships (Jones & Bouffard, 2012; Rimm-Kaufman & Hulleman, 2015; Rose-Krasnor, 1997).

Foundational to the development of social competence is emotional competence (Moore et al., 2015; Rose-Krasnor, 1997), which includes skills related to emotional knowledge, regulation, and expression (Denham, 2006; Moore et al., 2015; Stoiber, 2011). Emotional knowledge, including an understanding of emotional vocabulary, supports children in self-

regulation, allowing them to express emotional states through language and navigate social interactions by accurately identifying and monitoring the feelings of others using faces.

Affective Knowledge

Identifying emotions using facial expressions is referred to affect recognition or knowledge. The ability to recognize and understand emotions in others fosters empathy, giving rise to the prosocial behaviors essential for positive social interactions (Denham et al., 2012; Halberstadt et al., 2001; Kwon & López-Pérez, 2022; Ladd et al., 2009; Moore et al., 2015).

Affective knowledge is essential to an integral social-cognitive skill, Theory of Mind (TOM). TOM involves awareness and understanding of ones and others' mental states and emotions, which is typically identified using facial expressions (affect). TOM fosters empathy and is essential for successful engagement with peers and teachers in the classroom (Carlson et al., 2013; Smadja et al., 2021; Wellman, 2012). TOM provides the foundational skills necessary for building relationships, cultivating a sense of belonging, enhancing motivation to learn, and establishing a profound sense of self as a learner (Sinner et al., 2008).

Fostering social-emotional development begins by cultivating foundational skills, such as affective knowledge, during the preschool years. Integrating social-emotional learning into preschool instruction equips children with the coping mechanisms and social skills essential for navigating the transition from home and preschool settings to the more structured environment of formal school. This transitional phase, commonly known as the Ecological Dynamic Model of Transition (Rimm-Kaufman & Pianta, 2000), involves guiding preschoolers in developing these foundational skills, such as affective knowledge, to facilitate a smoother transition into kindergarten. Affective knowledge is important for making and sustaining friendships and is a preferred method of engagement when attempting to help friends' moods (Kwon & Lopez, 2022)

This preparation not only aids in addressing new social, emotional, and academic challenges but also lays the groundwork for a successful adjustment to the kindergarten environment and later peer interactions.

Resources for Educators

Social-emotional learning (SEL) curricula strive to cultivate immediate cognitive, behavioral, emotional, and self-competencies while also serving as predictors and supporters of positive long-term outcomes. Robust meta-analyses consistently highlight the transformative impact of high-quality SEL curricula on diverse aspects of a child's development (CASEL, 2013; NRC, 2012; Stoiber, 2011; Weissberg et al., 2015). Preschoolers' levels of social-emotional competence have been shown to forecast subsequent behavioral and emotional outcomes, significantly influencing academic achievement (Blankson et al., 2017; Di Maggio et al., 2016; Huber et al., 2019). Consequently, integrating social-emotional learning into preschool instruction is paramount.

Despite the plethora of SEL programs available, their quality and outcomes vary (Dusenbury et al., 2014). The Every Student Succeeds Act (ESSA, 2015) mandates that schools adopt programs with rigorous empirical methodology and evidence supporting improved outcomes. The CASEL Program Guide and the What Works Clearinghouse (WWC) (U.S. Department of Education, 2013; WWC, 2022) serve as invaluable resources for critically analyzing and summarizing SEL intervention research. These resources assist schools in selecting SEL interventions that align with the ESSA requirements. However, the scarcity of preschool-specific SEL programs is surprising, given that preschool is a critical developmental phase for establishing foundational social-emotional skills prior to entering kindergarten. The

following section examines preschool SEL curricula recommended by the aforementioned resources and highlights associated caveats.

CASEL Program Guide

CASEL rigorously evaluates programs that adhere to high research standards, boasting robust research designs, proven effectiveness, and straightforward implementation. If a program meets these criteria, it earns a place in CASEL's Program Guide, where it is categorized according to its quality and outcomes. These classifications include:

1. **Promising Programs:** These programs effectively improve student or teacher outcomes while supporting students' social and emotional growth in at least two competencies. They may offer multi-year programming.
2. **SElect Programs:** This category denotes programs that demonstrate the highest effectiveness in improving student outcomes and supporting social and emotional growth across all five competencies. These programs also offer multi-year programming.
3. **SEL-Supportive Programs:** These programs meet either the SElect or Promising evidence criteria for improving student or teacher outcomes, although they may only partially meet some necessary program design criteria. Nevertheless, these programs can benefit a broader systemic social and emotional learning implementation.

The CASEL guide serves as a valuable resource for schools for identifying suitable programs and effective curricula, although its analyses may not encompass all interventions and studies. Beyond strict research criteria, interventions must adhere to a universal approach, signifying administration to all students within a school, spanning from prekindergarten to high school. This requirement excludes studies concentrating on specific age groups, such as

preschoolers. Consequently, the options for preschool programs are limited, with only six standalone SEL programs or integrated programs currently listed. These programs meet all other criteria outlined by CASEL and have demonstrated positive outcomes. It is noteworthy that only three of these programs incorporated samples of minority children in urban low-income households, presenting a concern for this particular subset of preschoolers already grappling with resource deficiencies and environmental challenges.

CASEL Preschool Programs

Preschool SEL programs, including Incredible Years® Teacher Classroom Management Program (Webster-Stratton, 1998), Dinosaur School (McCabe & Mendoza, 1993), Peace Works (Johnson & Johnson, 1995), Promoting Alternative Thinking Strategies (PATHS) (Kusché & Greenberg, 1994), and Second Step (Committee for Children, 2013), are essential tools for fostering social-emotional development. This section examines two of these programs listed in the CASEL guide, evaluates their outcomes, and identifies limitations.

Promoting Alternative Thinking Strategies (PATHS) emphasizes explicit instruction of SEL skills through various modalities. Its core components aim to bring about changes in emotion regulation, knowledge, self-esteem, interpersonal relationships, and problem solving (PATHS, 2013). Utilizing explicit instruction, modeling, videos/stories, and discussions, PATHS targets emotion recognition, understanding the distinction between behaviors and feelings, promoting fair play, teaching peer conflict resolution strategies, and fostering positive peer relationships. Evaluated through randomized control trials, PATHS has proven effective for young students from low-income households (Conduct Problems Prevention Research Group [CRPRG], 1999).

Research shows a positive relationship between PATHS exposure and improved social-emotional skills for children from low-income families (CRPRG, 1999), and cognitive skills in children with hearing impairments (Greenberg et al., 2006). Additionally, randomized control trials have demonstrated a decrease in aggression and negative behavior after three years of PATHS exposure (CPPRG, 2010). Furthermore, a reduction in externalizing and internalizing problems was observed in students with special needs in early elementary school two years after a year of PATHS intervention exposure (Kam et al., 2004). The broad spectrum of social-emotional competencies targeted by the PATHS curriculum yields positive outcomes, reinforcing the significance of SEL interventions and their potential to enhance both proximal and distal outcomes.

The Second Step curriculum, another CASEL-supported intervention addressing CASEL's five core competencies, is designed for preschool through eighth-grade students, employing a developmental approach. Lessons progressively build social competence and essential learning skills (Committee for Children, 2013). Randomized control trials of Second Step reveal increased prosocial goals, positive social behavior, decreased aggression, and skills essential for group learning in grades two through five (Frey et al., 2005). At younger ages (kindergarten through third grade), Second Step has shown a decrease in anxiety and internalization levels, coupled with an increase in positive social behaviors (Rimm-Kaufman et al., 2015; Schick & Cierpka, 2005). The *skills of focus* include ways to calm down, problem solving, listening, attention, positive self-talk, and assertiveness (Committee for Children, 2013). These interrelated skills contribute to the development of CASEL's five core competencies.

Despite its effectiveness demonstrated through two randomized control trials and two quasi-experimental studies using self-report, observation, and behavioral observation assessment

tools, Second Step did not show improvement in academic performance, particularly among preschoolers. Notably, CASEL's evaluation identified methodological limitations in studies involving this age group, emphasizing the need for robust research methodology. Specifically, studies with preschoolers often relied on less reliable and objective self-report measures and behavioral observations. While behavioral observations provide insights into the application of skills, their practicality is restricted due to associated expenses and resource limitations.

Given that preschoolers are in the early stages of building foundational social-emotional competence, assessments focusing on specific skills become crucial. Despite the limitations of self-report measures and observations, standardized normative preschool measures may need more specificity to capture the nuanced skills targeted by interventions (Gonzalez et al., 2024). Researchers should thus consider utilizing more specific assessments aligned with the intervention's objectives, focusing on discrete social-emotional skills rather than broad competencies. For instance, if the intervention aims to enhance affect recognition, assessments should specifically address affective recognition skills, such as labeling and identifying facial expressions.

In addition to outcome measures, the exclusive focus on social-emotional content may contribute to the absence of academic improvement linked to social-emotional interventions. While these programs target learning skills, their integration into academic instruction may vary, potentially resulting in less emphasis on these skills during academic lessons. Moreover, young children likely benefit from reinforcement and reminders of learning skills, like those provided during dedicated social-emotional lessons.

In addition to the six SEL interventions, The High Scope Educational Approach for Preschool Intervention is included in the CASEL guide as an effective intervention for

preschoolers (CASEL, 2022). This intervention has demonstrated effectiveness in enhancing both social-emotional and academic gains, as assessed through self-reports, classroom observations, and behavioral measures. Notably, The High Scope Educational Approach differs from other preschool-focused interventions in that it does not explicitly instruct social-emotional skills to children but instead centers on improving teacher instructional practices; the increase seen in academic performance may stem from the emphasis on refining teacher instructional methods rather than the SEL intervention itself. The program's overarching goal is to broadly enhance teaching practices, potentially resulting in overall higher-quality academic instruction (Stoiber et al., 2022).

Like SBR interventions, the primary focus of this intervention are teachers, with child outcomes viewed as residual. While the intervention directly addresses teachers, the curriculum encompasses a wide array of academic-related skills. Positive academic and social-emotional outcomes arising from this intervention highlight the prospective advantages of a multi-component approach that addresses both academic components (e.g., rhyming and letter naming) and social-emotional competence (e.g., affective knowledge). Therefore, integrating academic and social-emotional content may yield positive outcomes in both domains.

WWC Preschool Programs

The WWC enumerates five SEL interventions designed for preschool-aged children; however, only three of them demonstrated positive effects and outcomes. Notably, only one out of these three programs measured social skills and social-emotional outcomes, and the results suggested uncertain effects. Specifically, the Social Skills Training program (Ferentino, 1991; Guglielmo & Tyron, 2001; LeBlanc & Matson, 1995; What Works Clearinghouse, 2017) stands as the sole program among the three that offers a class-wide option. This program does not

consist of a specific curriculum but rather encompasses a combination of practices aimed at teaching social-emotional skills. The other two listed programs are The Lovaas Model of Applied Behavioral Analysis and Pivotal Response Training (Lovaas, 1987), both of which are individualized behavioral interventions.

Additionally, the Lovaas Model is tailored to address the needs of specialized populations of children, specifically those with autism. Consequently, there is a scarcity of social-emotional small-group or class-wide programs tailored for typically developing preschoolers. The limited availability of social-emotional interventions for preschoolers is concerning, considering the crucial role of this developmental period' in establishing a foundation for subsequent learning and growth.

Intensity and Scope

Programs identified by these resources exhibit variations in intensity and focus, and research indicates that these variations influence outcomes. Schindler et al. (2015) evaluated the effectiveness of multiple early childhood SEL programs. The analysis focused on the overall effect of three distinct levels of SEL intervention on the reduction of externalizing behaviors, such as aggression and bullying. The first level encompassed practices with no explicit SEL focus, the second included practices with a broad SEL focus covering a wide range of social-emotional and developmental domains, and the third-level practices emphasized SEL with a more intensive focus (Schindler et al., 2015).

The analysis revealed that first-level practices had no significant effects on the outcome of externalizing behaviors as compared to control groups. Second-level practices demonstrated significantly better results as compared to first-level practices. Third-level practices, characterized by an intensive and explicit focus on social-emotional development, were the most

efficacious in reducing externalizing problems. The authors concluded that emphasizing social skills training significantly contributed to the reduction of externalizing problem behavior. These findings suggest that highly focused and intensive programs are more likely to yield positive outcomes as compared to those with a broad focus, and programs lacking explicit or intentional instruction produced insignificant outcomes.

In another study, Taylor et al. (2017) investigated the follow-up effects of school-based universal SEL interventions, including studies that promoted positive youth development (PYD). PYD, akin to SEL, is an approach that encourages protective factors, such as emotion regulation and responsible decision making, to minimize risk factors across various domains (e.g., family, community, school, peers, and environment). Both PYD and SEL aim to enhance positive developmental trajectories and outcomes by equipping students with the skills necessary to successfully navigate their environment and cope with future challenges (Elias et al., 2015).

While PYD and SEL are distinct concepts, fostering SEL skills can contribute to the goals of PYD. PYD targets areas such as social behavior; social and emotional skills; academic success; conduct problems; emotional distress; drug use; and attitudes toward self, others, and the school across all demographic groups.

Taylor et al. (2017) found that students who received school-based SEL interventions retained positive outcomes from six months to 18 years post-intervention. Initial post-assessments examining social-emotional asset development predicted positive long-term outcomes during the follow-up period. These positive outcomes underscore the potential distal benefits of SEL programming on youth development and demonstrate successful targeting of multiple SEL competencies.

Yang et al. (2018) conducted a comprehensive comparison of early childhood curricula, examining those with a distinct and explicit SEL focus against those lacking a specific SEL emphasis concerning social-emotional competence. The study involved children aged three to five from low-income households. The overarching findings from the meta-analysis strongly supported the idea that a clear and intensive focus on SEL significantly enhanced social-emotional competence in comparison to both control groups and groups with a less intensive focus. The researchers noted the inclusion of diverse measures, research designs, assessed outcomes, implementation fidelity, and addressed targets in the studies reviewed.

Notably, in this meta-analysis, Yang et al. (2018) found that the quality and type of measures employed did not yield significant differences in child outcomes between the experimental and control groups. However, they identified implementation fidelity as a crucial moderator, with higher levels of fidelity associated with substantially stronger treatment effects. It is noteworthy that all studies included in this meta-analysis targeted multiple SEL competencies.

Another meta-analysis (Harti et al., 2024) examined externalizing problem behaviors, such as aggression, hyperactivity, and noncompliance, which are prevalent among young children, reportedly affecting 10-20% of children between the ages of two and five (Liu, 2004). The behaviors, if unaddressed can persist into later childhood and adolescence, contributing to adverse academic, social, and health outcomes (Barnett et al., 1999; Shaw et al., 2023). Research has identified the quality of teacher-child interactions (TCIs) as a critical factor in mitigating externalizing problem behaviors, particularly in early childhood settings (Hamre & Pianta, 2001; Stoiber et al., 2022). This recent systematic review by Harti et al., analyzed 26 studies involving a total of 6,505 children (mean age = 4.23 years) and 2,177 teachers, with interventions

implemented across diverse early childhood settings such as preschools, Head Start classrooms, and kindergartens. The studies predominantly focused on low-income populations, reflecting the vulnerability of children in these settings to behavior challenges. The interventions aimed to enhance TCI's by improving teacher skills in emotional support, classroom organization, and instructional support, as outlined in the Teaching Through Interaction Framework (Hamre et al., 2013).

The interventions were delivered using various approaches, including in-person workshops, online modules, and blended formats. Additionally, some interventions were structured within a Multi-Tiered System of Support (MTSS) framework, offering universal (Tier 1), targeted (Tier 2), and individualized (Tier 3) levels of support based on children's needs. Behavioral outcomes were measured using validated rating scales, self-report measures, and systematic observational measures of the classroom setting.

The meta-analysis revealed that the TCIs significantly reduced externalizing problem behaviors. Within the MTSS framework, Tier 2 interventions, which focus on targeted, small-group approaches, demonstrated the largest effect size, which highlights their efficacy in addressing specific behavioral issues. Video-based interventions also demonstrated significant effects, which underscores the importance of reflective practices in teacher training. Notably, interventions focusing on emotional support and classroom organization contributed significantly to behavior improvements. The observed heterogeneity across studies was attributed to variations in the intervention delivery, study designs, and participant demographics. Despite these differences, the findings emphasize the critical role of high-quality TCIs in reducing externalizing problem behaviors and improving children's social-emotional outcomes. An important feature of SBR is the dynamic interaction between the reader (e.g., teacher) and the

children, highlighting the critical link between social-emotional and academic aspects of learning. This aligns with the findings by Harti et al. (2024), which highlight the importance of high-quality teacher-child interactions in fostering positive behavioral and academic outcomes, particularly through interventions that support emotional regulation and instructional quality.

These findings reinforce the importance of targeted early childhood interventions that address social-emotional constructs, such as teacher-child relationships, to foster social-emotional competence. The study further emphasizes the effectiveness of the MTSS framework, particularly highlighting the value of small group (Tier 2) interventions addressing varying levels of behavioral needs compared to class-wide or individualized approaches. Similar to studies on Shared Book Reading (SBR), many of these interventions focused on improving teacher behaviors to enhance classroom interactions. Collectively, meta-analyses of social-emotional learning (SEL) interventions consistently demonstrate their positive impact on children social-emotional, and behavioral outcomes as well as its connection to the interactive components of SBR.

Method

Overview of Study Aims and Research Questions

This exploratory study investigated two primary objectives within the framework of shared book reading (SBR). First, it sought to investigate whether the integration of a social-emotional component into a literacy intervention (SBR) is associated with improved outcomes in affective knowledge. Second, this study explored whether the inclusion of affective knowledge (i.e., the recognition and identification of emotions) alongside alphabet knowledge and rhyming in a SBR intervention compared to only an early literacy focus is associated with any differences in children's early literacy skills. This second focus is important to examine so as to better understand whether including a SEL component in early literacy focused SBR is associated with poorer outcomes on urban, young children's early literacy learning.

1. Are there significant differences among the three groups (LF vs. LF+SEL vs. Control) on literacy and affective knowledge post-intervention performance, without controlling for pre-performance?
2. Are there significant differences in post-intervention Alphabet Recognition and Rhyme Awareness scores for the LF+SEL group compared to the LF group when controlling for preschoolers' pre-intervention performance?

The exploratory study utilized extant data collected during a prior research study. The data were originally gathered as a developmental, exploratory component for designing a larger, quasi-experimental intervention study. The project, known as Project BRIGHT (Book Reading to Improve Growth and High-Quality Teaching), aimed to examine whether brief SBR exposure (involving 8–16 sessions) that explicitly integrated a focus on literacy and social-emotional

content (LF+SEL) versus a literacy-only focus (LF) is associated with early literacy and affective knowledge outcomes (Stoiber et al., 2021).

For the current study, the SBR intervention was short-term in nature (4 – weeks) and occurred over summer instruction and focused on comparing two types of intervention groups (i.e., a literacy plus social-emotional-focused content group vs. a literacy-only focused group). In addition, outcomes for the SBR intervention groups are compared to a group of children who did not participate in the SBR groups. The current study was designed to inform future early literacy and SEL-focused interventions for young children. The study was approved by the Institutional Review Board (IRB) of the University of Wisconsin-Milwaukee. Informed consent was obtained from both teachers and parents of participating children in accordance with ethical research standards.

Participants

Sample

The participants in this study were children enrolled in a Head Start summer program in an urban city in the Midwestern United States. The Shared Book Reading (SBR) program, central to this study, is part of an ongoing initiative aimed at promoting sustainable early childhood literacy practices among Head Start educators (Stoiber & Gettinger, 2021; Stoiber et al., 2022). Teachers and students ($n = 75$) from 12 classrooms, each consisting of one lead teacher and one co-lead teacher (24 teachers in total), were invited to participate in the study.

Demographics

The intervention sample consisted of 54 preschool-aged children (28 male), ranging from 35–68 months of age. The children were assigned to one of two intervention groups: 28 children were placed in the Literacy Focused (LF) group, while 26 children were assigned to the Literacy

and Social-Emotional Learning (LF+SEL) group. In addition, a comparison control group ($n = 21$) was included in post-intervention outcome analyses. While demographic data for the control group were not collected, these children were similar in age and enrolled in the same Head Start classrooms. All participants were English-speaking African American children.

The mean age (months) for the LF group was $M = 51.07$ ($SD = 5.79$), and the mean age for the LF+SEL group was $M = 51.38$ ($SD = 6.89$) (Table 1). To assess the normality of age (in months) between groups, a Shapiro-Wilk test was conducted. The results indicated that age was normally distributed for the LF group, ($W = 0.958$, $p = 0.318$), and approximately normal for the LF+SEL group, ($W = 0.922$, $p = 0.051$). Skewness and kurtosis were calculated to further characterize the distributional properties of age in the dataset. For the LF group, the skewness was 0.345 ($SE = 0.441$) with a kurtosis of 1.158 ($SE = 0.858$). For the LF+SEL group, the skewness was 0.471 ($SE = 0.456$) with a kurtosis of 1.293 ($SE = 0.887$).

Eligibility and Inclusion Criteria

Eligibility for Head Start enrollment was based on specific criteria that align with federal poverty guidelines. To qualify, children's families must have lived below the poverty line and received either free school lunches (indicating a family income at or below 130% of the federal poverty level) or reduced-priced school lunches (indicating a family income at or below 185% of the federal poverty level).

Participants in the BRIGHT intervention analyses were included in the analyses if they attended at least eight (50%) of the planned 16 SBR sessions. Table 1 presents the distribution of attendance across different numbers of sessions attended by the participants in the LF and LF+SEL groups. The data showed the frequency of how many participants in each group attended a given number of sessions, ranging from 8 to 17 sessions. For both groups, the number

of participants attending 11 sessions was the most common (mode), indicating a concentration of participants around these attendance levels. The distribution provides insight into the variation in attendance within each group, with most participants attending between 10 and 13 sessions. Both groups showed similar attendance distributions, suggesting comparable central tendencies.

To assess the normality of the attendance data, a Shapiro-Wilk test was conducted. The results indicated that attendance for the LF group did not significantly deviate from normality ($W = 0.949, p = 0.186$). In contrast, for the LF+SEL group, tests indicated significant deviations from normality ($W = 0.881, p = 0.006$), suggesting that the attendance data in the LF+SEL group is not normally distributed. Thus, A Mann-Whitney U test was conducted to compare the distribution of attendance between the LF and LF+SEL groups. The Mann-Whitney U test revealed no significant difference in the distribution of attendance between the LF group and the LF+SEL group ($z = 0.05216, p = 0.96012$).

Table 1: Attendance Distribution by Number of Sessions for the LF and LF+SEL Groups

Number of Sessions Attended	Number of Participants	
	LF group	LF+SEL group
8	1	2
9	3	0
10	4	6
11	6	7
12	4	3

13	5	4
14	2	3
15	1	1
16	0	0
17	2	2

Note. This table presents the distribution of the number of participants by the number of sessions attended in the LF group and the LF+SEL group. The mode for both groups was 11 sessions, with 6 participants in the LF group, and 7 participants in the LF+SEL group.

Research Design and Group Assignment

The exploratory study employed a quasi-experimental pre-/post-test design with two treatment conditions and one comparison control group. Classroom teachers assigned children to the LF ($n = 28$), the LF+SEL ($n = 26$), or the control ($n = 21$) group. Each group consisted of three to four children in each classroom to control for possible teacher and classroom climate influences. Trained graduate students implemented the intervention four days per week. Two graduate students were assigned to each classroom. The two graduate students administered the interventions (LF and LF+SEL) on alternating days (i.e., Monday and Wednesday, and Tuesday and Thursday) to control for potential differences in instruction.

1. **Literacy focused (LF):** Children in the LF groups received literacy focused instruction.

Interventionists used SBR guides that directed interventionists to point out and label specific target letters, words, or rhymes within the text. The guides included receptive and expressive language components. Regarding receptive prompts, children were asked

to point to letters and words that rhyme. Regarding expressive prompts, children were instructed to name letters and find rhyming words (See Appendix A).

2. **Literacy plus social-emotional focus (LF+SEL):** In the LF+SEL condition, SBR guides included prompts from the LF condition focusing on early literacy concepts, but they also contained prompts regarding social-emotional and affective knowledge. Interventionists pointed to and labeled emotional expressions of book characters, discussed related contextual factors, and highlighted social relationships (Appendix B).
3. **Comparison control group (control group):** Children in the control group did not receive either SBR intervention. Their exposure to early literacy and SEL content was limited to the typical instruction provided by teachers in the Head Start classrooms.

Measures

Phonological Awareness Literacy Screening – Pre-Kindergarten (PALS-PreK)

Two language subtests from the PALS-PreK were administered pre- and post-intervention. The PALS-PreK is a scientifically based preschool screener of phonological awareness and literacy knowledge developed by Invernizzi et al. (2004). The two subtests included Alphabet Recognition and Rhyme Awareness, which were chosen due to their developmental appropriateness and the ease of administration. The Alphabet Recognition subtest asked children to name letters of the alphabet presented in a random array on the stimulus page containing all 26 letters (capitalized). The Alphabet Recognition score is the total number of letters correctly named by the child. Therefore, the Alphabet Recognition subtest consists of 26 total points, one point per correctly identified letter.

For the Rhyme Awareness subscale, the examiner reads a target word aloud while pointing to a corresponding picture on the rhyming stimulus materials. Next, the examiner read

three other stimulus words, pointed to the corresponding pictures, one of which rhymes with the target word. Children are then asked to point to the word that ends with the same sound as the target word (i.e., the ending of the stimulus word sounds like the end of the target word). Two of the three stimulus words are distractors that do not rhyme with the target word. The Rhyming Awareness score is the number of correctly matched rhyming words (Invernizzi et al., 2004). The Rhyme Awareness subtest contains 10 items, one point per correct item.

The current study used these two subtests as they are regarded as two of the best predictors of early reading achievement (Badian, 2001; Johnston et al., 1996; Snow et al., 1998; Storch & Whitehurst, 2002; Zhang, 2018). The authors evaluated the internal consistency of the PALS-PreK Rhyme Awareness task using Guttman split-half reliability (0.87) and Cronbach's alpha level (0.84). Evaluation of inter-rater reliability of Alphabet Recognition and Rhyme Awareness subtests employed the Pearson correlation. Both yielded high and significant correlations ($r = .99$). Data regarding predictive validity between spring PALS-PreK summed scores and fall was reported to be high and significant ($r = .91, p < .01$). The PALS authors further reported the core tasks on the PALS-PreK significantly predicted a sizable portion of the variance in fall performance ($R^2 = .84$) (Invernizzi et al., 2003). To establish concurrent validity (Sattler, 1988), the PALS-PreK was compared with three independent existing criterion measures as reported in the PALS-PreK manual:

1. Sawyer's Test of Awareness of Language Segments (TALS) (1987), Part A: The correlation between the PALS-PreK tasks and the TALS Part A was medium-low and significant ($r = .41, p < .01; n = 87$).

2. High/Scope's Child Observation Record (COR) (1992): The correlation between the PALS-PreK Summed Score and the COR was medium-high and significant ($r = .71, p < .01; n = 70$).
3. Test of Early Reading Ability (TERA-3) (2001): The correlation between the PALS-PreK and the TERA-3 was medium-high and significant as well ($r = .67, p < .01; n = 73$) (Invernizzi et al., 2004).

Affective Knowledge Test (AKT)

Standardized normative measures for preschool-aged children often lack the sensitivity or specificity needed to discern subtle changes in performance (Gonzalez et al., 2024). To address this limitation, a researcher-developed measure, the Affective Knowledge Test (AKT), was employed as an exploratory tool in the current study. The AKT was developed by the Principal Investigator (Stoiber, 2017) to assess social-emotional competence and affective knowledge, particularly in alignment with the targeted concepts of the intervention. This assessment was chosen and created in order to directly assess the social-emotional targets of the intervention (Gonzalez, 2024), especially considering the intervention duration, age of participants, and lack of affective knowledge measures for preschoolers.

The AKT, displayed in Appendix E, is a 14-item scale consisting of two sections. The first section includes eight questions, yielding 16 possible points, while the second section comprises six questions with a maximum of 10 possible points. Together, these sections generate a total AKT score of 26 points. The first section evaluates affective knowledge through the identification (receptive) and labeling (expressive) of emotions displayed on faces. A stimulus page, presented in Appendix F, displayed four emotions: happy, mad, scared/surprised, and sad.

Simplified facial drawings were intentionally designed to avoid identifiable racial or ethnic features. The receptive portion was administered second to avoid spoiling expressive responses.

For the expressive task, participants were asked to name the emotion depicted in a picture (e.g., how is this child feeling?). For the receptive task, participants were asked to identify the image corresponding to a given emotion (e.g., point to sad). Each correct answer on the expressive and receptive tasks received two points, and zero points were given for incorrect responses. One point was given for answers reflecting correct emotion valence (e.g., mad as sad). The second section assesses social competence strategies, including the ability to identify a good friend, understanding emotional contexts, and suggests ways to regulate emotions. The second section requires expressive responses. Due to variations in expressive responses, a scoring guide was used to help examiners determine whether a response was worth zero, one, or two points.

A reliability analysis was conducted to evaluate the internal consistency of the AKT designed to measure affective knowledge. The AKT demonstrated acceptable reliability. AKT items indicated an acceptable level of internal consistency with a Cronbach's alpha of .769 (Stoiber et al., 2021). When standardized items were used, the alpha slightly improved to .814. Both values suggest that the items reliably measure the same underlying construct. The inter-item correlation matrix revealed more moderate correlations between most items, indicating consistency without redundancy. Correlations ranged from -.051 to .726, with most items showing positive and moderate associations. The highest correlation was observed between question one and question three (labeling mad/angry and labeling sad), $r = .726$.

Some items exhibited weaker or negligible correlations, such as question eight (point to sad) and question 12 (what does it mean to be a bad friend/bully?), $r = -.007$. The corrected item-total correlations ranged from .265 (question five; *point to happy*) to .625 (question 10; *what*

does it mean to be a friend?). Removing question 10 would reduce the internal consistency reliability of the AKT, as indicated by its strong item-total correlation. However, question five and eight had the lowest corrected item-total correlations, suggesting potential areas for revision for future studies. The Cronbach's alpha Item Deleted showed that removing any single item would not significantly improve the overall alpha, supporting the inclusion of all items.

Although the AKT provided valuable insights aligned with the intervention's goals, limited information is available regarding its validity, such as comparisons with other standardized measures of social-emotional competence. Its use in this study reflects an exploratory effort to assess outcomes related to affective knowledge and social-emotional competence. Total AKT scores (sections one and two combined) were used as an outcome measure.

Intervention Procedures

Project BRIGHT was conducted by the principal investigator (Stoiber) and her research team (school psychology students who were doctoral research assistance or enrolled in the Educational Specialist program at the University of Wisconsin-Milwaukee). Interventionists consisted of first-year educational psychology specialist students who participated in a field-based experience with a course focused on serving children and families in urban contexts. Stoiber and research assistants trained the interventionists on administering and scoring two subtests from the PALS-PreK assessment (Alphabet Knowledge and Rhyming) and the AKT measure. Stoiber designed the structure for shared book reading (SBR) guides in which opportunities for engaging children in dialogic reading strategies that emphasized early literacy skills (e.g., alphabet knowledge, vocabulary, rhyming) were explicitly specified for interventionists to follow during book reading in the LF and LF+SEL treatment conditions.

Specially designed SBR guides were created for seven books for the two treatment conditions by Stoiber, with input from her research assistants (see Stoiber et al., 2021). Some prior studies have overlooked standardized SBR guides that would consequently ensure standardization of delivery or have noted that teachers and interventionists who hold the responsibility of enhancing children’s early literacy skills often have little guidance in SBR practices (Neuman & Dwyer, 2009). The seven books selected contained a variety of diverse characters, involved SEL content (e.g., emotion identification, friendship making) and were planned to be read twice (For examples of social-emotional prompts, refer to Appendix A; for literacy-focused prompts, refer to Appendix B; The book list can be found in Appendix C; the book reading schedule can be found in Appendix D).

SBR guides for the LF condition focused on identifying and naming letters and rhyming words and sounds. Alphabet instruction used orthographic learning to help children pair the visual representation of a written symbol with a letter name or sound (Hulme, 1981). (Refer to Appendix G for an example script.)

The ABCD (Affective-Behavioral-Cognitive-Dynamic) development model was used to identify the appropriate sequencing of skills/knowledge. The ABCD model “emphasizes the integration of emotional language, behavior, and cognitive understanding to promote social and emotional competence” (Greenberg & Kusché, 1993). This model suggests that emotional experiences occur before acquiring the ability to express and identify emotions. The ability to identify and express feelings or understand the feelings of others is a prerequisite for becoming emotionally aware. At the lowest level, emotional competence requires the identification and verbalization of emotions (Greenberg & Kusché, 1993).

Because children have emotional experiences before acquiring language, emotional language is one of the first skills explicitly taught before attempting to explore more complex concepts. For example, prompts include teaching the words associated with facial expressions of basic emotions (e.g., happy, sad, angry, scared). Then, in later sessions, interventionists teach children how to apply that knowledge to themselves and others (e.g., how to make friends). These skills were included because they are necessary for effective emotional and behavioral regulation. As such, emotion recognition and identification are a critical step in the ABCD model and were embedded in each LF+SEL session sequence and focus.

The LF+SEL SBR guides included the literacy guide prompts in addition to social-emotional prompts. The social-emotional prompts align with CASEL's five competency domains (e.g., emotional awareness, emotion recognition/identification, understanding emotional situations, and recognizing emotions within themselves and others). The guides emphasized multiple competencies (e.g., friendship) to produce robust SEL outcomes (Schindler et al., 2015). (Refer to Appendix H for an example script).

Interventionists received training in conducting the SBR interventions and behavior management strategies for facilitating student engagement and participation in small groups. In addition, interventionists practiced reading SBR scripts with their peers and reviewed material during training provided by Stoiber. Interventionists practiced SBR intervention scripts with each other to increase intervention standardization and fidelity, and the research assistant observed interventionists implementation and provided support as needed. A heart jar was used as a behavior management tool and engagement strategy. The heart jar consisted of a picture of a jar and six separate hearts that connected to the jar with Velcro. Children received verbal praise and earned hearts for exhibiting learning behaviors (e.g., listening, keeping their eyes on the book or

examiner, keeping their body calm). Five hearts were given out throughout the reading, and after the reading, the children earned their sixth heart and received a reward (e.g., playing Simon Says).

The intervention occurred during the reading portion of center time. Children left the classroom one group at a time. The interventionist implemented the appropriate SBR intervention for 20–30 minutes using the corresponding LF or LF+SEL SBR guide. Both groups experienced repeated readings of each book. Repeated reading of books is regarded as an evidence-based practice (Gettinger & Stoiber, 2014; Gonzalez et al., 2024), so the book-reading schedule included reading the books twice, with some variation in the SBR guide for the second reading. More specifically, for both the LF and LF+SEL conditions, the SBR guides were altered in the repeated reading so that approximately 50% of the prior content was repeated and new content was covered as well.

Data Collection

This exploratory quasi-experimental study used the Statistical Package for the Social Sciences (SPSS; IBM, 2025) to analyze the collected data and answer the two research questions. Independent variable data, PALS-PreK pre-intervention scores ($n = 54$), were collected within the two-week period before the first shared book reading (SBR) session. Graduate students who had conducted the SBR interventions individually administered two subtests from the PALS-PreK measure, Alphabet Recognition and Rhyme Awareness.

Post-intervention Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test scores ($n = 54$) for the LF and LF+SEL intervention groups were collected within the two weeks after the final shared book-reading session. Additionally, post-intervention performance on Alphabet Recognition and Rhyme Awareness and the Affective Knowledge Test were also

collected (including for the control group) within the two weeks after the last SBR session. Students in the control group ($n = 21$) received no intervention. The control children's performance on literacy and affective knowledge measures are used as a comparison control group; however, no pre-intervention or demographic data were collected.

Results

This exploratory study used extant data collected as part of Project BRIGHT and included children enrolled in a Head Start summer program in the Midwest. The study employed a quasi-experimental pre-/post-test design with two treatment groups: a literacy-only focused (LF) group ($n = 28$) and a literacy plus social-emotional focused (LF+SEL) group ($n = 26$). A control group was also included for comparison. The goal of the analyses was to examine the effects of two brief (4-week) Shared Book Reading (SBR) interventions (LF vs. LF+SEL) on early literacy skills and affective knowledge among low-income preschoolers. Post-intervention Alphabet Recognition, Rhyme Awareness, and the Affective Knowledge Test scores of both intervention groups and the control group are presented in Table 4.

To address the research questions, a series of statistical analyses were conducted. One-way analyses of variance (ANOVAs) were used to compare post-intervention Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test scores across the three groups. Additionally, one-way analyses of covariance (ANCOVAs) were conducted to assess whether post-intervention Alphabet Recognition and Rhyme Awareness scores differed between the LF and LF+SEL groups when controlling for pre-intervention performance. Descriptive statistics were calculated for all variables, and post hoc comparisons were conducted when applicable to further explore significant group differences. Prior to conducting ANOVA and ANCOVA, preliminary analyses are presented.

Pre-Intervention Preliminary Analyses

Descriptive statistics for pre-intervention Alphabet Recognition and Rhyme Awareness performance are presented in Table 2. For Alphabet Recognition (pre), the mean score was 11.15 ($SD = 10.35$). The median score was 8.5 and the variance was 107.15. The large variance and high standard deviation indicated a wide spread of scores. The data exhibited minimal skewness (-.161) and kurtosis (-1.874), suggesting that the distribution was relatively symmetrical and slightly platykurtic. The range of scores from 0 to 26, with an interquartile range of 22, suggests a diverse set of abilities within the sample. This variation in pre-intervention scores is crucial for understanding how baseline performance may influence post-intervention outcomes.

For Rhyme Awareness (pre), the mean score was 4.50 ($SD = 2.88$). The median score was 4.00, and the variance was 8.63. The slight positive skewness (.329) and negative kurtosis (-.713), imply that the distribution of Rhyme Awareness (pre) scores is moderately skewed and flatter than a normal distribution. The score range of 0 to 10, and an interquartile range of 5 indicate less variability in Rhyme Awareness compared to Alphabet Recognition. These descriptive statistics suggest variability in Alphabet Recognition performance and less variability in Rhyme Awareness performance. This difference may affect how the groups responded to the intervention and how changes in performance are interpreted post-intervention.

Two independent samples t -tests were used to determine whether there were significant differences in literacy performance between groups pre-intervention (Table 3). An independent samples t -test was conducted to evaluate pre-intervention performance on the Alphabet Recognition task between the LF and LF+SEL groups. The results revealed no significant difference $t(52) = -1.833, p = .073$ (two-tailed), suggesting that there were no significant differences in pre-intervention Alphabet Recognition scores between the LF group ($M = 8.71, SD$

= 9.71) and the LF+SEL group ($M = 13.77, SD = 10.56$). Likewise, the results for Rhyme Awareness also revealed no significant differences $t(52) = -1.698, p = .095$ (two-tailed). Thus, there were no significant differences in pre-intervention Rhyme Awareness scores between the LF group ($M = 3.85, SD = 2.72$) and the LF+SEL group ($M = 5.19, SD = 3.06$).

Table 2: Pre-Intervention Alphabet Recognition and Rhyme Awareness Scores by Group

		Alphabet Recognition	Rhyme Awareness
Group	<i>n</i>	<i>M (SD)</i>	<i>M (SD)</i>
LF	28	8.71(9.71)	3.85 (2.72)
LF+SEL	26	13.77 (10.56)	5.19 (3.06)

Note: Mean and Standard Deviation for pre-intervention performance on Alphabet Recognition and Rhyme Awareness for the LF and LF+SEL groups.

Table 3: Independent Samples T-Test for Pre-Test Scores

Measure	<i>t</i>	<i>df</i>	<i>p</i>	Mean	<i>SE</i>	95% CI
			(two-tailed)	Difference	Difference	[Lower, Upper]
Alphabet Recognition	-1.833	52	.073	-5.055	2.758	-10.590, 0.480
Rhyme Awareness	-1.698	52	.095	-1.335	.786	-2.913, 0.243

Note. Results of independent samples t-tests comparing pre-test scores for Alphabet Recognition and Rhyme Awareness between the LF and LF+SEL groups. Levene's test indicated equal variances for both measures ($p = .167$ for Alphabet Recognition, $p = .665$ for Rhyme Awareness), so equal variances were assumed.

The calculated effect sizes for Alphabet Recognition (Cohen's $d = 0.50$) indicated a medium effect size. Hedges' correction = 0.49 and Glass's delta = 0.52 both suggested a small-to-medium effect. These values indicated that while the difference in Alphabet Recognition pre-test scores between groups was not statistically significant, there was still a moderate practical difference between LF and LF+SEL groups, with a higher performance in the LF+SEL group. For Rhyme Awareness, the calculated effect sizes (Cohen's $d = 0.46$) indicated a small-to-medium effect size. Hedges' correction = 0.45 and Glass's delta = 0.49 both suggesting a small-to-medium effect. These values indicate that while the difference in Rhyme Awareness pre-test scores between groups was not statistically significant, there was still a small-to-moderate practical difference between LF and LF+SEL groups.

The normality of Alphabet Recognition (pre) was assessed using the Shapiro-Wilk tests. For the LF group, the Shapiro-Wilk test resulted in a statistic of $W = .816$ ($p < .001$), suggesting that the distribution of scores significantly deviates from a normal distribution. Likewise, the Shapiro-Wilk test for the LF+SEL group also significantly deviated from normality ($W = .803$, $p = <.001$). For Rhyme Awareness (pre), the Shapiro-Wilk test for the LF group revealed a significant deviation from normality ($W = .938$, $p = .100$). Like the LF group, the Shapiro-Wilks test for the LF+SEL group violated assumptions of normality ($W = .904$, $p = .019$).

Quantile-Quantile (QQ) plots were generated (Appendix I) to further assess the assumption of normality for all variables in the dataset. In the QQ plots, the observed quantiles of the data were plotted against the expected quantiles of a normal distribution. The QQ plot for the data set displayed a pattern where most of the points closely followed the diagonal line, especially in the center of the plot. This indicates that the distribution of the data is similar to that of a normal distribution. Also, the QQ plot's tails did not show substantial deviations from the

diagonal line, further suggesting that the data distribution did not significantly depart from normality. Based on the QQ plot and the results of normality tests, it can be concluded that the assumption of normality was met for the dataset. However, it is important to note that the relatively small sample size makes visual interpretation less reliable.

Anomaly detection was performed to identify potential outliers within the dataset. The analysis identified cases that deviated significantly from the rest of the data, considering a percentage of anomalous cases of 5% and a minimum number of peers set at 1. Upon visual examination, no outliers were detected. This is possible for several reasons: The outliers might not be visually apparent, especially due to the skewed distribution, or there are only a few outliers relative to the total sample size. Additionally, the criteria used to define outliers may be stringent, leading to identification of data points that are only slightly different from the rest of the cases. In this case, the points may not stand out visually but are still considered to be outliers based on statistical criteria. The small sample size of this study may also result in outliers having a more pronounced effect on statistical measures and thus may be more easily identified, even if they are not visually apparent.

An a-priori power analysis was conducted using IBM SPSS statistical software to determine the statistical power of the study's design for detecting a mean difference between the two groups. The analysis utilized an independent sample means test with a two-sided significance level of $\alpha = 0.05$. Assuming equal variances between groups, the test was designed to detect a large effect size ($d = 0.8$) with a desired power of 0.8. The sample sizes for the LF group and LF+SEL group were both set to 21. Based on these parameters, the actual statistical power of the test was estimated to be approximately 0.817. These results suggested that the study

design had sufficient statistical power (greater than the conventional threshold of 0.8) to detect the mean difference between the groups.

Post-Intervention Preliminary Analyses

Post-intervention performance on Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test for the LF, LF+SEL, and control groups are presented in Table 4. Prior to answering the two research questions, assessment of statistical assumptions and power required to conduct ANOVA and ANCOVA were crucial to ensure the validity and reliability of the results which verified that the data met the necessary criteria for accurate statistical analysis. Post-intervention scores are presented in Table 4.

Table 4: Post-Intervention Scores: Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test

		Alphabet Recognition	Rhyme Awareness	Affective Knowledge
Group	<i>n</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
LF	28	9.43 (10.090)	4.25 (2.771)	22.57 (6.506)
LF+SEL	26	14.31 (10.06)	5.77 (3.037)	24.00 (7.321)
Control	21	7.43 (8.65)	3.67 (2.56)	19.95 (7.99)

Note: This table presents the post-intervention scores on Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test for the LF, LF+SEL, and control groups.

For Alphabet Recognition (post), the LF group had a mean score of 9.43 (*SD* = 10.09), with a median score of 5.50, indicating a right-skewed distribution (skewness = 0.682, *SE* = 0.441) and a platykurtic distribution (kurtosis = -1.201, *SE* = 0.858). The LF+SEL group had a

mean score of 14.31 ($SD = 10.06$) and a median of 15.50, suggesting a more symmetric distribution (skewness = -0.217, $SE = 0.456$) with a flat kurtosis (kurtosis = 1.723, $SE = 0.887$). The control group had a mean of 7.43 ($SD = 8.56$) and a median of 4, showing a right-skewed distribution (skewness = 1.192, $SE = 0.501$) and approximately normal kurtosis (kurtosis = -0.079, $SE = 0.972$).

For Rhyme Awareness (post), the LF group had a mean score of 4.25 ($SD = 2.77$ with moderately right skewness (skewness = 0.722, $SE = 0.441$) and approximately normal kurtosis (kurtosis (0.064, $SE = 0.858$). The LF+SEL group reported a mean of 5.77 ($SD = 3.04$), with a symmetric distribution (skewness = -0.068, $SE = 0.456$) and a platykurtic distribution (kurtosis = -0.895, $SE = 0.887$). The control group had a mean score of 3.67 ($SD = 2.56$), with moderate right skewness (skewness = 1.067, $SE = 0.501$) and a sharper peak (kurtosis = 1.250, $SE = 0.972$).

For the Affective Knowledge Test (post), The LF group had a mean of 22.57 ($SD = 6.51$), with slight left skewness (skewness = -0.333, $SE = 0.441$) and a platykurtic distribution (kurtosis = -0.872, $SE = 0.858$). The LF+SEL group reported a mean of 24.00 ($SD = 7.32$), with moderate left skewness (skewness = -0.566, $SE = 0.456$) and approximately normal kurtosis (kurtosis = -0.287, $SE = 0.887$). The control group had a mean of 19.95 ($SD = 7.997$), showing slight left skewness (skewness = -0.414, $SE = 0.501$) and approximately normal kurtosis (kurtosis = -0.271, $SE = 0.972$).

Levene's test was conducted to evaluate the assumption of homogeneity of variances for Alphabet Recognition (pre) and Rhyme Awareness (pre). The results indicated that the assumption of equal variances was met for Alphabet Recognition (pre), $F(1, 52) = 1.964, p =$

.167, and Rhyme Awareness (pre) $F(1, 52) = .190, p = .665$. This suggests that the variances of both groups are equal, and thus, a t-test was used for the subsequent analyses.

Normality was assessed using the Shapiro-Wilk test, results indicated significant deviations from normality for post-intervention Alphabet Recognition scores across all groups (all p 's $< .001$). For Rhyme Awareness, only the LF+SEL group's data conformed to normality ($p = .111$), while the LF and control groups did not meet this assumption ($p = .039$ and $p = .022$, respectively). Conversely, the Affective Knowledge Test data were approximately normally distributed across all groups (all p 's $> .05$). These findings initially suggested that a non-parametric test, such as the Kruskal-Wal that is H test, might be more appropriate, but several factors supported parametric analyses to answer the first research question.

First, the Shapiro-Wilk test is known to be highly sensitive to deviations from normality, which can be associated with an inflated Type-1 error rate. This sensitivity means that the test may reject the null hypothesis of normality even when the deviations are not severe enough to compromise the validity of parametric methods. Second, visual inspection of the Q-Q plots revealed no extreme outliers, and both skewness and kurtosis values were within acceptable ranges, further indicating that the data approximated normality. Finally, in this study, the F statistic used in a one-way ANOVA is robust to moderate deviations from normality, particularly when group sizes are equal.

Based on these considerations, it was appropriate to proceed with a one-way ANOVA to compare post-intervention Alphabet Recognition and Rhyme Awareness, and Affective Knowledge Test scores across the three groups. A one-way ANOVA for each dependent variable was conducted rather than a MANOVA because a MANOVA would be less robust due to the violation of normality as assessed by the Shapiro-Wilk tests. Moreover, the one-way ANOVA is

more appropriate when examining how group membership (LF, LF+ SEL, and control) affects all three dependent variables individually rather than a general combined effect.

Collinearity diagnostics indicated that Variance Inflation Factors (VIFs) were below 10 for all predictors (Appendix I), suggesting that multicollinearity was not a concern within the regression models.

Homogeneity of variance was tested using Levene's test. Variances were not significantly different across groups for all measured outcomes: Alphabet Recognition ($p = 0.137$), Rhyme Awareness ($p = .414$), and Affective Knowledge Test ($p = .604$).

Additional statistical tests for ANCOVA included Box's Test of Equality of Covariance Matrices and Mauchly's Test of Sphericity were performed to confirm the appropriateness of ANCOVA. Box's Test was non-significant ($B = 10.698$, $F(10, 12756.457) = 0.980$, $p = 0.458$), ensuring equal covariance matrices across groups. Mauchly's Test confirmed the sphericity assumption for within-subjects' factors (all $p > 0.05$).

Linearity and Homogeneity of Regression Slopes was assessed visually through scatterplots (Appendix J) and statistically via a general linear model. The results showed mostly linear relationships and confirmed the homogeneity of regression slopes. The interaction terms between group membership and pre-intervention scores for Alphabet Recognition ($F(1, 50) = 1.779$, $p = .188$) and Rhyme Awareness ($F(1, 50) = 0.353$, $p = .555$) were not significant, validating that the relationship between pre- and post-intervention scores was consistent across groups.

A post hoc power analysis was conducted to evaluate the statistical power of the study in detecting significant effects for both the one-way ANOVA and ANCOVA analyses. Power was assessed separately for the one-way ANOVA comparing post-intervention Alphabet

Recognition, Rhyme Awareness, and Affective Knowledge Test scores across the three groups (LF, LF+SEL, and control), as well as for the ANCOVA examining differences in post-intervention Alphabet Recognition and Rhyme Awareness scores between the LF and LF+SEL groups while controlling for pre-intervention performance.

For the one-way ANOVA examining post-intervention Alphabet Recognition, the analysis yielded an observed power of 0.21, with an effect size of $\eta^2 = .082$, indicating a small effect. Similarly, the one-way ANOVA for post-intervention Rhyme Awareness resulted in an observed power of 0.23, with an effect size of $\eta^2 = .091$, also considered small. The one-way ANOVA for post-intervention Affective Knowledge Test scores had an observed power of 0.19, with an effect size of $\eta^2 = .049$, which is considered a small effect as well. Given these power estimates, the analyses were underpowered to detect small effects, meaning that non-significant findings should be interpreted with caution, as the study may have lacked the statistical power to detect meaningful group differences.

For the ANCOVA conducted to assess post-intervention Alphabet Recognition while controlling for pre-intervention scores, the observed power was 0.30 for a small effect size ($F = 0.20$) and 0.58 for a medium effect size ($F = 0.30$). The observed effect size was large ($\eta^2 = .897$), suggesting that the study was sufficiently powered to detect large effects but had limited power to detect small-to-moderate effects. The ANCOVA for post-intervention Rhyme Awareness yielded an observed power of 0.48 for a medium effect size ($F = 0.30$), with an effect size of $\eta^2 = .590$, which is considered a moderate-to-large effect. These findings indicate that while the ANCOVA for Alphabet Recognition was adequately powered to detect large effects, the analysis for Rhyme Awareness had lower power, suggesting that results should be interpreted with caution, particularly for smaller effects.

Despite the lower power for Rhyme Awareness, conducting ANCOVA remained justified for several reasons. First, ANCOVA is the most appropriate statistical test for examining group differences while controlling for pre-intervention performance. Even with limited power, the analysis provides valuable effect size estimates and trends in the data that can inform future research. Second, effect sizes remain interpretable, allowing for an assessment of the magnitude of differences between groups, regardless of statistical significance. Third, the exploratory nature of the study supports conducting the analysis to better understand potential effects, even if findings are not statistically significant due to power constraints. Lastly, including ANCOVA results, even when underpowered, promotes transparency in reporting and provides a basis for future research to adjust sample sizes accordingly.

The overall study power, considering sample size and effect sizes across analyses, suggests that while larger effects could be detected, the study was likely underpowered for detecting smaller but potentially meaningful differences, particularly for the one-way ANOVAs. Given that the Shapiro-Wilk test indicated a violation of normality for some outcome variables, alternative non-parametric tests were considered. However, the *F*-statistic in ANOVA is robust to moderate deviations from normality, and visual inspection of Q-Q plots confirmed that the distributions were approximately normal with no extreme outliers. Additionally, the Shapiro-Wilk test is highly sensitive to minor deviations from normality, increasing the likelihood of Type I errors. These factors further justified the use of ANOVA and ANCOVA in the study, despite some violations of normality assumptions.

Overall, the ANCOVA for Alphabet Recognition was sufficiently powered to detect large effects, while the ANCOVA for Rhyme Awareness was underpowered, meaning that non-significant results should be interpreted with caution. The power analysis for both Alphabet

Recognition and Rhyme Awareness suggested that the study was likely underpowered to detect small or medium effects on both measures.

Summary and Rationale for Proceeding with ANOVA and ANCOVA

Although the Shapiro-Wilk test indicated deviations from normality for certain groups, the decision to use parametric tests such as ANOVA and ANCOVA remained justified. Detailed examination of Q-Q plots, as documented in Appendix J, revealed no extreme outliers, and both skewness and kurtosis values were within acceptable ranges, supporting the approximation of normality for the data set. Furthermore, the Shapiro-Wilk test is known for its sensitivity, particularly in larger samples where it can signal a violation of normality even for minor deviations that do not significantly impact the analysis. This sensitivity could potentially lead to an inflated Type 1 error rate, prompting the rejection of the null hypothesis of normality more frequently than necessary.

Given the robustness of the F statistic in one-way ANOVA to moderate deviations from normality, particularly when group sizes are relatively equal, continuing with parametric analyses was deemed appropriate. All other crucial assumptions for ANCOVA and ANOVA—such as multicollinearity, homogeneity of variance, and regression slopes—were met without issue, as shown in the collinearity diagnostics and Levene’s test results in Appendix I. These checks ensure that the methods chosen are appropriate and can reliably address the research questions concerning the differential impacts of LF and LF+SEL interventions on literacy and affective knowledge outcomes in low-income preschoolers.

Research Question One

Are there significant differences among the three groups (LF vs. LF+SEL vs. Control) on literacy and affective knowledge post-intervention measures, without controlling for pre-performance?

To address the first research question, a one-way ANOVA (Table 5) was conducted to explore the impact of group assignment (LF, LF+SEL, and control) on post-intervention Alphabet Recognition, Rhyme Awareness, and Affective Knowledge Test scores among low-income preschoolers. This analysis specifically examined the differences in performance across groups without controlling for pre-intervention performance.

Alphabet Recognition. For Alphabet Recognition, the ANOVA indicated a statistically significant difference between groups, $F(2, 72) = 3.226, p = .046, \eta^2 = .08$. Post hoc analyses, using Tukey's HSD (Table 6), revealed a significant difference between the LF+SEL and the control groups ($MD = 6.88, p = .047, 95\% CI [0.07, 13.69]$). Descriptive statistics indicated children performed significantly better on post-intervention Alphabet Recognition in the LF+SEL group ($M = 14.31, SD = 10.06$) compared to the control group ($M = 7.43, SD = 8.65$). No significant differences were found between the LF ($M = 9.43, SD = 10.09$) and LF+SEL groups or the LF and control groups.

The Eta-squared value of .082 suggests a small effect size, indicating that a small proportion of the variance in Alphabet Recognition scores result from group membership. The Epsilon-squared estimate (.057) and Omega-squared values for both fixed effects (.056) and random effects (.029) further support this small effect, with confidence intervals indicating some variability in these estimates. These findings suggest that group membership has a small but somewhat measurable influence on post-intervention Alphabet Recognition scores with the

LF+SEL group found to perform better than the Control group, without controlling for pre-intervention performance.

Rhyme Awareness. A one-way ANOVA (Table 7) was conducted to answer research question one regarding differences between the LF, LF+SEL and control groups on post-intervention Rhyme Awareness without controlling for pre-intervention performance. The one-way ANOVA revealed a significant difference among groups, $F(2, 72) = 3.63, p = .032, \eta^2 = .09$. Post hoc analyses, Tukey's HSD (Table 8), also revealed significant difference between the LF+SEL group and the control group ($MD = 2.10, p = 0.034, 95\% \text{ CI } [0.13, 4.08]$). Descriptive statistics of post-intervention Rhyme Awareness scores show that the LF+SEL group ($M = 5.77, SD = 3.04$) performed significantly higher than the control group ($M = 3.67, SD = 2.56$). There were no significant differences between the LF ($M = 4.25, SD = 2.77$) and LF+SEL groups or LF and the control groups.

The Eta-squared value of .091 indicates a small effect size, suggesting that group membership explains a small portion of the variance in Rhyme Awareness scores. The Epsilon-squared estimate ($\varepsilon^2 = .066$) and Omega-squared values for both fixed effects ($\omega^2 = .065$) and random effects ($\omega^2 = .034$) reinforce the small effect, with confidence intervals indicating some variability. These results suggest that group membership has a small but discernible impact on post-intervention Rhyme Awareness scores, similar to the pattern found for Alphabet Knowledge.

Affective Knowledge Test. A one-way ANOVA (Table 9) was used to examine difference between the LF, LF+SEL, and control groups on post-intervention Affective Knowledge Test (AKT) scores. The one-way ANOVA indicated no significant differences in

post-intervention AKT scores between the groups and a small effect size $F(2, 72) = 1.85, p = .165, \eta^2 = .049$. As such, no follow-up tests were performed.

Although the one-way ANOVA did not identify significant differences between groups, it is helpful to examine trends in the data. The LF+SEL group ($M = 24.00, SD = 7.32$) performed higher than the LF group ($M = 22.57, SD = 6.51$), and both intervention groups performed higher than the control group ($M = 19.95, SD = 7.99$). This pattern mirrors the difference observed between groups on post-intervention Alphabet Recognition and Rhyme Awareness scores; however, the differences in post-intervention AKT scores were not large enough to be statistically meaningful.

Table 5: One-Way ANOVA Results for Post-Intervention Alphabet Recognition Scores

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Between Groups	606.942	2	303.471	3.226	.046
Within Groups	6773.538	72	94.077		
Total	7380.480	74			

Note: This table presents the results of a one-way ANOVA comparing post-intervention Alphabet Recognition scores among three groups (LF, LF+SEL, and control). The results indicate a significant difference in post-intervention scores among groups ($p = .046$).

Table 6: Post-Hoc Tukey HSD Test for Post-Intervention Alphabet Recognition Scores

		Mean	95% Confidence Interval			
(I) Group	(J) Group	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound

LF	2	-4.879	2.642	.162	-11.20	1.44
	3	2.000	2.800	.756	-4.70	8.70
LF+SEL	1	4.879	2.642	.162	-1.44	11.20
	3	6.879*	2.846	.047	.07	13.69
Control	1	-2.000	2.800	.756	-8.70	4.70
	2	-6.879*	2.846	.047	-13.69	-.07

Note: This table presents the results of post-hoc comparisons using Tukey's Honest Significant Difference (HSD) test for post-intervention Alphabet Recognition scores across the LF (1), LF+SEL (2), and control (3) groups. Significant mean differences at the 0.05 level are marked with an asterisk (*).

Table 7: One-Way ANOVA for Post-Intervention Rhyme Awareness Scores by Group

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Between Groups	57.255	2	28.627	3.625	.032
Within Groups	568.532	72	7.896		
Total	625.787	74			

Note: This table presents the result of a one-way ANOVA examining the differences in post-intervention Rhyme Awareness scores among the LF, LF+SEL, and control groups. A significant effect was found for group membership at the .05 level, indicating that at least one group differed in Rhyme Awareness post-intervention ($p = .032$).

Table 8: Post-Hoc Tukey HSD for Post-Intervention Rhyme Awareness Scores

(I) Group	(J) Group	Mean			95% Confidence Interval	
		Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
LF	2	-1.519	.765	.123	-3.35	.31
	3	.583	.811	.753	-1.36	2.52
LF+SEL	1	1.519	.765	.123	-.31	3.35
	3	2.103*	.824	.034	.13	4.08
Control	1	-.583	.811	.753	-2.52	1.36
	2	-2.103*	.824	.034	-4.08	-.13

Note: This table presents the results of Tukey HSD multiple comparisons for post-intervention Rhyme Awareness scores between the LF (1), LF+SEL (2), and control (3) groups. Significant mean differences at the .05 level are indicated with an asterisk (*).

Table 9: One-Way ANOVA Results for Post-Intervention Affective Knowledge Test Scores

	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Between Groups	192.857	2	96.429	1.846	.165
Within Groups	3761.810	72	52.247		
Total	3954.667	74			

Note: This table presents the results of a one-way ANOVA comparing post-intervention Affective Knowledge Test (AKT) scores between the three groups (LF, LF+SEL, and control). The results indicate a non-significant difference in post-intervention scores among groups ($p = .165$) on the AKT.

Research Question Two

Are there significant differences in post-intervention Alphabet Recognition and Rhyme Awareness scores for the LF+SEL group compared to the LF group when controlling for preschoolers' pre-intervention early literacy performance?

To address the second research question, the study compared post-intervention scores for Alphabet Recognition and Rhyme Awareness between the two SBR groups (LF and LF+SEL) while controlling for pre-intervention performance levels. A one-way ANCOVA was employed to determine if group membership (LF vs. LF+SEL) was significantly associated with differences in post-test scores after adjusting for initial literacy performance levels.

Alphabet Recognition. A one-way ANCOVA (Table 10) was conducted to determine whether there were significant differences in post-intervention Alphabet Recognition scores between the LF and LF+SEL groups, after controlling for pre-intervention Alphabet Recognition scores. The model accounted for a significant proportion of variance in post-test Alphabet Recognition scores, $F(2, 51) = 222.281, p < .001, \eta^2 = .897$, indicating that the combination of group membership and pre-test scores explained approximately 89.7% of the variance in post-test performance. However, group membership was not a significant predictor of post-test Alphabet Recognition scores, $F(1, 51) = 0.020, p = .888, \eta^2 = .000$, suggesting that post-intervention scores did not significantly differ between the LF and LF+SEL groups after controlling for pre-intervention performance. In contrast, pre-test Alphabet Recognition scores significantly predicted post-test scores, $F(1, 51) = 416.158, p < .001, \eta^2 = .891$, indicating a strong relationship between prior knowledge and post-intervention performance.

Rhyme Awareness. Likewise, a one-way ANCOVA (Table 11) was conducted to evaluate whether there were significant differences in post-intervention Rhyme Awareness

scores between the LF and LF+SEL groups, after controlling for pre-intervention Rhyme Awareness scores. The model was significant, $F(2, 51) = 36.639, p < .001, \eta^2 = .590$, explaining 59% of the variance in post-test Rhyme Awareness scores. However, group membership did not significantly predict post-test Rhyme Awareness scores, $F(1, 51) = 0.896, p = .348, \eta^2 = .017$, suggesting that both groups performed similarly after the intervention. Pre-test Rhyme Awareness scores were a significant predictor of post-test scores, $F(1, 51) = 65.032, p < .001, \eta^2 = .560$, demonstrating that prior knowledge strongly influenced post-intervention performance.

Main effect of pre-intervention scores showed that pre-intervention scores were significant predictors of post-intervention scores in both Alphabet Recognition and Rhyme Awareness, which indicates a strong relationship between students' initial skills and their outcomes after the intervention. Main effect of group showed that the group membership did not significantly affect the post-intervention outcomes for Alphabet Recognition and Rhyme Awareness when controlling for pre-intervention scores. This suggests that the LF and LF+SEL interventions were not associated with differences in literacy outcomes at post-intervention when prior ability was considered.

The analyses revealed that while pre-intervention scores were significant predictors for both measures, group membership was not shown to be associated with differences at post-intervention on Alphabet Recognition and Rhyme Awareness outcomes when controlling for pre-intervention scores. This suggests that the addition of the SEL component in the LF+SEL intervention did not significantly alter literacy outcomes compared to the LF group. The lack of significant differences between the groups suggests that the SEL component did not detract from literacy gains. However, because the power analysis indicated small to medium effect sizes would be unlikely to detect, the results should be viewed with caution.

Table 10: Analysis of Covariance for Alphabet Recognition Post-Test Scores Controlling for Pre-Test Performance

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	Partial η^2	Observed Power
Corrected Model	5023.087	2	2511.544	222.281	<.001	.897	1.000
Intercept	40.850	1	40.850	3.615	.063	.066	.462
Group	.225	1	.225	.020	.888	.000	.052
Alphabet Recognition Pre	4702.150	1	4702.150	416.158	<.001	.891	1.000
Error	576.246	51	11.299				
Total	13090.000	54					
Corrected Total	5599.333	53					

Note. Results of a one-way analysis of covariance (ANCOVA) testing the effect of group membership (LF vs. LF+SEL) on post-intervention Alphabet Recognition scores, while controlling for pre-test scores. *SS* = sum of squares; *df* = degrees of freedom; *MS* = mean square; η^2 = partial eta squared.

Table 11: Analysis of Covariance for Rhyme Awareness Post-Test Scores Controlling for Pre-Test Performance

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	Partial η^2	Observed Power
Corrected Model	276.524	2	138.262	36.639	<.001	.590	1.000
Intercept	39.168	1	39.168	10.379	.002	.169	.885

Group	3.383	1	3.383	.896	.348	.017	.153
Rhyme Awareness Pre	245.408	1	245.408	65.032	<.001	.560	1.000
Error	192.457	51	3.774				
Total	1809.000	54					
Corrected Total	468.981	53					

Note. Results of a one-way analysis of covariance (ANCOVA) testing the effect of group membership (LF vs. LF+SEL) on post-intervention Rhyme Awareness scores, while controlling for pre-test scores. *SS* = sum of squares; *df* = degrees of freedom; *MS* = mean square; η^2 = partial eta squared.

Discussion

Alphabet recognition and phonological awareness, including the phonological skill of rhyme awareness, are well-established precursors of later reading success. Alphabet recognition, or the ability to identify and name letters, plays a crucial role in developing decoding skills and early word recognition (National Early Literacy Panel, 2008; Piasta & Wagner, 2010). Similarly, rhyme awareness, a key component of phonological awareness, helps children recognize sound patterns in spoken language, which facilitates phonemic awareness and later reading fluency (Bryant et al., 1990; Goswami, 2002). Given the critical role of these literacy skills, early childhood interventions often emphasize their development.

In addition to literacy development, social-emotional learning (SEL) has been increasingly recognized as a fundamental component of early childhood education. According to the Affective-Behavioral-Cognitive-Dynamic (ABCD) model, affective knowledge—such as the ability to recognize and interpret emotions—plays a key role in fostering self-regulation, peer interactions, and school readiness (Greenberg & Kusché, 1993). This study examines whether integrating SEL into shared book reading (SBR) interventions may be associated with children's development of both emergent literacy skills and social-emotional competence, particularly among low-income preschoolers.

Consistent with these findings, Heilmann et al. (2018) report that a majority of Head Start children began preschool with limited alphabet knowledge, with nearly half of their sample failing to meet a 10-letter benchmark even after a year of instruction. Their research suggests that alphabet knowledge is not only an important predictor of literacy but also a skill that requires early and sustained intervention, particularly for children from low-income backgrounds.

This exploratory study examines the effects of two short-duration (4-week) shared book reading (SBR) interventions on emergent literacy and affective knowledge development among young, low-income children enrolled in a summer Head Start program. Guided by structured intervention protocols developed by Project BRIGHT (Stoiber, 2017) and implemented in small groups (Harti et al., 2024), children were assigned by classroom teachers into one of three groups:

- Literacy-Focused (LF): Explicitly targeted Alphabet Recognition and Rhyme Awareness as foundational literacy skills (Badian, 2001; Heilmann et al., 2018; Justice et al., 2001; Stoiber & Gettinger, 2016; Zhang, 2018).
- Literacy-Focused plus Social-Emotional Learning (LF+SEL): Incorporated SEL prompts to encourage affect recognition and social skills while also supporting literacy development (Hamre & Pianta, 2011; Noble et al., 2019).
- Control Group: Received no intervention.

Summary of Main Findings

This study examined two research questions related to the effects of integrating social-emotional learning (SEL) into a brief 4-week summer shared book reading (SBR) on young Head Start children's early literacy development. It also explores whether the inclusion of a SEL component in a brief SBR intervention was associated with differences in the Affective Knowledge of children in a Literacy only vs. Literacy plus SEL vs. Control group. Results show no significant differences between the LF and LF+SEL groups in post-intervention Alphabet Recognition and Rhyme Awareness when controlling for pre-intervention performance. When comparing the intervention groups to a control group, the LF+SEL group performed better

than the control group on Alphabet Recognition and Rhyme Awareness, but these differences had small effect sizes ($\eta^2 = .08$ and $\eta^2 = .09$, respectively). No significant differences emerged among groups in their Affective Knowledge in the post intervention comparisons

These results indicate that incorporating SEL components into literacy instruction is not associated with decreased literacy learning but is also not significantly associated with enhanced early literacy outcomes in Alphabet Recognition or Rhyme Awareness either. Similarly, focusing exclusively on literacy (LF group) was not associated with better outcomes compared to the LF+SEL group. The significant differences observed in the ANOVA revealed that the LF+SEL group performed significantly better than the control group on both Alphabet Recognition and Rhyme Awareness. However, no significant differences were found between the LF group, which focused exclusively on literacy, and the control group on either Alphabet Recognition or Rhyme Awareness. This supports the need to further investigate differences between the two intervention groups while controlling for pre-intervention skills (RQ2).

Pre-existing literacy skills were the strongest predictor of post-intervention performance and accounted for most of the variance in post-intervention scores. This finding echoes previous research highlighting the influence of prior learning on children's later academic and social-emotional development (De Jong & Van Der Leij, 1999; Foulon, 2005; Gallagher et al., 2000; Goswami, 2002; Muter & Diethelm, 2001; Stanovich, 1986; Stanovich et al., 1986; Zhang, 2018). Additionally, consistent with Heilmann et al. (2018), receptive vocabulary emerged as the most significant predictor of alphabet knowledge growth, highlighting the importance of broader oral language development in early literacy.

Findings with Important Implications

First, in discussing potential implications of the study, it is important to note that the study lacked sufficient power to detect small effects. The ANOVA conducted revealed that the LF+SEL group exhibited better performance in Alphabet Recognition and Rhyme Awareness compared to the control group, with effect sizes ($\eta^2 = .08$ for Alphabet Recognition; $\eta^2 = .09$ for Rhyme Awareness) suggesting that these differences, while statistically significant, are modest. This indicates that SEL may contribute to creating supportive learning environments that facilitate early literacy, but the extent of its impact is limited. This result is consistent with prior research suggesting that longer duration interventions are likely needed to produce differential outcomes (Flack et al., 2019; Mol et al., 2008; Noble et al., 2019; Vally et al., 2015; Weisleder, 2018).

The context in which this study was conducted is crucial for understanding the conditions under which the data were collected. The research took place over the summer, a period marked by less structured educational routines. Many children were also in the process of transitioning into new classrooms, including visits to these new spaces throughout the day. Consequently, children were in different classrooms at different times, complicating the stability of the educational setting. Additionally, transportation issues, holidays, and field trips also contributed to fluctuating attendance rates. The contextual inconsistencies and frequent shifting for the children may have influenced the teaching environment and possibly the effectiveness of the intervention (Rimm-Kaufman & Pianta, 2000). Moreover, the irregular attendance posed challenges collecting post-intervention data, and many participants were no longer attending Head Start by the end of the study. These factors may have skewed the results and potentially weakened the observed effects of the intervention.

Further analysis using ANCOVA revealed no significant differences between the LF and LF+SEL groups after controlling for pre-intervention performance. This indicates that including SEL prompts was not associated with additional literacy improvements when controlling for initial skills, suggesting that SEL instruction, as integrated in this intervention, did not significantly differentiate outcomes. This observation aligns with Zucker et al. (2021), who reported that variations in teacher interaction styles during literacy sessions did not consistently improve children's literacy outcomes over the school year.

Bronfenbrenner's ecological systems theory (1979) helps contextualize these results by emphasizing the role of social relationships and interactions in the learning process. The SEL interventions may have enhanced the learning environment, possibly making it more supportive and engaging, yet these enhancements did not translate into significant literacy gains when compared with traditional methods alone. The short duration of the intervention and the instability of classroom settings may also have limited the potential for observing improved learning outcomes. This aspect highlights the complexity of implementing educational interventions in real-world settings, where numerous external factors can affect their efficacy.

Vygotsky's sociocultural theory (1978) further suggests that cognitive development is enhanced within socially supportive and interactive contexts. While the SEL-enriched environment might have facilitated more effective engagement and interaction, these conditions were not associated with superior literacy outcomes as measured by the ANCOVA, indicating that other factors play a critical role in literacy development.

Although SEL-enriched environments may be associated with improved classroom engagement and social interactions, these enhancements were not associated with significant gains in Alphabet Recognition or Rhyme Awareness. One possible explanation is that SEL

instruction alone may not be sufficiently associated with accelerated literacy acquisition without direct language-focused support. Research suggests that SEL interventions are most effective when combined with explicit oral language instruction that reinforces phonological and print awareness (Gettinger & Stoiber, 2018). This may explain why the LF+SEL group did not outperform the LF group, despite the addition of SEL prompts.

Schmidt et al. (2023) and Harti et al. (2024) underscore the importance of emotionally engaging activities in fostering comprehension and focus during literacy instruction. These activities likely contributed to creating an engaging learning atmosphere. However, the study results suggest that while these interactions may have improved the quality of engagement, they did not significantly differentiate the literacy outcomes between the LF and LF+SEL groups.

These results are consistent with findings by Heilmann et al. (2018), who reported that among children entering preschool with fewer than 10 known letters, receptive vocabulary was the strongest predictor of alphabet knowledge growth. This suggests that beyond direct literacy instruction, broader language skills may play a crucial role in children's ability to acquire alphabet knowledge, reinforcing the importance of considering oral language development in early literacy interventions. Additionally, Heilmann's findings raise the possibility that higher achieving students might benefit more or show better learning outcomes from such intervention,

Likewise, the findings by Gettinger and Stoiber (2018) and Zhang et al. (2018) reinforce the importance of targeting specific literacy skills and tailoring interventions to children's initial skill sets to maximize educational outcomes. These studies suggest that foundational literacy skills strongly influence subsequent academic achievements, highlighting the need for focused and tailored literacy interventions.

Harti et al. (2024) highlight how improved teacher-child interactions can reduce emotional and behavioral issues, contributing to a conducive learning environment. While these enhanced interactions were likely within the LF+SEL settings, they did not manifest as significant differences in literacy outcomes between groups, emphasizing the complexity of linking SEL directly with academic performance improvements.

Additionally, the correlational analysis of pre-intervention literacy performance revealed that prior learning was significantly associated with better outcomes, affirming the foundational impact of early literacy skills on subsequent educational achievements. This analysis supports the findings by Zhang et al. (2018), who demonstrated that early alphabet knowledge in a multilingual environment predicts later word reading skills. This suggests that initial literacy abilities are critical predictors of the effectiveness of literacy interventions, reinforcing the necessity for educational strategies that are appropriately tailored to the student's initial learning levels.

Affective Knowledge Outcomes: No Significant Differences

Affective knowledge is a key component of social-emotional competence, involving the ability to recognize emotional states from facial expressions. This skill supports the development of an emotional vocabulary, thereby facilitating communication about one's feelings and the understanding of others' emotions. Such capabilities underpin self-regulation and empathy, both of which are crucial for positive social interactions and effective learning (Blankson et al., 2017; Di Maggio et al., 2016; Gettinger & Stoiber, 2023; Greenberg & Kusche, 1993; Harti et al., 2024; Huber et al., 2019; Kwon & Lopez-Perez, 2021; Rimm-Kaufman & Pianta, 2000; Stoiber & Gettinger, 2021).

The absence of significant differences in post-intervention AKT performance between the groups highlights a potential avenue for further study. Despite the LF group receiving only literacy instruction, their performance on the AKT was statistically similar to that of the LF+SEL group. This finding suggests that SEL exposure within the LF+SEL intervention did not provide additional benefits beyond the incidental social-emotional learning that occurs naturally during SBR experiences. The absence of significant differences in Affective Knowledge Test (AKT) scores suggests that SEL exposure within the LF+SEL intervention did not provide additional benefits beyond what children naturally acquired from shared book reading experiences. This result raises questions about whether the SEL prompts were too complex, too infrequent, or not directly scaffolded enough to significantly impact children's affective knowledge development. Future studies should examine whether more explicit SEL instruction, greater frequency of emotion-based prompts, or longer exposure periods may yield stronger effects.

It was anticipated that explicit SEL instruction would have a more substantial impact than mere exposure to social-emotional story content and themes; however, the results did not show significant differences between the groups on the AKT measure. This result suggests that exposure alone might be unexpectedly influential, or that the SEL prompts were potentially too complex or insufficient.

Future research should investigate whether these similarities in outcomes are merely due to exposure to social-emotional content, or if they are influenced by specific aspects of the SEL prompts, such as type, frequency, or the skills targeted. Additionally, it would be beneficial to explore the varying proportions of SBR guide prompts (rhyming, alphabet, SEL) to better understand their impact on learning outcomes. Future studies should consider including an SEL-

only group (no explicit literacy focus) and compare the AKT scores to the LF+SEL group to identify any distinct advantages of focusing solely on SEL.

The limited effect of group membership contrasts with research showing larger intervention effects in early literacy programs (e.g., Zhang et al., 2018). The small effect size observed for Rhyme Awareness ($\eta^2 = .017$) is consistent with research questioning the direct impact of early rhyming skills on later reading development. However, the overall ANOVA comparing all three groups on Rhyme Awareness (without controlling for pre-intervention scores) indicated a slightly larger, though still small, effect size ($\eta^2 = .09$). Moyle et al. (2012) found that while rhyme awareness tasks are commonly used in preschool literacy assessments, their contribution to literacy growth is not always straightforward. They also noted that rhyming assessments often capture a broader range of phonological awareness skills rather than a direct link to decoding abilities. This suggests that the modest effect size in the present study may partly reflect limitations in the sensitivity of rhyming measures rather than a lack of meaningful intervention impact.

Studies such as the Head Start REDI program have reported larger gains in academic and social-emotional skills through structured, targeted interventions (Nix et al., 2013). In contrast, the effect size of $\eta^2 = .000$ for Alphabet Recognition in this study suggests no impact of group membership, while the $\eta^2 = .017$ for Rhyme Awareness reflects only a small effect. These findings align with prior research (Justice, 2019; Piasta et al., 2022) where literacy interventions have produced variable effect sizes, depending on factors such as intervention duration, intensity, and instructional methods.

Limitations and Future Directions

This exploratory study identified several important findings regarding the integration of Social-Emotional Learning (SEL) within a Shared Book Reading (SBR) intervention. However, several limitations must be acknowledged to accurately interpret the results and guide future research. These limitations include sample size constraints, research design, intervention duration, measurement sensitivity, and implementation fidelity. Addressing these factors in future studies will help refine SEL-integrated literacy interventions.

The relatively small sample size limited the statistical power of the analyses, increasing the risk of Type II errors and reducing the ability to detect smaller but meaningful effects (Cohen, 1988). While a larger sample would enhance statistical power, the negligible effect sizes for group membership ($\eta^2 = .000$ for Alphabet Recognition and $\eta^2 = .017$ for Rhyme Awareness) suggest that even with additional participants, intervention type may not have significantly influenced literacy outcomes. Future studies should aim to recruit larger and more diverse samples to improve generalizability and increase the power to detect potential intervention effects.

Non-randomized group assignments may have introduced selection bias, as preschool classroom teachers determined group placements. Teachers may have assigned children based on perceived needs or abilities, potentially influencing group equivalency before the intervention. For example, children placed in the LF+SEL group may have had characteristics that predisposed them to greater engagement or responsiveness to SEL instruction. Future research should implement randomized controlled trials (RCTs) to minimize bias, enhance internal validity, and isolate the specific effects of intervention components (Dowdall et al., 2020).

The intervention lasted only four weeks, shorter than originally planned due to program constraints such as frequent field trips and low attendance. The median number of sessions attended by participants was eleven, which may not have provided sufficient exposure to produce significant gains, particularly in Rhyme Awareness. Prior research suggests that longer and more intensive interventions yield stronger literacy outcomes (Justice et al., 2006; Lonigan et al., 2011). Future studies should explore extending intervention length, increasing the number of sessions, and incorporating follow-up assessments to examine long-term effects.

The tools used to assess literacy and social-emotional outcomes may not have been sensitive enough to detect small but meaningful gains. Specifically, the six-item Rhyme Awareness subtest may not have captured the full range of phonological awareness skills (e.g., identifying vs. generating rhymes), contributing to the non-significant ANCOVA results (Gonzalez et al., 2024; Goswami, 2002; Heilmann et al., 2013). Given the small effect size for group membership, intervention type may not have played a major role in rhyme awareness outcomes. Future studies should employ more comprehensive phonological awareness assessments and examine whether explicitly linking SEL prompts to literacy tasks enhances effectiveness.

For the Affective Knowledge Test (AKT), the absence of pre-intervention scores limited the ability to measure growth in social-emotional competencies. Additionally, the AKT combined two distinct domains—*affect recognition (emotion identification)* and *social-emotional concepts (e.g., relationships and social behaviors)*. These domains may rely on different cognitive skills, such as comprehension and expressive language abilities. Future research should separate these components or analyze them independently to clarify their individual contributions to affective knowledge gains. Identifying more comprehensive and

developmentally appropriate measures of affective knowledge would enhance the precision of evaluating the intervention's impact on different aspects of social-emotional learning (Korkman et al., 2007).

Although interventionists followed structured SBR guides, differences in experience, adherence to protocols, and group management styles may have contributed to variability in delivery. Research highlights the importance of implementation fidelity in ensuring that interventions are delivered consistently (Schindler et al., 2015). Future studies should incorporate direct observation checklists, audio/video recordings, or fidelity-monitoring tools to enhance internal validity (Gettinger & Stoiber, 2012; Yang et al., 2018).

Future research should explore the role of intervention structure and SEL focus by investigating whether an SEL-only condition, without explicit literacy instruction, influences social-emotional competence differently than the LF+SEL group. Examining whether adjusting the type, number, or timing of SEL prompts during literacy instruction enhances effectiveness is another important consideration. Future studies should systematically measure engagement, including attention, verbal responses, and participation, while also exploring contextual factors such as classroom climate, teacher-student relationships, and peer interactions.

Further research should investigate differences in outcomes based on the individual delivering the intervention. Examining whether trained graduate students or classroom teachers produce differential effects on literacy and social-emotional development could provide valuable insights into the scalability and feasibility of implementing integrated SBR programs. Teachers' familiarity with their students may offer unique advantages, but intervention fidelity may be stronger when delivered by researchers or trained interventionists. Analyzing differences in SBR

implementation styles, such as the use of drama-based instruction or the length of reciprocal interactions, could provide a deeper understanding of intervention effectiveness.

Future research should also explore optimizing assessment methods to track literacy growth more effectively. While PALS-PreK was an appropriate tool for this study, Moyle et al. (2012) cautioned that its time-intensive nature makes it impractical for frequent progress monitoring. Identifying more efficient assessments that balance reliability with feasibility will be crucial for refining early literacy evaluations in intervention studies. Additionally, Heilmann et al. (2018) highlighted the role of receptive vocabulary as a strong predictor of alphabet knowledge acquisition, suggesting that future interventions should consider integrating explicit oral language instruction alongside literacy-based approaches. These modifications could provide a more comprehensive foundation for early literacy development and address limitations in phonological awareness growth observed in the present study.

Training programs for teachers should be a focus in future research, incorporating strategies for integrating SEL and literacy components effectively. Professional development should emphasize evidence-based SBR techniques and how to create meaningful engagement in shared reading. Additionally, extending interventions to include parents may amplify effects, as parental involvement plays a critical role in early literacy and social-emotional development. Schools should consider involving families in literacy and SEL initiatives by equipping them with home-based literacy strategies that reinforce learning beyond the classroom.

By addressing these areas, future research can refine and improve integrated SEL and literacy interventions, providing evidence for their effectiveness in children's social-emotional and literacy development.

Conclusion

This exploratory study examined the integration of Social-Emotional Learning (SEL) within a Shared Book Reading (SBR) intervention and its association with early literacy and social-emotional outcomes among preschoolers. The study compared three groups: a Literacy-Focused (LF) group, a Literacy-Focused plus SEL (LF+SEL) group, and a control group. Results from the post-score ANOVA showed that the LF+SEL group outperformed the control group in Alphabet Recognition and Rhyming Awareness. However, no differences among the groups were observed on the affective knowledge measure in the post-only comparison. ANCOVA analyses, which accounted for pre-intervention performance, revealed no significant differences in Alphabet Recognition and Rhyme Awareness scores between the LF and LF+SEL groups, suggesting that group membership was not significantly associated with literacy outcomes.

These findings suggest that while SEL components can be integrated into literacy instruction without disrupting learning, they did not significantly enhance literacy skills. Similarly, a strong focus on literacy alone (LF group) did not produce superior outcomes compared to the LF+SEL group, indicating that the addition of SEL elements neither hindered nor improved literacy development. The significant differences between the LF+SEL and control groups in Alphabet Recognition in the ANOVA results may reflect the general benefits of structured literacy instruction, rather than the influence of SEL components. The non-significant ANCOVA results further indicate that pre-existing literacy skills were the strongest predictor of post-intervention performance, rather than intervention type.

Similarly, while significant differences were observed between the LF+SEL and control groups on Rhyme Awareness, the absence of significant differences between the LF and control

groups, as well as across all groups on the Affective Knowledge Test (AKT), suggest that prompts alone did not consistently lead to measurable improvements in phonological awareness or social-emotional competencies. These results highlight the need for longer interventions, refined instructional approaches, and further research into the potential mechanisms linking SEL and literacy development.

These findings show the importance of refining early literacy interventions to better integrate SEL in a way that meaningfully enhances literacy development. Future research should examine longer interventions, more structured SEL components, and alternative approaches that explicitly connect SEL to emergent literacy skills. Understanding the interaction between SEL and foundational literacy instruction is essential for designing evidence-based, developmentally appropriate interventions that promote both academic achievement and social-emotional growth in young children.

References

- Ainsworth, S., & Bell, H. (2020). Affective knowledge versus affective pedagogy: The case of native grammar learning. *Cambridge Journal of Education, 50*(5), 597–614.
<https://doi.org/10.1080/0305764x.2020.1751072>
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888–918.
<https://doi.org/10.1037/0033-2909.84.5.888>
- Badian, N. A. (2001). Phonological and orthographic processing: Their roles in reading prediction. *Annals of Dyslexia, 51*(1), 177–202. <https://doi.org/10.1007/s11881-001-0010-5>
- Bailey, L., Nomanbhoy, D. M., & Tubpun, T. (2014). Inclusive education: Teacher perspectives from Malaysia. *International Journal of Inclusive Education, 19*(5), 547–559.
<https://doi.org/10.1080/13603116.2014.957739>
- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children, 5*(3), 25. <https://doi.org/10.2307/1602366>
- Bierman, K. L., Domitrovich, C. E., Nix, R. L., Gest, S. D., Welsh, J. A., Greenberg, M. T., Blair, C., Nelson, K. E., & Gill, S. (2008). Promoting academic and social-emotional school readiness: The Head Start REDI program. *Child Development, 79*(6), 1802–1817. <https://doi.org/10.1111/j.1467-8624.2008.01227.x>
- Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist, 57*(2), 111–127. <https://doi.org/10.1037/0003-066x.57.2.111>

- Blakemore, J. E., & Centers, R. E. (2005). Characteristics of boys' and girls' toys. *Sex Roles, 53*(9–10), 619–633. <https://doi.org/10.1007/s11199-005-7729-0>
- Blank, J. (2012). Fostering language and literacy learning: Strategies to support the many ways children communicate. *Dimensions of Early Childhood, 40*(1), 35.
http://southernearlychildhood.org/upload/pdf/Fostering_Language_and_Literacy_Learning__Strategies_to_Support_the_Many_Ways_Children_Communicate_Jolyn_Blank.pdf
- Blankson, A. N., Weaver, J. M., Leerkes, E. M., O'Brien, M., Calkins, S. D., & Marcovitch, S. (2016). Cognitive and emotional processes as predictors of a successful transition into school. *Early Education and Development, 28*(1), 1–20.
<https://doi.org/10.1080/10409289.2016.1183434>
- Blyth, D. A., Weissberg, R. P., & Durlak, J. A. (2019). Applied social and emotional learning (SEL) research that fosters quality practice at scale. *Journal of Research in Innovative Teaching & Learning, 12*(1), 4–6. <https://doi.org/10.1108/jrit-02-2019-0041>
- Bobbitt, K. C., & Gershoff, E. T. (2016). Chaotic experiences and low-income children's social-emotional development. *Children and Youth Services Review, 70*, 19–29.
<https://doi.org/10.1016/j.childyouth.2016.09.006>
- Bochna, C. R. (2010). *The impact of instruction in text structure on listening comprehension in preschool-age students* [Doctoral dissertation, Pennsylvania State University]. ProQuest Dissertations and Theses database. (UMI No. 3378045)
- Box, J. A., & Aldridge, J. (1993). Shared reading experiences and Head Start children's concepts about print and story structure. *Perceptual and Motor Skills, 77*(3), 929–930.
<https://doi.org/10.2466/pms.1993.77.3.929>

- Bradley, R. H., Corwyn, R. F., McAdoo, H. P., & Coll, C. G. (2001). The home environments of children in the United States, part I: Variations by age, ethnicity, and poverty status. *Child Development, 72*(6), 1844–1867. <https://doi.org/10.1111/1467-8624.t01-1-00382>
- Bratsch-Hines, M., Burchinal, M., Peisner-Feinberg, E., & Franco, X. (2019). Frequency of instructional practices in rural prekindergarten classrooms and associations with child language and literacy skills. *Early Childhood Research Quarterly, 47*, 74–88. <https://doi.org/10.1016/j.ecresq.2018.10.001>
- Bredenkamp, S., & Copple, C. (eds.) (1997). *Developmentally appropriate practice in early childhood programs*. National Association for the Education of Young Children.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U., & Morris, P. (1998). The bioecological model of human development. In W. Damon, R. M. Lerner & R. M. Lerner (Eds.), *Handbook of child psychology*. Vol. 1. Theoretical models of human development (5th ed., pp. 993–1028). Wiley. <https://doi.org/10.1002/9780470147658.chpsy0114>
- Bryant, P., MacLean, M., & Bradley, L. (2002). Rhyme, language, and children’s reading. *Teaching and Learning, 40–60*. <https://doi.org/10.1002/9780470690048.ch2>
- Burgess, S. R., & Lonigan, C. J. (1998). Bidirectional relations of phonological sensitivity and prereading abilities: Evidence from a preschool sample. *Journal of Experimental Child Psychology, 70*(2), 117–141. <https://doi.org/10.1006/jecp.1998.2450>
- Bus, A. G., Van Ijzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy.

- Review of Educational Research*, 65(1), 1–21.
<https://doi.org/10.3102/00346543065001001>
- Carlson, S. M., Koenig, M. A., & Harms, M. B. (2013). Theory of mind. *WIREs Cognitive Science*, 4(4), 391–402. <https://doi.org/10.1002/wcs.1232>
- Carroll, J. M., & Snowling, M. J. (2001). The effects of global similarity between stimuli on children’s judgment of rime and alliteration. *Applied Psycholinguistics*, 22(3), 327–342. <https://doi.org/10.1017/s0142716401003034>
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51.
<https://doi.org/10.1177/1529100618772271>
- CASEL. (2013). 2013 CASEL guide: Effective social and emotional learning programs (pre-school and elementary school edition).
<http://static1.squarespace.com/static/513f79f9e4b05ce7b70e9673/t/526a220de4b00a92c90436ba/1382687245993/2013-casel-guide.pdf>
- CASEL (2024). CASEL program guide. <https://pg.casel.org/review-programs>
- Catts, H. W., Adlof, S. M., & Weismer, S. E. (n.d.). Language deficits in poor comprehenders: A case for the simple view of reading. *Journal of Speech, Language and Hearing Research*, 49(2), 278–293. [https://doi.org/10.1044/1092-4388\(2006\)023](https://doi.org/10.1044/1092-4388(2006)023)
- Catts, H. W., Herrera, S., Nielsen, D. C., & Bridges, M. S. (2015). Early prediction of reading comprehension within the simple view framework. *Reading and Writing*, 28(9), 1407–1425. <https://doi.org/10.1007/s11145-015-9576-x>
- Chacko, A., Wymbs, B. T., Rajwan, E., Wymbs, F. A., & Feirsen, N. (2016). Characteristics of parents of children with ADHD who never attend, drop out, and complete behavioral

parent training. *Journal of Child and Family Studies*, 26(3), 950–960.

<https://doi.org/10.1007/s10826-016-0618-z>

Child-care structure → process → outcome: Direct and indirect effects of child-care quality on young children's development. (2002). *Psychological Science*, 13(3), 199–206.

<https://doi.org/10.1111/1467-9280.00438>

Chow, B. W., McBride-Chang, C., Cheung, H., & Chow, C. (2008). Dialogic reading and morphology training in Chinese children: Effects on language and literacy.

Developmental Psychology, 44(1), 233–244. [https://doi.org/10.1037/0012-](https://doi.org/10.1037/0012-1649.44.1.233)

1649.44.1.233

Clay, M. M. (1966). *Emergent reading behavior* [Doctoral dissertation, University of Auckland].

<https://researchspace.auckland.ac.nz/handle/2292/778>

Connor, C. M., Morrison, F. J., & Slominski, L. (2006). Preschool instruction and children's emergent literacy growth. *Journal of Educational Psychology*, 98(4), 665–689.

<https://doi.org/10.1037/0022-0663.98.4.665>

Darling-Hammond, L., Flook, L., Cook-Harvey, C. M., Barron, B., & Osher, D. (2019).

Implications for educational practice of the science of learning and development. *Applied*

Developmental Science, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>

De Jong, P. F., & Van Der Leij, A. (1999). Specific contributions of phonological abilities to early reading acquisition: Results from a Dutch latent variable longitudinal study.

Journal of Educational Psychology, 91(3), 450–476. [https://doi.org/10.1037/0022-](https://doi.org/10.1037/0022-0663.91.3.450)

0663.91.3.450

- Deming, D. (2009). Early childhood intervention and life-cycle skill development: Evidence from Head Start. *American Economic Journal: Applied Economics*, *1*(3), 111–134. <https://doi.org/10.1257/app.1.3.111>
- Denham, S. A. (2006). Social-Emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, *17*(1), 57–89. https://doi.org/10.1207/s15566935eed1701_4
- Denham, S. A., Bassett, H. H., Thayer, S., Mincic, M. S., Sirotkin, Y. S., & Zinsser, K. M. (2012). Observing preschoolers' social-emotional behavior: Structure, foundations, and prediction of early school success. *The Journal of Genetic Psychology*, *173*(3), 246–278. <https://doi.org/10.1080/00221325.2011.597457>
- Denham, S. A., Bassett, H. H., Way, E., Mincic, M. S., Zinsser, K. M., & Graling, K. (2012). Preschoolers' emotion knowledge: Self-regulatory foundations, and predictions of early school success. *Cognition & Emotion*, *26*(4), 667–679. <https://doi.org/10.1080/02699931.2011.602049>
- Denham, S. A., Bassett, H. H., Zinsser, K. M., & Wyatt, T. M. (2014). How preschoolers' social-emotional learning predicts their early school success: Developing theory-promoting, competency-based assessments. *Infant and Child Development*, *23*(4), 426–454. <https://doi.org/10.1002/icd.1840>
- Di Maggio, R., Zappulla, C., & Pace, U. (2016). The relationship between emotion knowledge, emotion regulation and adjustment in preschoolers: A mediation model. *Journal of Child and Family Studies*, *25*(8), 2626–2635. <https://doi.org/10.1007/s10826-016-0409-6>

- Diaz, A., Eisenberg, N., Valiente, C., VanSchyndel, S. K., Spinrad, T. L., Berger, R. H., Hernández, M. M., Silva, K. M., & Southworth, J. (2017). Relations of positive and negative expressivity and effortful control to kindergarteners' student–teacher relationship, academic engagement, and externalizing problems at school. *Journal of Research in Personality*, *67*, 3–14. <https://doi.org/10.1016/j.jrp.2015.11.002>
- Dowdall, N., Melendez-Torres, G. J., Murray, L., Gardner, F., Hartford, L., & Cooper, P. (2019). Shared picture book reading interventions for child language development: A systematic review and meta-analysis. *Child Development*, *91*(2). <https://doi.org/10.1111/cdev.13225>
- Duncan, G. J., & Brooks-Gunn, J. (2000). Family poverty, welfare reform, and child development. *Child Development*, *71*(1), 188–196. <https://doi.org/10.1111/1467-8624.00133>
- Durkin, D. (2004). *Teaching them to read*. Allyn & Bacon.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The Impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A Meta-Analysis of After-School programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*(3–4), 294–309. <https://doi.org/10.1007/s10464-010-9300-6>
- Dusenbury, L., Weissberg, R. P., Goren, P., & Domitrovich, C. (2014). *State standards to advance social and emotional learning: Findings from CASEL's State scan of social*

and emotional learning standards, preschool through high school, 2014. Collaborative for Academic, Social, and Emotional Learning.

Echols, L. D., West, R. F., Stanovich, K. E., & Zehr, K. S. (1996). Using children's literacy activities to predict growth in verbal cognitive skills: A longitudinal investigation. *Journal of Educational Psychology, 88*(2), 296–304. <https://doi.org/10.1037/0022-0663.88.2.296>

Ehri, L. C., Nunes, S. R., Stahl, S. A., & Willows, D. M. (2001). Systematic phonics instruction helps students learn to read: Evidence from the National Reading Panel's meta-analysis. *Review of Educational Research, 71*(3), 393–447. <https://doi.org/10.3102/00346543071003393>

Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly, 36*(3), 250–287. <https://doi.org/10.1598/rrq.36.3.2>

Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*(4), 241–273. https://doi.org/10.1207/s15327965pli0904_1

Elias, M. J., Weissberg, R. P., Zins, J. E., Kendall, P. C., Dodge, K. A., Jason, L. A., Rotheram-Borus, M. J., Perry, C. L., Hawkins, J. D., & Gottfredson, D. C. (1996). Transdisciplinary collaboration among school researchers: The consortium on the school-based promotion of social competence. *Journal of Educational and Psychological Consultation, 7*(1), 25–39. https://doi.org/10.1207/s1532768xjepc0701_3

- Elley, W. B. (1989). Vocabulary acquisition from listening to stories. *Reading Research Quarterly, 24*(2), 174. <https://doi.org/10.2307/747863>
- Every Student Succeeds Act, 20 U.S.C. § 6301 (2015). <https://www.congress.gov/bill/114th-congress/senate-bill/1177>
- Ezell, H. K., & Justice, L. M. (2000). Increasing the print focus of adult-child shared book reading through observational learning. *American Journal of Speech-language Pathology, 9*(1), 36–47. <https://doi.org/10.1044/1058-0360.0901.36>
- Fabes, R. A., Gaertner, B. M., & Popp, T. K. (2008). *Getting Along with Others: Social Competence in Early Childhood*. In Blackwell Publishing Ltd eBooks (pp. 296–316). <https://doi.org/10.1002/9780470757703.ch15>
- Fagot, B. I. (1984). Teacher and peer reactions to boys' and girls' play styles. *Sex Roles, 11*(7–8), 691–702. <https://doi.org/10.1007/bf00288120>
- Farrant, B. M., & Zubrick, S. R. (2011). Early vocabulary development: The importance of joint attention and parent-child book reading. *First Language, 32*(3), 343–364. <https://doi.org/10.1177/0142723711422626>
- Ferentino, S. C. (1991). *Teaching social skills to preschool children in a special education program* (Order No. 9135189). Available from ProQuest Dissertations & Theses Global. (303934783). <https://ezproxy.lib.uwm.edu/login?url=https://www.proquest.com/dissertations-theses/teaching-social-skills-preschool-children-special/docview/303934783/se-2>
- Fiester, L. (2010). *Early warning! Why reading by the end of third grade matters*. The Annie E. Casey Foundation. https://assets.aecf.org/m/resourcedoc/AECF-Early_Warning_Full_Report-2010.pdf

- Flack, Z. M., Field, A. P., & Horst, J. S. (2018). The effects of shared storybook reading on word learning: A meta-analysis. *Developmental Psychology, 54*(7), 1334–1346.
<https://doi.org/10.1037/dev0000512>
- Flack, Z. M., & Horst, J. S. (2017). Two sides to every story: Children learn words better from one storybook page at a time. *Infant and Child Development, 27*(1).
<https://doi.org/10.1002/icd.2047>
- Foulin, J. (2005). Why is letter-name knowledge such a good predictor of learning to read? *Reading and Writing, 18*(2), 129–155. <https://doi.org/10.1007/s11145-004-5892-2>
- Francis, D., Shaywitz, S. E., Stuebing, K. K., Shaywitz, B. A., & Fletcher, J. M. (1996). Developmental lag versus deficit models of reading disability: A longitudinal, individual growth curves analysis. *Journal of Educational Psychology, 88*(1), 3–17.
<https://doi.org/10.1037/0022-0663.88.1.3>
- Frey, K. S., Nolen, S. B., Van Schoiack Edstrom, L., & Hirschstein, M. K. (2005). Effects of a school-based social–emotional competence program: Linking children’s goals, attributions, and behavior. *Journal of Applied Developmental Psychology, 26*(2), 171–200. <https://doi.org/10.1016/j.appdev.2004.12.002>
- Gallagher, A., Frith, U., & Snowling, M. J. (2000). Precursors of literacy delay among children at genetic risk of dyslexia. *Journal of Child Psychology and Psychiatry, 41*(2), 203–213. <https://doi.org/10.1017/s0021963099005284>
- Gaskins, I. W., Downer, M. A., Anderson, R. C., Cunningham, P. M., Gaskins, R. W., & Schommer, M. (1988). A metacognitive approach to phonics. *Remedial and Special Education, 9*(1), 36–41. <https://doi.org/10.1177/074193258800900107>

- Gettinger, M., & Stoiber, K. C. (2008). Applying a Response-to-Intervention Model for early literacy development in low-income children. *Topics in Early Childhood Special Education, 27*(4), 198–213. <https://doi.org/10.1177/0271121407311238>
- Gettinger, M., & Stoiber, K. C. (2012). Curriculum-based early literacy assessment and differentiated instruction with high-risk preschoolers. *Reading Psychology, 33*(1–2), 11–46. <https://doi.org/10.1080/02702711.2012.630605>
- Gettinger, M., & Stoiber, K. C. (2014). Increasing opportunities to respond to print during storybook reading: Effects of evocative print-referencing techniques. *Early Childhood Research Quarterly, 29*(3), 283–297. <https://doi.org/10.1016/j.ecresq.2014.03.001>
- Gettinger, M., & Stoiber, K. C. (2016). Coaching and demonstration of evidence-based book-reading practices: Effects on Head Start teachers' literacy-related behaviors and classroom environment. *Journal of Early Childhood Teacher Education, 37*(2), 117–141. <https://doi.org/10.1080/10901027.2016.1168329>
- Gettinger, M., & Stoiber, K. C. (2018). Effects of shared book reading focusing on letters and sounds versus vocabulary for low-income prekindergarten children. *Preventing School Failure: Alternative Education for Children and Youth, 62*(3), 149–160. <https://doi.org/10.1080/1045988x.2017.1408053>
- Glushko, R. J. (1979). The organization and activation of orthographic knowledge in reading aloud. *Journal of Experimental Psychology: Human Perception and Performance, 5*(4), 674–691. <https://doi.org/10.1037/0096-1523.5.4.674>
- González, J. E., Goetz, E. T., Hall, R. J., Payne, T., Taylor, A., Kim, M., & McCormick, A. S. (2009). An evaluation of Early Reading First (ERF) preschool enrichment on language

- and literacy skills. *Reading and Writing*, 24(3), 253–284.
<https://doi.org/10.1007/s11145-009-9212-8>
- González, J. E., Kim, H., Anderson, J. K., & Pollard-Durodola, S. D. (2024). The effects of a science and social studies content-rich shared reading intervention on the vocabulary learning of preschool dual language learners. *Early Childhood Research Quarterly*, 66, 34–47. <https://doi.org/10.1016/j.ecresq.2023.08.011>
- Goswami, U. (1986). Children’s use of analogy in learning to read: A developmental study. *Journal of Experimental Child Psychology*, 42(1), 73–83.
[https://doi.org/10.1016/0022-0965\(86\)90016-0](https://doi.org/10.1016/0022-0965(86)90016-0)
- Goswami, U. (2002). Phonology, reading development, and dyslexia: A cross-linguistic perspective. *Annals of Dyslexia*, 52(1), 139–163. <https://doi.org/10.1007/s11881-002-0010-0>
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7(1), 6–10. <https://doi.org/10.1177/074193258600700104>
- Greenberg, M. T. (2006). Promoting resilience in children and youth. *Annals of the New York Academy of Sciences*, 1094(1), 139–150. <https://doi.org/10.1196/annals.1376.013>
- Greenberg, M. T., & Kusché, C. A. (1993). *Promoting social and emotional development in deaf children: The PATHS Project*. University of Washington Press.
- Guglielmo, H. M., & Tryon, G. S. (2001). Social skill training in an integrated preschool program. *School Psychology Quarterly*, 16(2), 158–175. <https://doi-org.ezproxy.lib.uwm.edu/10.1521/scpq.16.2.158.18701>

- Guo, Y., Justice, L. M., Kaderavek, J. N., & McGinty, A. S. (2010). The literacy environment of preschool classrooms: Contributions to children's emergent literacy growth. *Journal of Research in Reading, 35*(3), 308–327. <https://doi.org/10.1111/j.1467-9817.2010.01467.x>
- Halberstadt, A. G., Denham, S. A., & Dunsmore, J. C. (2001). Affective social competence. *Social Development, 10*(1), 79–119. <https://doi.org/10.1111/1467-9507.00150>
- Hall, C. (2015). Inference instruction for struggling readers: A synthesis of intervention research. *Educational Psychology Review, 28*(1), 1–22. <https://doi.org/10.1007/s10648-014-9295-x>
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher–child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*(2), 625–638. <https://doi.org/10.1111/1467-8624.00301>
- Harris, T. L., Hodges, R. E., & Association, I. R. (1995). *The literacy dictionary: The vocabulary of reading and writing*. International Reading Association.
- Harti, F., Chausseboeuf, L., Santelices, M. P., & Wendland, J. (2024). Modalities and effectiveness of interventions aimed at promoting teacher-child interaction to reduce children's externalizing behavior problems in childcare centers: A systematic review and meta-analysis. *Early Childhood Education Journal*. <https://doi.org/10.1007/s10643-024-01773-y>
- Heilmann, J. J., Moyle, M. J., & Rueden, A. M. (2018). Using Alphabet Knowledge to Track the Emergent Literacy Skills of Children in Head Start. *Topics in Early Childhood Special Education, 38*(2), 118–128. <https://doi.org/10.1177/0271121418766636>
- Hindman, A. H., Connor, C. M., Jewkes, A. M., & Morrison, F. J. (2008). Untangling the effects of shared book reading: Multiple factors and their associations with preschool literacy

- outcomes. *Early Childhood Research Quarterly*, 23(3), 330–350.
<https://doi.org/10.1016/j.ecresq.2008.01.005>
- Hindman, A. H., Wasik, B. A., & Bradley, D. E. (2019). How classroom conversations unfold: Exploring teacher–child exchanges during shared book reading. *Early Education and Development*, 30(4), 478–495. <https://doi.org/10.1080/10409289.2018.1556009>
- Howse, R. B., Calkins, S. D., Anastopoulos, A. D., Keane, S. P., & Shelton, T. L. (2003). Regulatory contributors to children’s kindergarten achievement. *Early Education and Development*, 14(1), 101–120. https://doi.org/10.1207/s15566935eed1401_7
- Huber, L., Plötner, M., In-Albon, T., Stadelmann, S., & Schmitz, J. (2019). The perspective matters: A multi-informant study on the relationship between social–emotional competence and preschoolers’ externalizing and internalizing symptoms. *Child Psychiatry & Human Development*, 50(6), 1021–1036. <https://doi.org/10.1007/s10578-019-00902-8>
- Hulme, C. (1981). The effects of manual tracing on memory in normal and retarded readers: Some implications for multi-sensory teaching. *Psychological Research*, 43(2), 179–191. <https://doi.org/10.1007/bf00309828>
- Invernizzi, M., Justice, L. M., Landrum, T. J., & Booker, K. C. (2004). Early literacy screening in kindergarten: Widespread implementation in Virginia. *Journal of Literacy Research*, 36(4), 479–500. https://doi.org/10.1207/s15548430jlr3604_3
- Ishikawa, T., & Montello, D. R. (2006). Spatial knowledge acquisition from direct experience in the environment: Individual differences in the development of metric knowledge and the integration of separately learned places. *Cognitive Psychology*, 52(2), 93–129.
<https://doi.org/10.1016/j.cogpsych.2005.08.003>

- Johnson, D. W., & Johnson, R. T. (1995). Teaching students to be peacemakers: Results of five years of research. *Peace and Conflict: Journal of Peace Psychology, 1*(4), 417–438.
https://doi.org/10.1207/s15327949pac0104_8
- Johnston, R. M., Anderson, M. C., & Holligan, C. (1996). Knowledge of the alphabet and explicit awareness of phonemes in pre-readers: The nature of the relationship. *Reading and Writing, 8*(3), 217–234. <https://doi.org/10.1007/bf00420276>
- Jones, D., Greenberg, M. T., & Crowley, D. M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health, 105*(11), 2283–2290.
<https://doi.org/10.2105/ajph.2015.302630>
- Jones, S. M., & Bouffard, S. (2012). Social and emotional learning in schools: From programs to strategies and commentaries. *Social Policy Report, 26*(4), 1–33.
<https://doi.org/10.1002/j.2379-3988.2012.tb00073.x>
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437–447.
<https://doi.org/10.1037/0022-0663.80.4.437>
- Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-language Pathology, 11*(1), 17–29.
[https://doi.org/10.1044/1058-0360\(2002/003](https://doi.org/10.1044/1058-0360(2002/003)
- Justice, L. M., & Ezell, H. K. (2004). Print referencing: An emergent literacy enhancement strategy and its clinical applications. *Language, Speech, and Hearing Services in Schools, 35*(2), 185–193. [https://doi.org/10.1044/0161-1461\(2004/018\)](https://doi.org/10.1044/0161-1461(2004/018))

- Justice, L. M., Invernizzi, M., & Meier, J. D. (2002). Designing and implementing an early literacy screening protocol. *Language Speech and Hearing Services in Schools, 33*(2), 84–101. [https://doi.org/10.1044/0161-1461\(2002/007](https://doi.org/10.1044/0161-1461(2002/007)
- Justice, L. M., Jiang, H., Khan, K. S., & Dynia, J. M. (2017). Kindergarten readiness profiles of rural, Appalachian children from low-income households. *Journal of Applied Developmental Psychology, 50*, 1–14. <https://doi.org/10.1016/j.appdev.2017.02.004>
- Justice, L. M., Jiang, H., & Strasser, K. (2018). Linguistic environment of preschool classrooms: What dimensions support children’s language growth? *Early Childhood Research Quarterly, 42*, 79–92. <https://doi.org/10.1016/j.ecresq.2017.09.003>
- Justice, L. M., Logan, J., & Damschroder, L. J. (2015). Designing caregiver-implemented shared-reading interventions to overcome implementation barriers. *Journal of Speech Language and Hearing Research, 58*(6). https://doi.org/10.1044/2015_jslhr-l-14-0344
- Justice, L. M., Logan, J., İştan, S., & Saçkes, M. (2016). The home-literacy environment of young children with disabilities. *Early Childhood Research Quarterly, 37*, 131–139. <https://doi.org/10.1016/j.ecresq.2016.05.002>
- Justice, L. M., McGinty, A. S., Cabell, S. Q., Kilday, C. R., Knighton, K., & Huffman, G. (2010). Language and literacy curriculum supplement for preschoolers who are academically at risk: A feasibility study. *Language Speech and Hearing Services in Schools, 41*(2), 161–178. [https://doi.org/10.1044/0161-1461\(2009/08-0058](https://doi.org/10.1044/0161-1461(2009/08-0058)
- Kam, C. M., Greenberg, M. T., & Kusché, C. A. (2004). Sustained effects of the PATHS curriculum on the social and psychological adjustment of children in special education. *Journal of Emotional and Behavioral Disorders, 12*(2), 66–78. <https://doi.org/10.1177/10634266040120020101>

- Khan, K. S., Purtell, K. M., Logan, J., Ansari, A., & Justice, L. M. (2017). Association between television viewing and parent-child reading in the early home environment. *Journal of Developmental and Behavioral Pediatrics, 38*(7), 521–527.
<https://doi.org/10.1097/dbp.0000000000000465>
- Korkman, M., Kirk, U., & Kemp, S. (2007). NEPSY-II: Administration manual. Harcourt Assessment.
- Kotaman, H. (2008). Impacts of dialogical storybook reading on young children's reading attitudes and vocabulary development. *Reading Improvement, 45*(2), 55–61.
- Krashen, S., Lee, S., & McQuillan, J. (2012). Is the library important? Multivariate studies at the national and international Level. *Journal of Language and Literacy Education, 8*(1), 26–36. <http://backseatlinguist.com/blog/wp-content/uploads/2011/11/KLM-text-dec-27-2011.pdf>
- Krashen, S., Nagy, W. E., & Townsend, D. (2012). Letters to the editors. *Reading Research Quarterly, 47*(3), 233–234. <https://doi.org/10.1002/rrq.018>
- Kusché, C. A., & Greenberg, M. T. (1994). PATHS (Promoting Alternative THinking Strategies): Program description and sample activities. Eunice Kennedy Shriver Center, University of Massachusetts Medical School.
- Kwon, K., & López-Pérez, B. (2021). Cheering my friends up: The unique role of interpersonal emotion regulation strategies in social competence. *Journal of Social and Personal Relationships, 39*(4), 1154–1174. <https://doi.org/10.1177/02654075211054202>
- LaCour, M. M., McDonald, C., Tissington, L. D., & Thomason, G. (2013). Improving pre-kindergarten children's attitude and interest in reading through a parent workshop on the use of dialogic reading techniques. *Reading Improvement, 50*(1), 1–11.

- Ladd, G. W., Herald-Brown, S. L., & Andrews, R. K. (2009). The Child Behavior Scale (CBS) revisited: A longitudinal evaluation of CBS subscales with children, preadolescents, and adolescents. *Psychological Assessment, 21*(3), 325–339.
<https://doi.org/10.1037/a0016205>
- Lamb, H. A., (1986). *The effects of a read-aloud program with language interaction (early childhood, preschool, children's literature)* [Unpublished doctoral dissertation, Florida State University]. ProQuest Dissertations Publishing.
- Leblanc, L. A., & Matson, C. L. (1995). A Social Skills Training Program for Preschoolers with Developmental Delays: Generalization and Social Validity. *Behavior Modification, 19*(2), 234-246. <https://doi.org/10.1177/01454455950192005>
- Ledoux, V., Declercq, C., & Caillies, S. (2023). Psychological and Nonpsychological Inferences in Reading Comprehension in Children: The Role of Initial Level Comprehension. *Canadian Journal of Experimental Psychology, 77*(1), 20-34.
- LeFevre, J., Berrigan, L., Vendetti, C., Kamawar, D., Bisanz, J., Skwarchuk, S., & Smith-Chant, B. L. (2013). The role of executive attention in the acquisition of mathematical skills for children in grades 2 through 4. *Journal of Experimental Child Psychology, 114*(2), 243–261. <https://doi.org/10.1016/j.jecp.2012.10.005>
- Lindsay, J. J. (2010). Children's access to print material and education-related outcomes: Findings from a meta-analytic review. *ResearchGate*.
<https://doi.org/10.13140/RG.2.2.25305.11360>
- Logan, J. A. R., Justice, L. M., Yumuş, M., & Chaparro-Moreno, L. J. (2019). When children are not read to at home: The million word gap. *Journal of Developmental and Behavioral Pediatrics, 40*(5), 383–386. <https://doi.org/10.1097/dbp.0000000000000657>

- Lonigan, C. J., Schatschneider, C., & Westberg, L. (2008). Impact of code-focused interventions on young children's early literacy skills. *ResearchGate*.
https://www.researchgate.net/publication/312997170_Impact_of_code-focused_interventions_on_young_children's_early_literacy_skills
- López-Pérez, B., Wilson, E., Dellaria, G., & Gummerum, M. (2016). Developmental differences in children's interpersonal emotion regulation. *Motivation and Emotion, 40*(5), 767–780.
<https://doi.org/10.1007/s11031-016-9569-3>
- Lövaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology, 55*(1), 3–9.
<https://doi.org/10.1037/0022-006x.55.1.3>
- Marsh, G., Friedman, M. P., Desberg, P., & Saterdahl, K. (1981). Comparison of reading and spelling strategies in normal and reading disabled children. Springer eBooks (pp. 363–367). https://doi.org/10.1007/978-1-4684-1083-9_33
- Mason, J. M. (1990). Shared book reading in an early start program for at-risk children. Technical Report No. 504. <https://eric.ed.gov/?id=ED325202>.
<http://files.eric.ed.gov/fulltext/ED325202.pdf>
- Mastropieri, M. A., & Scruggs, T. E. (1997). Best practices in promoting reading comprehension in students with learning disabilities, 1976 to 1996. *Remedial and Special Education, 18*(4), 198–213. <https://doi.org/10.1177/074193259701800402>
- Mautte, L. A. (1991). *The effects of adult-interactive behaviors within the context of repeated storybook readings upon the language development and selected prereading skills of prekindergarten at-risk students* [Doctoral dissertation]. ProQuest Dissertations and Theses database. (UMI No. 9115887).

- McCabe, K. M., & Mendoza, R. (1993). Dina Dinosaur Social Skills and Problem-Solving Program: Unpublished manual. University of Washington.
- Mesmer, H. E. (2016). Text matters: Exploring the lexical reservoirs of books in preschool rooms. *Early Childhood Research Quarterly, 34*, 67–77.
<https://doi.org/10.1016/j.ecresq.2015.09.001>
- Metsala, J. L., & Ehri, L. C. (2013). The impact of print exposure on word recognition. In Routledge eBooks (pp. 245–272). <https://doi.org/10.4324/9781410602718-17>
- Mol, S. E., Bus, A. G., & De Jong, M. T. (2009). Interactive book reading in early education: a tool to stimulate print knowledge as well as oral language. *Review of Educational Research, 79*(2), 979–1007. <https://doi.org/10.3102/0034654309332561>
- Mol, S. E., Bus, A. G., De Jong, M. T., & Smeets, D. J. H. (2008). Added value of dialogic parent–child book readings: A meta-analysis. *Early Education and Development, 19*(1), 7–26. <https://doi.org/10.1080/10409280701838603>
- Moore, J. E., Cooper, B. R., Domitrovich, C. E., Morgan, N. R., Cleveland, M. J., Shah, H. K., Jacobson, L., & Greenberg, M. T. (2015). The effects of exposure to an enhanced preschool program on the social-emotional functioning of at-risk children. *Early Childhood Research Quarterly, 32*, 127–138.
<https://doi.org/10.1016/j.ecresq.2015.03.004>
- Morrison, F. J., Smith, L. R., & Dow-Ehrensberger, M. (1995). Education and cognitive development: A natural experiment. *Developmental Psychology, 31*(5), 789–799.
<https://doi.org/10.1037/0012-1649.31.5.789>
- Moyle, M., Heilmann, J., & Berman, S. S. (2013). Assessment of Early Developing Phonological Awareness Skills: A Comparison of the Preschool Individual Growth and

- Development Indicators and the Phonological Awareness and Literacy Screening—PreK. *Early Education & Development*, 24(5), 668–686. <https://doi-org.ezproxy.lib.uwm.edu/10.1080/10409289.2012.725620>
- Muter, V., & Diethelm, K. (2001). The contribution of phonological skills and letter knowledge to early reading development in a multilingual population. *Language Learning*, 51(2), 187–219. <https://doi.org/10.1111/1467-9922.00153>
- Muter, V., Hulme, C., Snowling, M. J., & Taylor, S. (1997). Segmentation, not rhyming, predicts early progress in learning to read. *Journal of Experimental Child Psychology*, 65(3), 370–396. <https://doi.org/10.1006/jecp.1996.2365>
- Myrttil, M. J., Justice, L. M., & Jiang, H. (2019). Home-literacy environment of low-income rural families: Association with child- and caregiver-level characteristics. *Journal of Applied Developmental Psychology*, 60, 1–10. <https://doi.org/10.1016/j.appdev.2018.10.002>
- National Center for Education Statistics: National assessment of educational progress, and territorial assistance: Hearing on H.R. 11 before the 98th Cong., second session [Microform]. (1984). U.S. Government Printing Office.
- National Early Literacy Panel. (2008). *Developing early literacy: Report of the National Early Literacy Panel*. National Institute for Literacy. <https://lincs.ed.gov/publications/pdf/NELPReport09.pdf>
- National Education Association of the United States. (2001). *National Education Association (NEA)* [Web archive]. <https://www.loc.gov/item/lcwaN0002414/>
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*.

- National Institute of Child Health and Human Development.
<https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf>
- National Research Council (1998). *Preventing reading difficulties in young children*. National Academies Press. <https://doi.org/10.17226/6023>
- Neuman, S.B. & Dwyer, J. (2009), Missing in Action: Vocabulary Instruction in Pre-K. *The Reading Teacher*, 62: 384-392. <https://doi.org/10.1598/RT.62.5.2>
- Neuman, S. B., & Celano, D. (2001). Access to print in low-income and middle-income communities: An ecological study of four neighborhoods. *Reading Research Quarterly*, 36(1), 8–26. <https://doi.org/10.1598/rrq.36.1.1>
- Neuman, S. B., & Dickinson, D. K. (2003). *Handbook of early literacy research*. Guilford Press.
- Nisbett, R. E. (2009). *Intelligence and how to get it: Why schools and cultures count*. W. W. Norton & Company.
- Nix, R. L., Bierman, K. L., Domitrovich, C. E., & Gill, S. (2013). Promoting children’s social-emotional skills in preschool can enhance academic and behavioral functioning in kindergarten: Findings from Head Start REDI. *Early Education and Development*, 24(7), 1000–1019. <https://doi.org/10.1080/10409289.2013.825565>
- Noble, C., Sala, G., Peter, M., Lingwood, J., Rowland, C. F., Gobet, F., & Pine, J. M. (2019). The impact of shared book reading on children’s language skills: A meta-analysis. *Educational Research Review*, 28, 100290. <https://doi.org/10.1016/j.edurev.2019.100290>
- Oberle, E., Schonert-Reichl, K. A., & Thomson, K. (2009). Understanding the link between social and emotional well-being and peer relations in early adolescence: Gender-

- specific predictors of peer acceptance. *Journal of Youth and Adolescence*, 39(11), 1330–1342. <https://doi.org/10.1007/s10964-009-9486-9>
- O’Conner, R., De Feyter, J., Carr, A., Luo, J., & Romm, H. (2017). A review of the literature on social and emotional learning for students ages 3–8: Outcomes for different student populations and settings (Part 4 of 4). REL 2017-248. *In Regional Educational Laboratory Mid-Atlantic*. <https://files.eric.ed.gov/fulltext/ED572724.pdf>
- O’Conner, R., De Feyter, J., Carr, A., Luo, J., & Romm, H. (2017a). A review of the literature on social and emotional learning for students ages 3–8: Characteristics of effective social and emotional learning programs (Part 1 of 4). REL 2017-245. *Regional Educational Laboratory Mid-Atlantic*. <http://files.eric.ed.gov/fulltext/ED572721.pdf>
- Pages, R. J., Lukes, D. J., Bailey, D. H., & Duncan, G. J. (2019). Elusive longer-run impacts of Head Start: Replications within and across cohorts. arXiv (Cornell University). <https://doi.org/10.48550/arxiv.1903.01954>
- Peisner-Feinberg, E., Burchinal, M., Clifford, R. M., Culkin, M., Howes, C., Kagan, S. L., & Yazejian, N. (2001). The relation of preschool child-care quality to children’s cognitive and social developmental trajectories through second grade. *Child Development*, 72(5), 1534–1553. <https://doi.org/10.1111/1467-8624.00364>
- Pollard-Durodola, S. D., González, J. E., Simmons, D. C., Kwok, O., Taylor, A., Davis, M. J., Kim, M., & Simmons, L. E. (2011). The effects of an intensive shared book-reading intervention for preschool children at risk for vocabulary delay. *Exceptional Children*, 77(2), 161–183. <https://doi.org/10.1177/001440291107700202>

- Ramey, C. T., & Ramey, S. L. (2004). Early learning and school readiness: Can early intervention make a difference? *Merrill-Palmer Quarterly: Journal of Developmental Psychology*, *50*(4), 471–491. <https://doi.org/10.1353/mpq.2004.0034>
- Rimm-Kaufman, S. E., Baroody, A. E., Larsen, R., Curby, T. W., & Abry, T. (2015). To what extent do teacher–student interaction quality and student gender contribute to fifth graders’ engagement in mathematics learning? *Journal of Educational Psychology*, *107*(1), 170–185. <https://doi.org/10.1037/a0037252>
- Rimm-Kaufman, S. E., & Hulleman, C. S. (2015). SEL in elementary school settings: Identifying mechanisms that matter. *Handbook of Social and Emotional Learning: Research and Practice*. <https://psycnet.apa.org/record/2015-24776-010>
- Rohde, L. (2015). The Comprehensive Emergent Literacy Model. *SAGE Open*, *5*(1), 215824401557766. <https://doi.org/10.1177/2158244015577664>
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, *6*(1), 111–135. <https://doi.org/10.1111/1467-9507.00029>
- Roux, L. (2012). Book history in the African world: The state of the discipline. *Book History*, *15*(1), 248–300. <https://doi.org/10.1353/bh.2012.0010>
- Rubin, K. H., Root, A. K., & Bowker, J. C. (2010). Parents, peers, and social withdrawal in childhood: A relationship perspective. *New Directions for Child and Adolescent Development*, *2010*(127), 79–94. <https://doi.org/10.1002/cd.264>
- Schick, A., & Cierpka, M. (2005). Faustlos: Evaluation of a curriculum to prevent violence in elementary schools. *Applied & Preventive Psychology*, *11*(3), 157–165. <https://doi.org/10.1016/j.appsy.2005.05.001>

- Schickedanz, J. A., & McGee, L. M. (2010). The NELP Report on Shared Story Reading Interventions (Chapter 4). *Educational Researcher*, 39(4), 323–329.
<https://doi.org/10.3102/0013189x10370206>
- Schindler, H. S., Kholoptseva, J., Oh, S., Yoshikawa, H., Duncan, G. J., Magnuson, K., & Shonkoff, J. P. (2015). Maximizing the potential of early childhood education to prevent externalizing behavior problems: A meta-analysis. *Journal of School Psychology*, 53(3), 243–263. <https://doi.org/10.1016/j.jsp.2015.04.001>
- Schlund, J. (2019). The literacy connection: Examining the intersection of literacy, equity, and social-emotional learning. *Literacy Today*, 37(2), 18–20. International Literacy Association.
https://digitalcommons.otterbein.edu/cgi/viewcontent.cgi?article=1085&context=stu_master
- Schmidt, A. C., Pierce-Rivera, M., Van Huisstede, L., Marley, S. C., Bernstein, K. A., Millinger, J., Kelley, M. F., & Restrepo, M. A. (2023). What’s the story with storytime?: An examination of preschool teachers’ drama-based and shared reading practices during picturebook read-aloud. *Early Childhood Education Journal*.
<https://doi.org/10.1007/s10643-023-01554-z>
- Serbin, L. A., & Connor, J. M. (1979). Sex-typing of children’s play preferences and patterns of cognitive performance. *The Journal of Genetic Psychology*, 134(2), 315–316.
<https://doi.org/10.1080/00221325.1979.10534065>
- Shah, A. (2012). Social-emotional learning: 2013 CASEL guide: Effective social and emotional learning programs. *Education Week*, 32(5), 5. <https://go-gale-com.ezproxy.lib.uwm.edu/ps/i.do?p=AONE&u=milwaukee&id=GALE%7CA304683128>

&v=2.1&it=r&aty=iphttps://gogale.com.ezproxy.lib.uwm.edu/ps/i.do?p=AONE&u=milwaukee&id=GALE%7CA304683128&v=2.1&it=r&aty=ip

- Shanahan, T., & Lonigan, C. J. (2013). *Early childhood literacy: The National Early Literacy Panel and beyond*. Brookes Publishing Company.
- Shapiro, J. (1994). Home literacy environment and young children's literacy knowledge and behavior. *Journal of Applied Developmental Psychology, 15*(1), 111–127.
<https://eric.ed.gov/?id=ED381750>.
- Shaywitz, S. E. (1998). Dyslexia. *The New England Journal of Medicine, 338*(5), 307–312.
<https://doi.org/10.1056/nejm199801293380507>
- Skinner, E. A., Furrer, C., Marchand, G. C., & Kindermann, T. A. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*(4), 765–781. <https://doi.org/10.1037/a0012840>
- Smadja, M., Ziv, M., & Aram, D. (2021). Children's theory of mind referencing and contribution to discourse during different book sharing contexts in preschool. *Early Childhood Research Quarterly, 56*, 333–343. <https://doi.org/10.1016/j.ecresq.2021.04.006>
- Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. In National Academies Press eBooks. <https://doi.org/10.17226/6023>
- Snowling, M. J., Lervåg, A., Nash, H., & Hulme, C. (2018). Longitudinal relationships between speech perception, phonological skills and reading in children at high-risk of dyslexia. *Developmental Science, 22*(1). <https://doi.org/10.1111/desc.12723>
- Sparks, S. D. (2011). Studies find 'desirable difficulties' help students learn. *Education Week, 30*(29), 5–5.

- Stanovich, K. E. (1986). Matthew Effects in Reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360–407. <https://doi.org/10.1598/rrq.21.4.1>
- Stanovich, K. E., Nathan, R., & Vala-Rossi, M. (1986). Developmental changes in the cognitive correlates of reading ability and the developmental lag hypothesis. *Reading Research Quarterly*, 21(3), 267. <https://doi.org/10.2307/747709>
- Stoiber, K. C. (2011). Translating knowledge of social-emotional learning and evidence-based practice into responsive school innovations. *Journal of Educational and Psychological Consultation*, 21(1), 46–55. <https://doi.org/10.1080/10474412.2011.549039>
- Stoiber, K. C., & Gettinger, M. (2021). Sustainable early literacy outcomes for young children of poverty: Influences of attendance, social competence, and problem behaviour. *Journal of Psychology in Africa*, 31(5), 446–454. <https://doi.org/10.1080/14330237.2021.1978667>
- Stoiber, K. C., Gettinger, M., Bella, Z. A., & Monahan, K. L. (2022). Exploratory analysis of a consultative coaching model applied in early childhood classrooms. *Journal of Educational and Psychological Consultation*, 1–28. <https://doi.org/10.1080/10474412.2021.1984930>
- Stoiber, K.C., Gransee, G., Bella, Z. A., & Koppel, R. A. (2021). *Promoting social-emotional learning through shared book reading in urban preschoolers* [Conference presentation]. National Association of School Psychology Convention, New Orleans, LA, United States.

- Stoiber, K.C., Koppel, R. A., Gransee, G., & Johnson, M. (2018). *Evaluation of SEL-Focused Book Reading with Urban Head Start Students* [Conference presentation]. National Association of School Psychology Convention, Denver, CO, United States.
- Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology, 38*(6), 934–947. <https://doi.org/10.1037/0012-1649.38.6.934>
- Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development, 88*(4), 1156–1171. <https://doi.org/10.1111/cdev.12864>
- Torgesen, J. K., (1998). Catch them before they fall: Identification and assessment to prevent reading failure in young children. *American Educator, 22*(1–2), 32–39.
- Torgesen, J. K., & Burgess. (1998). Consistency of reading-related phonological processes throughout early childhood: Evidence from longitudinal-correlational and instructional studies. *Word Recognition in Beginning Literacy, 161–188.*
- U.S. Department of Health and Human Services, Administration for Children and Families. (2010). *Head Start impact study: Final report.* https://www.acf.hhs.gov/sites/default/files/documents/opre/hs_impact_study_final.pdf
- U.S. Department of Education, Institute of Education Sciences. (1990). *National household education surveys program (NHES)*. <https://nces.ed.gov/nhes/>
- U.S. Department of Education, Institute of Education Sciences. (1993). *National household education surveys program (NHES)*. <https://nces.ed.gov/nhes/>

- U.S. Department of Education, Institute of Education Sciences. (2007). *National household education surveys program (NHES)*. <https://nces.ed.gov/nhes/>
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2022). *National Assessment of Educational Progress (NAEP), 2022 reading assessment*. <https://nces.ed.gov/nationsreportcard/reading/>
- Vally, Z., Murray, L., Tomlinson, M., & Cooper, P. (2014). The impact of dialogic book-sharing training on infant language and attention: A randomized controlled trial in a deprived South African community. *Journal of Child Psychology and Psychiatry*, 56(8), 865–873. <https://doi.org/10.1111/jcpp.12352>
- Vaughn, S., Chard, D. J., Bryant, D. P., Coleman, M., Tyler, B., Linan-Thompson, S., & Kouzekanani, K. (2000). Fluency and comprehension interventions for third-grade students. *Remedial and Special Education*, 21(6), 325–335. <https://doi.org/10.1177/074193250002100602>
- Vernon-Feagans, L., & Bratsch-Hines, M. (2013). Caregiver–child verbal interactions in childcare: A buffer against poor language outcomes when maternal language input is less. *Early Childhood Research Quarterly*, 28(4), 858–873. <https://doi.org/10.1016/j.ecresq.2013.08.002>
- Véronneau, M. H., Vitaro, F., Brendgen, M., Dishion, T. J., & Tremblay, R. E. (2010). Transactional analysis of the reciprocal links between peer experiences and academic achievement from middle childhood to early adolescence. *Developmental Psychology*, 46(4), 773–790. <https://doi.org/10.1037/a0019816>

- Vloedgraven, J. M., & Verhoeven, L. (2007). Screening of phonological awareness in the early elementary grades: An IRT approach. *Annals of Dyslexia*, 57(1), 33–50.
<https://doi.org/10.1007/s11881-007-0001-2>
- Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.
- Wagensveld, B., Van Alphen, P. M., Segers, E., & Verhoeven, L. (2011). The nature of rhyme processing in preliterate children. *British Journal of Educational Psychology*, 82(4), 672–689. <https://doi.org/10.1111/j.2044-8279.2011.02055.x>
- Wagner, R. K., & Torgesen, J. K. (1987). The nature of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin*, 101(2), 192–212.
<https://doi.org/10.1037/0033-2909.101.2.192>
- Walsh, B. A. (2009). *Novel word learning of preschoolers enrolled in Head Start regular and bilingual classrooms: Impact of adult vocabulary noneliciting questions during shared storybook reading* [Doctoral dissertation, Texas Woman's University]. ProQuest Dissertations and Theses database. (UMI No. 3384573)
- Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology*, 3(1), 1–14. <https://doi.org/10.1037/h0069608>
- Watson, R., & Wildy, H. (2014). Pedagogical practice of early childhood teachers: Explicit enhancement of students' literacy. *Australian Journal of Early Childhood*, 39(2), 82–90. <https://doi.org/10.1177/183693911403900211>
- Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parenting competencies. *Journal of Consulting and Clinical Psychology*, 66(5), 715–730.
<https://doi.org/10.1037/0022-006x.66.5.715>

- Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and emotional learning: Past, present, and future. *Handbook of Social and Emotional Learning: Research and Practice*. <https://psycnet.apa.org/record/2015-24776-001>
- Wellman, H. M. (2012). Theory of mind: Better methods, clearer findings, more development. *European Journal of Developmental Psychology, 9*(3), 313–330. <https://doi.org/10.1080/17405629.2012.680297>
- What Works Clearinghouse (2006). Dialogic reading [Intervention report]. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_dialogic_reading_042710.pdf
- What Works Clearinghouse. (2015). Shared book reading [Intervention report]. <https://files.eric.ed.gov/fulltext/ED555654.pdf>
- What Works Clearinghouse. (2017). Social skills training [Intervention report]. <https://ies.ed.gov/ncee/wwc/InterventionReport/630>
- Whitehurst, G. J., Epstein, J. N., Angell, A. L., Payne, A. C., Crone, D. A., & Fischel, J. E. (1994). Outcomes of an emergent literacy intervention in Head Start. *Journal of Educational Psychology, 86*(4), 542–555. <https://doi.org/10.1037/0022-0663.86.4.542>
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*(3), 848–872. <https://doi.org/10.1111/j.1467-8624.1998.00848.x>
- Whitehurst, G. J., Lonigan, C. J., Christopher, B., & Lonigan, J. (2001). Emergent literacy: Development from pre-readers to readers. *ResearchGate*. https://www.researchgate.net/publication/2471368_Emergent_Literacy_Development_from_Pre-readers_to_Readers

- Williams, B. (2002). *Closing the achievement gap: A vision for changing beliefs and practices*. Association for Supervision & Curriculum Development.
- Williams, J. P. (1980). Teaching decoding with an emphasis on phoneme analysis and phoneme blending. *Journal of Educational Psychology, 72*(1), 1–15.
<https://doi.org/10.1037/0022-0663.72.1.1>
- Wolfgang, C. H., Stannard, L. L., & Jones, I. (2001). Block play performance among preschoolers as a predictor of later school achievement in mathematics. *Journal of Research in Childhood Education, 15*(2), 173–180.
<https://doi.org/10.1080/02568540109594958>
- Yang, W., Datu, J. a. D., Lin, X. Y., Lau, M. M., & Li, H. (2018). Can early childhood curriculum enhance social-emotional competence in low-income children? A meta-analysis of the educational effects. *Early Education and Development, 30*(1), 36–59.
<https://doi.org/10.1080/10409289.2018.1539557>
- Zevenbergen, A. A., & Whitehurst, G. J. (2003). Dialogic reading: A shared picture book reading intervention for preschoolers. In A. van Kleeck, S. A. Stahl, & E. B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 170–192). Routledge.
<https://doi.org/10.4324/9781410607355-15>
- Zhang, X. (2018). Letter-name knowledge longitudinally predicts young Chinese children’s Chinese word reading and number competencies in a multilingual context. *Learning and Individual Differences, 65*, 176–186. <https://doi.org/10.1016/j.lindif.2018.06.004>

Appendix A: Literacy Focused Example Prompts

Literacy Focused Skills

Literacy Skill	Example Prompt
Alphabet	“Look at this letter: this is the letter ‘A.’ Do you see
Knowledge	another letter ‘A’ on this page? Who can point to another letter ‘A’?”
Rhyme	“Look and listen to the words ‘dog’ and ‘log.’ Do they sound alike? Dog,
Awareness	log. They both make the /au/ sound.”

Appendix B: Literacy+Social-Emotional Learning Example Prompts

Social-Emotional Learning

Competency	Example Prompt
Self-Awareness	“Look at their face. See how their mouth is turning up and pushing up their cheeks? That means they are happy. This boy feels happy.”
Self-Management	“They are feeling mad. Their body feels hot and tight. How could they calm down?”
Social Awareness	“Who on this page is sad? Yes, they are crying, so they must be feeling sad. He is sad because his friend took his toy. This made him feel sad.”
Relationship Skills	“They could make a new friend by saying hello and asking to play. She can share her truck.”
Responsible Decision Making	“They are sad because their friend took their toy. What could they do? Yes, she could tell her that made her feel sad and ask for her toy back.”

Appendix C: Intervention Book List

Author	Title
Cain, 2005	<i>The Way I Feel</i>
Dewdney, 2013	<i>Llama Llama and the Bully Goat</i>
Ferry, 2016	<i>Stick and Stone</i>
Kurtzman-Counter, 2013	<i>A Little Book About Friendship</i>
Marley, 2014	<i>One Love</i>
Spelman, 2000	<i>When I Feel Angry</i>
Verdick, 2010	<i>Calm Down Time</i>

Appendix D: Shared Book Reading Intervention Schedule

Shared Book Reading Schedule: Summer 2017

Week	Book	Letters	Repeat Letters	SEL Concepts/feelings
Week 1 - June 12	The Way I Feel – First Reading	F, A		Happy, silly, angry, sad
Week 2 – June 19	Stick and Stone	L, N		Happy, scared, afraid, worried, fair ways to play
Week 3 – June 26	One Love	O, M	L	What is a friend, how to make friends, fair ways to play, happy
Week 4 – July 3	Calm Down Time	C, H		Ways to calm down, angry, sad
Week 5 – July 10	A Little Book About Friendship	A, L, F	C, H	Friendship, kindness, love, sad
Week 6 – July 17	When I Feel Angry	I, T		Angry, mad, calm, ways to calm down
Week 7 – July 24	Llama Llama and the Bully Goat	G, B	L	Friendships, bullies, sad, angry, ways to calm down
Week 8 – August 7	The Way I Feel – Second Reading	S, D		Angry, Sad

Letters Included: A, B, C, D, F, G, H, I, L, M, N, O, S, T (14)

Letters Omitted: E, J, K, P, Q, R, U, V, W, X, Y, Z (12)

Appendix E: Affective Knowledge Test Protocol

Name: _____ Classroom: _____ Examiner: _____ PRE / POST

SECTION I: Feelings Identification

Point to each of the 4 pictures asking, **How is this child feeling? What is he feeling?**

Points	Answer	
_____	_____	1. Names/identifies mad/angry
_____	_____	2. Names/identifies happy
_____	_____	3. Names/identifies sad
_____	_____	4. Names/identifies scared/ worried/anxious

Ask the child, **Show me/point to the child who feels...**

_____	_____	5. Happy
_____	_____	6. Mad
_____	_____	7. Scared
_____	_____	8. Sad

Score: 2 points = correct; 1 point correct emotion valence (mad as sad/ pissed OR sad as mad/scared/pissed; scared as sad; scared as sad; happy as surprised, excited, proud, pleased)

SECTION I: Feeling Identification Score: _____ points (16 possible)

SECTION II: Social Competence Strategies

_____ 9. Which child in the picture looks like a good friend? (score 0 or 1)

_____ 10. What does it mean to be a friend? What should you do to be a good friend? How can you make friends? (score 0, 1, 2) [1 pt for 1 correct descriptor (includes don't kick, don't push); up to 2 pts for > 1 correct descriptor (no more than 1 pt for negative "don't do type" response)]

_____ 11. Which child in the picture looks like a bad friend or bully? (score 0 or 1) [1 for mad/angry]

_____ 12. What does it mean to be a bad friend/ bully? What does a bully do? How do bullies act? (score 0, 1, 2)

_____ 13. Look this child is angry/mad (point to angry child). What are some things you can do to calm down when you get angry? (score 0, 1, 2) (1 includes stomp feet, etc.; 2 for breathe in/out; count to 5; tell teacher; do something to make feel better; calm down cube, etc.)

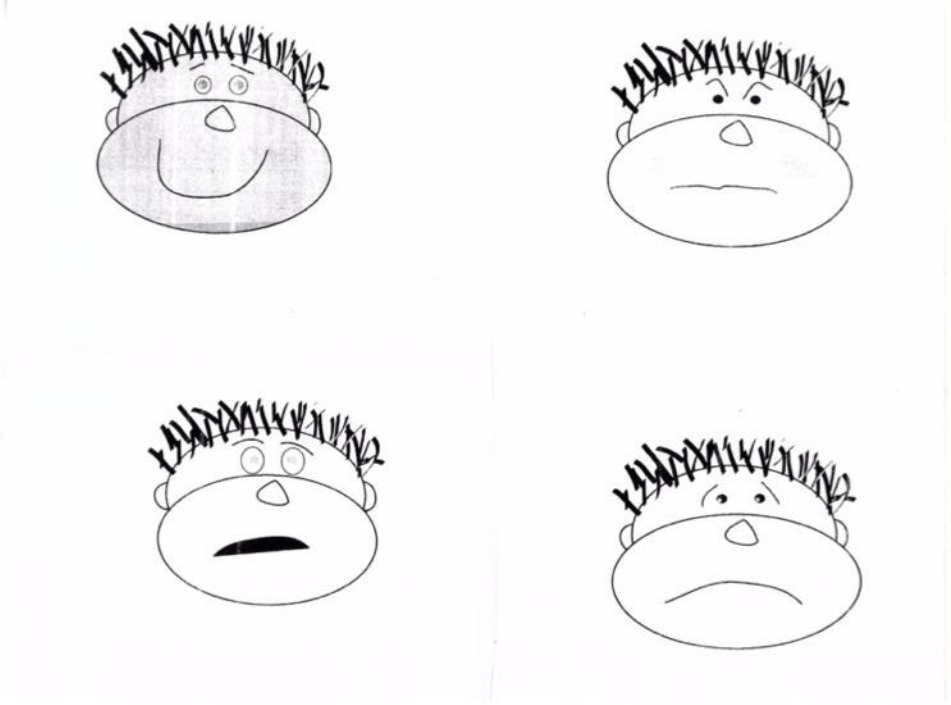
_____ 14. Look this child is sad (point to sad child) What are some things you can do when you've hurt a friend? (score 0, 1, 2) (1 includes say sorry, soft touch, hug, be more careful, be kind; 2 = 2+ strategies)

For 9, 11: Score 1 = correct; 0 = incorrect

For 10, 12, 13: Score 2 = 2 or more correct qualities, descriptors, techniques; 1 = 1 correct; 0 = incorrect

SECTION II: Social Competence Strategies Score: _____ **Points (10 Possible)**

Appendix F: Affective Knowledge Test Stimuli



Appendix G: Literacy Focused Script

Stick and Stone Guide [No SEL Focused]

Preview: **This is the word *stick*. The first letter in *stick* [point] is *s*. What is the first letter in the word *stick*? This word is *stone* [point]. Listen, does *stone* start with the same letter? Yes, Stick and Stone both start with the same letter: *S*. Hmm... I wonder what this book will be about? Let's get started!**

Page 1: **Where should I start reading on this page?**

Page 1 & 2: [After] [Point to the S in stick and the S in stone] **These words start with the same letter. What letter do they start with? That's right, the letter *S*. Lets make the S sound together. Ready? S-S-S-S.**

Page 3-4: [After] **What letter makes the /L/ sound in lonely and alone? [The letter L]. Can someone find one of the L's on this page? [Page 3].**

Page 9: [Before/Point to the word pinecone] **This is the word *pinecone*. Does anyone know where a pinecone comes from? [Trees]. The word pinecone has two parts; watch me. Demonstrate each word with a clap [two syllables]. The word pinecone has two syllables! Let's clap them together. Ready? [Clap pinecone].**

Page 12: **This is the word *vanish* [point]. Vanish means to disappear or go away. Magicians will pretend to make things vanish with their magic wand! [Pretend to have a magic wand and to make the children vanish.]**

Page 15: Point to each word and say, **This is the word *Gee* and this is the word *Me*. These two words rhyme. They rhyme because the ending sounds are the same, they both end with the 'ee' sound. What is another word that rhymes with me? [Bee, sea, tea, she, he, key, fee].**

Page 19 and 20: **Listen when I say the word *wander*. Clap one time for each syllable [part] you hear in the word wan-der. [Say the word and clap the syllables with all the kids]. Wander means to "go off" by yourself or to walk away. Sometimes you might wander when you are out on the playground.**

Page 21: **Who knows what the word *shore* is? Can you guess by looking at the picture? [sand, land and sea meet, where you can look at the water/ocea/sea, beach...].**

Page 24: [After] Point to the word *hurricane*. **This is the word hurricane. It is a long word. Let's count the syllables. I will go first, but you count my claps! [Clap the syllables (3)]. How many parts were in the word hurricane? Let's clap the syllables together now.**

Page 26: [After] Point to the word pinecone. **Here is the word pinecone again! Let's count the syllables together again! Clap syllables in pinecone.**

Page 30: Point to each word and say; **This is the word *night* and this is the word *sight*. These two words rhyme, which means they sound the same at the end. Let's say the words together. "Night- Sight."**

Page 31 and 32: Point to each word and say, **Puddle and muddle both have two letters that are the same right next to each other. What letter is it? [D] What sound does it make? Let's all make the sound together *d-d-d*.**

Last page: **Look the Stick and Stone made the number 10. Let's trace the number 10 with our fingers. Look now you made a perfect 10 too, just like Stick and Stone made a perfect 10. [give children a high 5]**

Appendix H: Literacy+Social-Emotional Learning Script

Stick and Stone Shared Book Reading Guide [SEL Focused-Day 1]

Preview: **This is the word *stick*. The first letter in *stick* [point] is *s*. What is the first letter in the word *stick*? This word is *stone* [point]. Listen, does *stone* start with the same letter? Yes, Stick and Stone both start with the same letter: *S*. Hmm.... I wonder what this book will be about? Let's get started!**

Page 2: **Look at their faces** [point to Stick and Stones faces]. **How do you think Stick and Stone feel?**

Page 9: Point to the S in stick and the S in stone. **These words start with the same letter. What letter do they start with? That's right, the letter *S*. Let's make the S sound together. Ready? S-s-s-s.**

Page 11: point to stones face. **Look at Stone's face. How do you think he feels when Pinecone makes fun of him? How can you tell?**

Page 12: Point to the word Vanish. **This is the word *vanish***. Vanish means to disappear or go away. Magicians will pretend to make things vanish with their magic wand!

Page 13: Point to Stones face: **How do you think Stone feels now? [Happy] How can you tell? [His face shows he is happy-smiling]. Why do you think he feels happy?** [Stick was nice-Stick has a friend].

Page 15: Point to each word and say, **This is the word *Gee* and this is the word *Me*. These two words rhyme. They rhyme because the ending sounds are the same, they both end with the 'ee' sound. What is another word that rhymes with me?** [Bee, sea, tea, she, he, key, fee].

Page 15: **Do you stick up for your friends when someone is not being nice? What is something you could say when someone is not saying nice things?** [Please stop, I don't like it when you talk like that, I'm not going to play with you if you keep talking like that].

Page 19 and 20: **Listen when I say the word *wander*. It has two syllables [parts]. I will clap them, and then we will do it together. Listen** [say the word and clap the syllables in each word wan-der]. **Now let's do it together. Clap one time for each syllable [part] you hear in the word wan-der.** [Say the word and clap the syllables with all the kids]. **Wander means to "go off" by yourself or to walk away. Sometimes you might wander when you are out on the playground.**

Page 22: [After] Point to the sand bucket. **Look, Stone and Stick only had one bucket! How do you think they play fairly with it?** [Take turns, share, and trade].

Page 24: [After] **Look at Stick and Stone's faces. How do you think they are feeling?** [Scared, afraid, worried].

Page 29: [After] Point to the large last "stick" on the page. **Why do you think these words are bigger?** [Because he is yelling. He is being loud. He is upset]. **How do you think he feels that he cannot find Stick?** [Sad, alone, lonely, frustrated, mad].

Page 31 and 32: Point to each word and say, **Puddle and muddle both have two letters that are the same right next to each other. What letter is it? [D] What sound does it make? Lets all make the sound together *d-d-d*.**

Page 35 and 36: [After] **Look at Stick and Stone's faces. What are they doing?** [Smiling] **Why do you think they are smiling?** [Feel happy to have a friend; to be together] **What makes you feel happy? How can you tell when someone is happy?**

Appendix I: Statistical Assumptions

Table 13: Collinearity Diagnostics Table for Alphabet Recognition Post-Intervention as the Dependent Variable

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)
1	1	1.806	1.000	0.01
	2	0.157	4.227	0.22
	3	0.037	8.766	0.77

Note: This table shows the collinearity diagnostics for the regression model where Alphabet Recognition post-intervention is the dependent variable, and Rhyme Awareness post-intervention and Affective Knowledge Test post-intervention are the predictors.

Table 14: Collinearity Diagnostics Table for Rhyme Awareness Post-Intervention as the Dependent Variable

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)
1	1	2.657	1.000	0.01
	2	0.301	2.970	0.08
	3	0.042	7.995	0.91

Note: This table displays the collinearity diagnostics for the regression model where Rhyme Awareness post-intervention is the dependent variable, and Alphabet Recognition post-intervention and Affective Knowledge Test post-intervention are the predictors.

Table 15: Collinearity Diagnostics Table for Affective Knowledge Test Post-Intervention as the Dependent Variable

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)
1	1	2.623	1.000	0.03
	2	0.271	3.110	0.54
	3	0.105	4.989	0.43

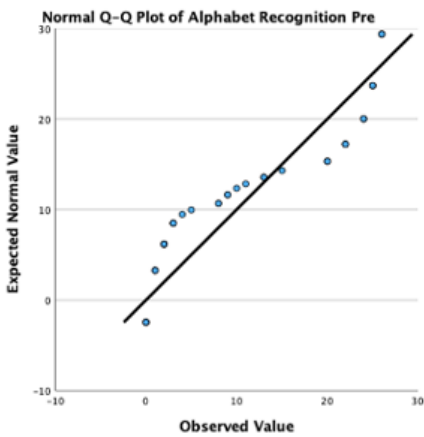
Note: This table shows the collinearity diagnostics for the regression model where Affective Knowledge Test post-intervention is the dependent variable and Alphabet Recognition post-intervention, and Rhyme Awareness post-intervention are the predictors.

Table 16: Pearson Correlations Among Pre-Intervention Literacy Scores

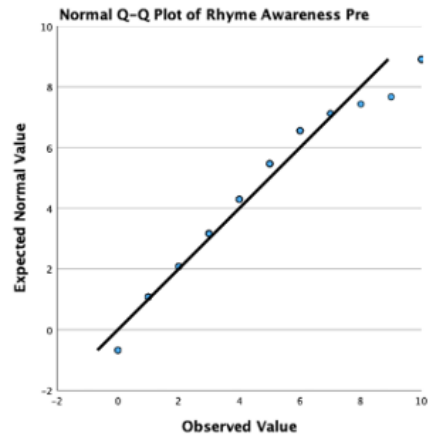
		Alphabet Recognition Pre	Rhyme Awareness Pre
Alphabet Recognition-Pre	<i>r</i>	1	.526**
	Sig		<.001
	<i>N</i>	54	54
Rhyme Awareness-Pre	<i>r</i>	.526**	1
	Sig	<.001	
	<i>N</i>	54	54

Note: This table presents Pearson correlation coefficients for pre-intervention literacy scores (Alphabet Recognition pre-intervention and Rhyme Awareness pre-intervention). The results revealed a significant positive correlation between Rhyme Awareness (pre) and Alphabet Recognition (pre), $r(52) = .526, p < .001$, indicating that higher scores on Rhyme Awareness (pre) are associated with higher scores on Alphabet Recognition (pre).

Alphabet Knowledge (pre): Normality

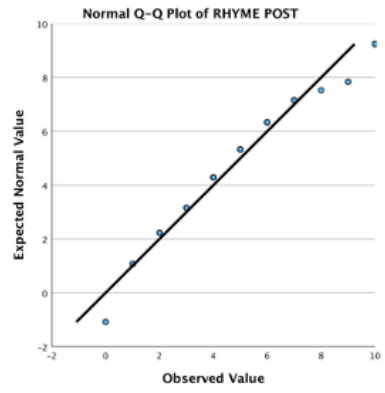
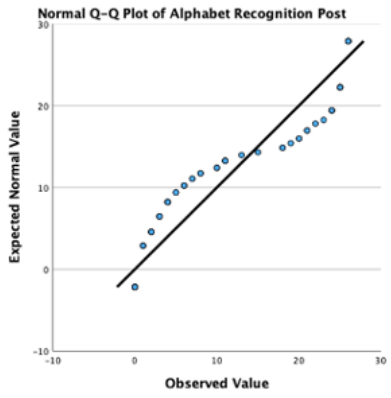


Rhyme Awareness (pre): Normality

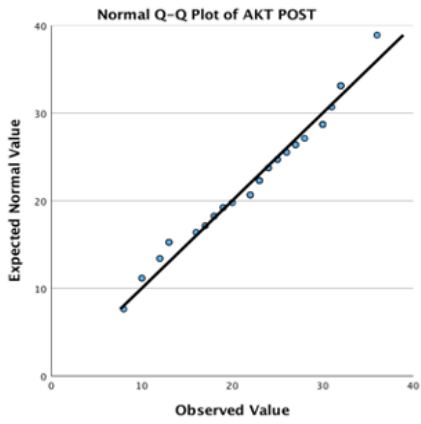


Alphabet Knowledge (post): Normality

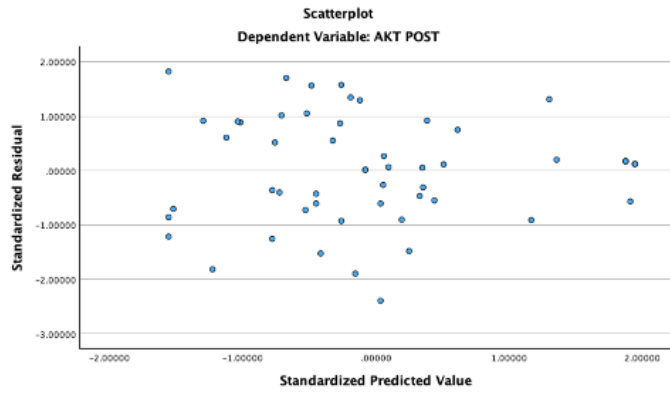
Rhyme Awareness (post): Normality



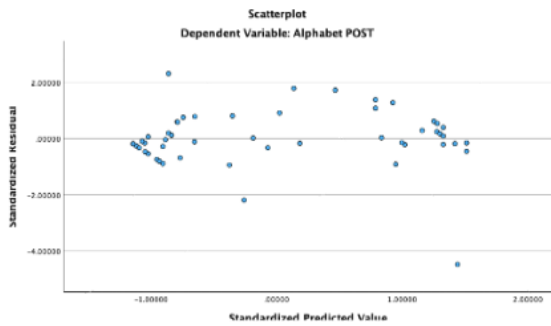
Affective Knowledge Test: Normality



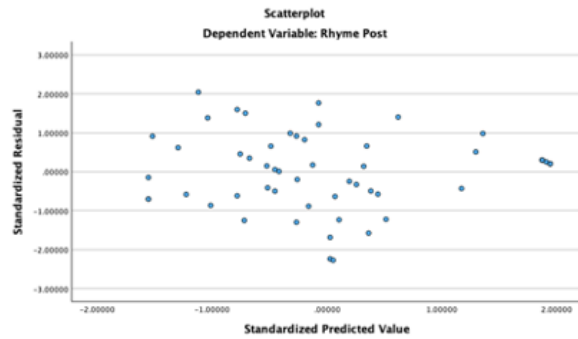
Affective Knowledge Test: Homoscedasticity



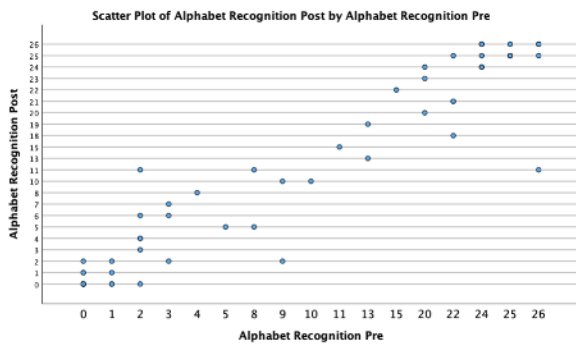
Alphabet Knowledge: Homoscedasticity



Rhyme Awareness: Homoscedasticity



Alphabet Knowledge: Linearity



Rhyme Awareness: Linearity

