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Review Article

The relationship between home and early childhood setting in supporting early literacy

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Abstract: This review examines the relationship between language and literacy experience in the home environment and their implications for literacy in early childhood settings. Building on early sociocultural research into how children develop language and literacy within the home environments, recent research on how home environments support children's developing language and literacy knowledge and skills are explored, along with the research on the importance of 'serve and return' interactions between caregivers and young children for maximum brain development and language acquisition. The review also examines research on the use of multimodal literacies in home environments, along with the contribution of family literacy models to understanding how families support children's development. The implications of this body of research are examined in relation to what it means for early childhood teachers to support literacy learning and development in diverse learners and create a reciprocal learning environment for literacy.

Keywords: Oral language, Literacy, Home environment, Family literacy, Multiliteracies, Early childhood education, Teachers' beliefs

Introduction

Oral language has been an important focus for educators in recent decades, with increasing understanding of the profound effects that deficits during oral language development in early childhood have on later school achievement. More specifically, language quantity (number of words) and language quality (sentence complexity, lexical diversity etc.) from the foundation of later linguistic and cognitive skills (Rowe, 2012; Hirsch-Pasek et al., 2015; NELP, 2008). Language abilities play an influential role in non-verbal capacities including executive functioning, mathematical abilities, and social skills (Romeo et al., 2018). It is well established that oral language development underpins early literacy development and that children's early experiences within the family setting lay the groundwork for learning and development in the first years of life (NELP, 2008; Paciga et al., 2011; Teale et al., 2020; Sénéchal, 2014). However, the links between how early childhood teachers integrate their knowledge of *these practices into their early childhood curriculum are* less well documented, which this review was designed to analyse. Although some studies have examined how home literacy practices prepare children for the transition

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to primary school, and others have explored how teachers can build on diversity in literacy development (such as translanguaging and biliteracy) there are few reviews that examine the knowledge early childhood educators need to build an effective early literacy programme building on family literacy practices.

This review examines the sociocultural research, based on Vygotsky's (1962, 1978, 1986, 1998) theorising, which explores the links between home literacy practices and early childhood teachers' practices. Vygotsky (1997) described the development of higher mental functions as a gradual process involving the transition from inter-individual ("inter-mental") or shared to individual ("intra-mental"). Higher mental functions are shared, meaning that they are co-constructed— constructed by the child in interaction with another person. For young children, higher mental functions exist mainly in their inter-individual form, as they share these with adults or older children through co-construction. The nature of the cultural tools acquired and the outcomes of their acquisition are determined by the specific interactions between children and their social environment. Vygotsky (1998) referred to these interactions as 'the social situation of development' which he considered the basic source of development. The social situation of development shaped Vygotsky's approach to the transition from preschool to school age, including the issues of literacy acquisition and school readiness. Pioneers in the field of emergent literacy, Teale and Sulzby (1989) defined it as a complex socio-psycho-linguistic activity, meaning that the social and contextual aspects of literacy are integral to children's development. Using such a definition of literacy acquisition means that early childhood teachers encounter children at varying points in their developing language and literacy. In order to meet children's learning needs, teachers need to know about children's literacy experiences at home, be skilled in observing and identifying children's language and literacy behaviours, and plan how to best support children's learning to promote equitable outcomes.

While most reviews of family literacy look at the impact of family literacy programmes, this review focusses on the relationship between family literacy practices and early childhood practices to support continuity in literacy development or to build on literacy experiences. This review extends some of the early work by Jackie Marsh (2010) and others on the influences of home literacy on school literacy practices, but with a specific focus on early childhood practice. It also extends on an earlier review the New Zealand Education Review Office (2011) on literacy in early childhood services.

A semi systematic literature search was conducted to identify literature discussing the development of literacy in home settings and its relationship with early childhood practice. As Snyder (2019, p. 334) states, "a semi-systematic review often examines how research within a selected field has progressed over time or how a topic has developed across research traditions". The studies for this review were sourced from five databases and other library resources. Specifically, we searched Discover, Web of Science, Education Source, ProQuest and Scopus. These databases were searched for research published in the last ten years up to 2024, and additional seminal references that have influenced current thinking were included to establish, so the history of the field and its links to early childhood education. Key search terms included oral language, literacy, home environment, family literacy, multiliteracies, early childhood education and teachers' beliefs about oral language and literacy. The searches focused on children from birth to school entry, which ranges from 4 to 7 years across different countries. The searches returned a total of 116 results. All duplicates were removed, and the remaining artefacts were screened for inclusion criteria by abstract and title. Inclusion criteria required a clear focus on literacy, shared thinking, joint involvement and learning in early childhood. In total, 91 sources were analysed and included in an annotated bibliography, which was used for sorting themes in the literature.

The review first examines the ways in which families support oral language development and how the experiences families provide help to shape developing literacy knowledge and skills. It explores the influences on a child's developing brain and the importance of 'serve and return' interactions on developing communication and comprehension skills. The influence of socioeconomic status on language and literacy acquisition is also reviewed. Next, the review examines research on home literacy practices, with analyses of how contemporary multiliteracies are used in the home to support literacy in both ambient and deliberate ways. Finally, the review critically analyses how home literacy practices need to be well integrated with early childhood curriculum, to support children's learning and successful transition to school based literacies.

Supporting oral language development in the home environment

Some significant early research on how children develop language and literacy at home was led by Bruner (1974, 1975, 2010), Ninio (1983) and Snow (1977, 1983), among others. Many of these early studies focused on the importance of dyadic interaction in supporting children's language acquisition and cognitive development. Bruner (1974) argued that linguistic forms are preceded by other formats in which the parent and child assume the roles of communicator and recipient, and that through these interactions the child learns the conventions of give-and-take exchanges. Bruner proposed that the child engages in these exchanges using non-linguistic signals, which prepares the child to decode linguistic utterances. Peekaboo thus serves as a precursor to reversible role structures, such as the use of "I" and "you" in language, while joint attention is a precursor to referencing. Bruner emphasised on the pragmatic use of communication as speech acts. From "demand mode" communication, more subtle forms

of communication are developed to meet a variety of needs. Children's language acquisition builds upon their pre-linguistic understanding of concepts and meanings, which enables them to work out grammatical rules.

Papousek et al. (1984) found that in the first weeks and months, parents and other adults engage infants in vocal exchanges in fairly uniform ways – using melodic pitch contours, simplified linguistic structures, slower tempo, and imitation. As infants develop, they produce more complex and differentiated vocalisations, and there is considerable variability in the frequency and quality of language input. The simplified babytalk is thought to make conversation and meaning more accessible, and to promote the infant's communicative competence. They proposed that regular intersubjective interaction, with maternal encouragement of attention and talk, is related to children's vocabulary size. Wood et al. (1976, in Bruner, 2006) introduced the notion of scaffolding, drawing on Vygotsky's (1962) theory of the zone of proximal development (ZPD), to explain how tutors - usually parents, but also early childhood teachers - work within their implicit theory of the child's understanding, and act to maintain the child's attention on the task, control frustration, make tasks manageable, highlight critical features, demonstrate tasks and guide the child. Recent research has confirmed that this scaffolding of early language occurs in both homes and ECE settings (Doi, 2020; Gillespie & Greenberg, 2017).

Van der Geest (1977) examined data on children's speech (from the emergence of two-word sentences and six months thereafter), and the speech of their mothers during interactive sessions. Van der Geest found that the semantic aspects of children's speech were more advanced than the mothers' speech, while mothers' speech was more advanced those in terms of syntax. This suggests that the child determines the cognitive complexity of the conversation (for example, indicating to the mother that he or she can talk about the past or about possession) and the mother then demonstrates how to express these contents correctly. Trevathen (1979) argued that infants have a faculty for intersubjectivity, which motivates and regulates cognitive development and supports joint attention. Her research showed that mothers adapt to infants' expressive behaviour, and that their behaviours change over time as the infant matures. With young infants, mothers act as if the infant is being social, whereas with older infants, mothers tend to name and instruct. Language is therefore taught as a tool for communication and for thinking but both partners exercise control. Recent brain research using functional near-infrared spectroscopy (fNIRS) has confirmed the importance of such early dyadic interactions on supporting brain development and the neural pathways needed for language development (Piazza et al., 2019).

The importance of joint attention and interactions in language and literacy acquisition

Bruner (2010) identified the importance of interactions and the concept of transactions as key to intersubjectivity. He described a precursor of language learning as "mutuality in action" (p. 55), which shows that very young infants have an idea of what others are thinking and have strategies for managing their attention jointly with others. As he argued, language, shared contexts, and shared conventions for using language help us to understand other minds, which in turn helps to shape children's minds. Tomasello (2001) concurred, arguing that joint attention is important at different developmental levels, and that to learn language, children must be able to understand the communicative intentions of adults, with children becoming more skilful over time with predictable formats providing an early scaffold.

Considerable socio-cultural research shows that the quality and frequency of interactions between parent-child dyads influence children's development. Snow and Goldfield (1983) identified three important elements that support children's language development: semantic contingency; scaffolding; and the use of routines. Semantic contingency through story reading provides opportunities to expand on utterances in response to the text and to add new information through semantic expansion, offering clarification, new vocabulary, and different approaches to questioning. Scaffolding allows opportunity for "upping the ante" (p. 74) by increasing the complexity of language and reducing degrees of freedom in a task, enabling the child to focus on challenging aspects. Routines, such as storytelling, give children opportunities to learn language, hear predictable adult utterances and extend their thinking. Wheeler (1983) also examined how mothers talk about the same book illustration as the child grows older. Wheeler found that mothers' speech changes as children develop, providing appropriately 'fine-tuned' models for the child's current verbal abilities. These studies showed more elaboration with each subsequent occurrence, suggesting increasing proficiency with language. Research by Justice and colleagues supports the view that story reading and storytelling offers opportunities for scaffolding language and literacy development (Justice & Pence, 2005; Tompkins, Guo & Justice, 2013).

Altwerger et al. (1985) found that story book reading, and other literacy activities, are essentially social in nature and their development is supported through joint attention strategies. They proposed that the relationship is initially an inter-psychological process between parent and child (Vygotsky, 1978), but changes with time to become an intra-psychological process. The child becomes autonomous by internalising the strategies used in the social interaction. Like Wheeler (1983), they found that the parent fine tunes to the child's developing language abilities. During observations of mother-infant dyads (from 23-29 months of age), Altwerger et al. found that story reading was a negotiated, interactional strategy: the parent affects the child as much as the child affects the parent. They found that mothers issue invitations both verbally and prosodically to

encourage the child to predict and join in the story telling. Similarly, Ninio's (1983) empirical study of joint book reading in mother-child dyads examined the relation of maternal labelling strategies to children's behaviour and responses. The study demonstrated a high level of maternal sensitivity and maternal fine-tuning to the child's signals of word knowledge. Ninio (1983) also showed that each utterance about a picture was a development, addition, or elaboration of the utterance on the previous occasion it was discussed. The mixture of labelling formats (providing, eliciting pointing, or eliciting production of word) for repetitions of the same word used by mothers were reflected in the child's mixture of labelling modes.

Bus et al. (1997) found that early relationships between infants and their parents influenced children's involvement in literacy practices. In this study, 138 families were observed in a laboratory setting when toddlers were 12,13,18 and 20 months old, and their attachment relationship status was assessed. At 18 and 20 months, a book reading session was also observed. The study found that the interaction patterns of secure mother-child dyads differed from those of insecure-avoidant and insecure-resistant dyads, in which children were more unresponsive to the book and more easily distracted. Insecure-avoidant infants and mothers were unable to develop contingent, reciprocal interactions, and these pairs did not establish satisfying book reading practices in their family context as a result. In a further study, attachment relationships were found to influence the quality of interactions around learning to read, with more secure dyads showing more sustained focus, more attention to reading instruction and proto-reading, and with mothers in secure dyads having higher expectations and demands of their children (Bus & van Ijzendoorn, 1988). Recent research shows the importance of these early and satisfying reading experiences, suggesting that the effects can be seen in children (Brown, Wang & McLeod, 2022). Small and positive relationships were found between parent-child book reading at 1–2 years and reading, spelling, grammar, and numeracy scores in Grade 3 (8–9 years) and reading, writing, spelling, and grammar scores in Grade 5 (10–11 years).

Shonkoff and Levitt (2010) present compelling evidence that genes interact with early experiences and environmental influences in ways which shape the developing architecture of the brain. The brain is the primary organ for stress, and for regulating responses to stress. It changes in terms of structure and function as a result of significant stress and adversity, especially that experienced without the support of a stable and loving caregiver, in ways that affect cognition, executive function and emotional regulation. Stable, secure relationships facilitate adaptive responses to stress and provide a buffer or protection towards negative effects. Responsive and sensitive relationships with parents are linked to children's stronger cognitive and language skills, social competence, and academic skills (Dozier et al., 2008).

Accordingly, Shonkoff (2010) argued that significant sources of stress have negative effects for learning, including language, behaviour, physical and mental health, with significant implications for early childhood policy. Shonkoff and Fisher (2013) proposed that child outcomes can be improved by capacity building in caregivers to protect children from the damage of toxic stress. Children need caregivers with sound mental health and well-developed executive function skills. Interventions should therefore be focused on strengthening executive skills and mental health in adults, so that they can provide optimal learning environments for young children.

Research has shown that more than a certain number of words is necessary for optimal learning and development. The quality of language exposure is also significant, including linguistic features such as vocabulary diversity and sophistication, grammatical complexity, and narrative use (Rowe, 2012), as well as the key importance of interaction features such as contiguous (time locked), contingent (topically similar), and back and forth conversation (Hirsch-Pasek et al., 2015). Conversational turn taking provides a rich experience of high quality linguistic, attentional, and social features (Romeo et al., 2018). Growing evidence indicates that relationships promoting growth are based on 'serve and return' or give-and-take interactions (National Scientific Council on the Developing Child, 2004; Bonello, 2023). Serve and return interactions have been found to build brain architecture in infants. These interactions provide emotional connection, individualized responsiveness, joint action, mutual attention, build on the child's interests, intentions, and strengths, shape the child's self-awareness, and stimulate development, including language acquisition. The study by Romeo et al. (2018) on the relationship between language use and structural neural connectivity in young children found that this specific type of language experience (serve and return) leads to development of the brain in the 'Broca's area' and supports both myelination and the maturation of the anterior terminations of the dorsal language pathways important for language processing. Romeo's findings highlight the importance of conversational turns for brain development above and beyond the influence of socioeconomic status. The findings also suggest previous interventions aimed at closing the word gap need to be reconsidered to focus on the quality of language interaction and to ensure that parents and educators talk with children, not just talking to them.

Given the importance of intersubjective interactions for language development, Girolametto et al. (1994) evaluated an intervention that taught mothers to follow the child's lead, use language-modelling skills, and apply interaction-promoting strategies. The intervention successfully increased the duration and frequency of interactive engagement between mothers and their preschool children with developmental delays. Research on joint attention and guided participation (Rogoff, 2003) in social and cultural activities suggests that such activities assist with cognitive as well as language development (Vygotsky, 1978; Wertsch,

1993). For example, Goldsmith and Rogoff (1997) and Adamson et al. (2019) found that joint or coordinated attention was important for growing relationships and communication, with influences on early language development and supporting children's learning through shared problem-solving. Rogoff (2003) drew on Tizard and Hughes' (1984) research with families in working class settings in Britain to show that everyday conversations that are not designed as instruction provide opportunities to learn and be involved in the knowledge, language, and skills of a community. The term guided participation highlights that the collaborative nature of learning may not be explicitly instructional.

Rogoff (2003) also discussed shared or distributed cognition as a key cultural phenomenon, showing how cognition is distributed over people and tools. Drawing on Vygotsky's (1978) theory, Rogoff argued that thinking also involves learning to use cultural tools in specific ways, such as in literacy, maths, and problem-solving approaches. Rogoff identified narratives, routines and play as cultural practices with significance for learning. Confirming Bruner's (1974, 1975) earlier work, Rogoff (2003) found that early language is developed through mutuality in language use as caregivers repeat and build on infants' utterances. She found that certain cultural groups (e.g. middle-class US mothers) structure children's contributions to conversations about picture books and that infants are led to fill in the gaps in games such as peekaboo. More recently, Rogoff (2014) proposed the notion of LOPI (Learning by Observing and Leaping In) to explain how children learn cultural knowledge and language by participation in communities. The theorising of LOPI suggests that there are seven key elements to the LOPI prism, which explain how children learn through this approach: the child is incorporated into family endeavours; the child is eager and motivated to learn; learning is collaborative and flexible; the goal of learning is transformation of participation; learning involves keen attention; learning is based on shared verbal and nonverbal references; and adults or peers provide the learner with feedback on their assessment of their endeavours.

Family differences in language use and the impact on child development

Bruner (1975) reviewed studies on the difference in family interactions experienced by middle- and lower-class children. He found that middle-class parents tend to encourage formal categories and strategies in language use such as analysis, questioning, elaborating, and hypothesising. This involves using language to construct a linguistic repertoire which can be manipulated independently of context. Language is thereby used for analysis and synthesis, particularly using abstraction, extraction and decontextualization. Snow (1977) confirmed these findings, with a study that examined the semantic content of mothers' speech and child speech. She found mothers' speech had the same semantic types as those the children were using, but that mothers provided examples for expressing semantic content and elaborated syntactically and semantically on children's utterances.

This notion of socioeconomic language differences in families was also discussed by Bernstein (1971), who proposed that families use elaborated and/or restricted codes in their interactions with children. He controversially suggested that middle class families make greater use of elaborated codes, although research has confirmed some of his claims (Maton & Muller, 2007). Bernstein did not claim that one code was superior to the other, but that different contexts require different codes. In the elaborated code, speech can 'stand on its own' and will be understood by most listeners, as it is explicit and detailed. The restricted code is used by insiders, such as family members, who share assumptions and understanding on a topic, whereas the elaborated code does not assume that the listener shares these assumptions or understandings. A restricted code is used in relatively informal situations, stressing the speaker's membership of a group, relying on context for meaning, and lacking stylistic range. According to Bernstein (1971), "Society, however, may place different values on the orders of experience elicited, maintained and progressively strengthened through the different coding systems" (p. 135). Maton and Muller (2007) describe how Bernstein argued that different social positions within society, understood in terms of their degree of specialisation, have different language use patterns that influence the ability of these groups to succeed in schools. These social positions create, as he later put it, "different modalities of communication differentially valued by the school, and differentially effective in it, because of the school's values, modes of practice and relations with its different communities" (Bernstein, 1996, p. 91).

There is substantial evidence that language acquisition is adversely affected by socio-economic status (SES), with children from lower SES backgrounds hearing fewer and less complex utterances than their socially and economically more advantaged peers (Hart & Risley, 1995; Rowe 2008). Hart and Risley's (1995) landmark study found that by age three, children from higher SES backgrounds had heard 30 million more words than those from lower SES backgrounds; this exposure predicted differences in child IQ at age three and literacy achievement by third grade. An analysis of the "30-million-word gap" (Hindman et al., 2016, p. 134) showed that children from higher socioeconomic backgrounds know 60% more words, and have better comprehension at 18 months, than children from lower socioeconomic backgrounds. Furthermore, there is growing evidence that SES disproportionately affects language ability and the neural systems underlying language compared with other neurocognitive domains (Farah, 2017). Structurally, lower SES is associated with reduced gray matter in the brain's left perisylvian regions, which underlie the phonological, semantic, and syntactic components of language comprehension and

production (Noble et al., 2015), as well as in the bilateral occipitotemporal regions involved in reading (Jednorog et al., 2012). In addition, functional neuroimaging with language tasks reveals SES related differences in the left inferior frontal (Raizada et al, 2008), superior temporal, and fusiform regions (Noble et al., 2006). Put simply, exposure to language and to interaction assists the development of the brain and affects learning and development in young children.

Many low socioeconomic children struggle to learn to read, and this has ongoing implications for their academic achievement generally (Hindman et al., 2016). The gap likely occurs for several reasons, but the language stimulation that children receive at home is one important factor. Children living in poverty are exposed to fewer total words, and a smaller diversity of words, both at home and in early childhood settings (Hindman et al., 2016). Language practices in children's homes vary according to the values and norms of their cultural communities, as well as their parents' goals and practices (Martini, 1996; Rogoff, 2003; Sénéchal, 2014).

Developing literacy knowledge and skills in early childhood

The National Literacy Panel Report (NELP, 2008) identified that language experiences in the first five years of life lead to the acquisition of six key variables that predict later literacy achievement, as well as the development of five additional early literacy skills that are positively correlated with later literacy achievement. The six key variables (alphabet knowledge, phonological awareness, rapid automatic naming of letters or digits, rapid automatic naming of objects, the ability to write and phonological memory) retain their predictive power even when other variables such as IQ or socio-economic status (SES) are taken into account. The other five variables (concepts about print, print knowledge, reading readiness, oral language production and comprehension, and visual processing) are also associated with one or more aspects of later literacy achievement. For instance, oral language was found to play a greater role in later literacy achievement when measured using more complex assessments that included grammar, the ability to define words, and listening comprehension, rather than when measured using only simple vocabulary knowledge (NELP, 2008).

There is growing interest in the role families play in the acquisition of these knowledge and skills. Crain-Thoreson and Dale (1992) followed twenty-five 20-month-old children identified as verbally precocious in a longitudinal study to determine if verbal precocity predicted later language and literacy skills. The children remained verbally precocious, but this did not lead to precocious reading in all but one case. Instead, exposure to instruction about letter names and sounds was found to predict children's literacy skills including knowledge of print conventions, invented spelling, and phonological awareness at 4.5 years. Overall, language and literacy appeared to be separate abilities, with language measures not related to literacy measures, but with moderate interconnections among the various language measures. The study also measured the frequency and quality of engagement in story reading, which was found to predict both language ability at 2.5 and 4.5 and knowledge of print conventions at 4.5 years. The child's engagement in the story was found to be more important than the frequency of a particular type of parental utterance. Both story reading and early reading instruction are found to be important aspects of the literacy environment that influence learning to read (Sénéchal, 2014).

Kim (2009) also explored how home literacy practices relate to children's language and literacy growth trajectories in a longitudinal study of Korean children and families. This study examined children's initial literacy knowledge and skills as well as their knowledge and skills at the end of the study to establish a rate of growth. Skills measured included emergent literacy skills (comprising vocabulary, letter-name knowledge, and phonological awareness) and conventional literacy skills (comprising word reading, pseudoword reading, and spelling). Findings included that frequent reading at home and parent teaching had a positive effect on both emergent and conventional literacy skills at the end of the study, but these were not related to rate of growth. Children's exposure to print enhanced their vocabulary, letter-name knowledge, and phonological awareness. Children whose parents engaged them in more frequent teaching had lower literacy skill scores after controlling for home reading. This was thought to be due to the social and cultural expectation for Korean parents to see their role as providing remedial help, and that parents who engaged in teaching more often did so because their child was experiencing difficulties with literacy skills. Finally, phonological awareness was not found to explain the relationships between home literacy practices and literacy acquisition. When phonological awareness was controlled for, letter-name knowledge and vocabulary were also found to contribute positively to literacy development.

Neha et al. (2020) examined home learning practices in relation to oral language, literacy, and numeracy in 41 Māori families with a child aged 3.5-5 years in New Zealand. Parents were observed reading a picture book and reminiscing about past events together and completed a questionnaire about home literacy and numeracy practices. Children's receptive and expressive vocabulary and comprehension (grouped as oral language skills), early literacy (phonological awareness and letter recognition), and numeracy skills (number recognition and counting) and self-regulatory abilities (grouped as academic skills) were assessed. Book-reading and reminiscing correlated with and predicted children's early academic skills, while book-reading correlated with oral language skills. This finding suggests that a more elaborative, linking, and repetitive interactional style led to higher academic skills than literal description or labelling. Neha et al. concluded

that book-reading interactions are not the only interactions that support children's language and literacy learning, and that oral narratives and practices of reminiscing which are important in indigenous communities for oral transmission of culturally important knowledge are a cultural practice that supports children's early learning.

In an earlier but similar study, Beals and Tabors (1993) examined the vocabulary found in family conversations and concluded the use of rare words was predictive of later vocabulary measures. Findings showed that different conversational contexts generate different proportions of rare words and may be more supportive of vocabulary acquisition. Vocabulary size and knowledge of unusual words does predict later literacy achievement (NELP, 2008; Sénéchal, 2014), so these studies on family literacy practices offer useful insights into the varied ways in which families might support language and literacy acquisition.

Alternative supports other than shared book reading are also documented in the literature. Gregory (2001) explored the impact of sibling support for literacy activities in the home. The study examined the literacy play between siblings (a 9-11 year-old child and their younger sibling) in 16 families (eight Bangladeshi, eight Anglo) by taping interactions. Gregory found that sibling interactions involved reciprocal learning. Older children were found to be facilitators, "teaching" younger children which helped them to practice their school or community languages and literacy practices, whilst younger children benefited from having opportunities to learn these practices in play before needing to do them for real.

Book reading remains a key measure of family literacy activity, although the various studies on the importance of this activity are inconclusive. Sénéchal et al. (1996) researched reliable measures of parental storybook reading, noting that the wide range of findings relating storybook reading to children's language outcomes may be due to a lack of standardisation of measures (different ways of measuring frequency), ambiguity about measures (the quantity of readings which comprise a reading event), and /or the use of self-report (and social desirability bias). Shared reading is thought to facilitate language development because: 1) books contain language not usually encountered in spoken language; 2) shared reading provides children with undivided adult attention, and 3) there is usually repetition of story readings. These features help children to learn about language and acquire vocabulary. The study explored whether parents' and children's knowledge of storybooks would be a better measure for predicting language skills. Parents' knowledge of storybooks (familiarity with titles) was found to predict children's receptive vocabulary, and children's knowledge of storybooks (recognising illustrations, characters, and naming titles) was found to predict both receptive and expressive language. Self-reports of home literacy practices varied and showed that it was difficult to obtain robust correlations with children's language skills.

A robust set of studies which attempted to systematically determine the relative contribution of different home literacy activities to literacy learning were developed by Sénéchal and colleagues. Sénéchal and LeFevre's (2002) five-year longitudinal study of 168 middle and upper middle-class children explored the relations between children's home experiences of literacy and their receptive language, emergent literacy skills, and reading achievement. As a result, they proposed a 'Home Literacy Model' which explains the links between home literacy experiences and later school achievement. They found that children's exposure to books related to the development of vocabulary and comprehension skills, which related to children's reading in Grade 3. Parental teaching of reading and writing skills was related to early literacy skills, which predicted word reading in Grade 1 and had an indirect relation to reading in Grade 3. Therefore, the different aspects of children's early experiences of literacy lead in different ways to fluent reading in Grade 3. As exposure to books did not predict emergent literacy skills, this suggests that children's acquisition of specific literacy skills may require the guidance of a parent or older sibling, and informal literacy experiences may not be sufficient. Experiences other than book exposure may explain individual differences in literacy skills. Phonological awareness was analysed separately in this study, rather than as a skill within oral language. This clarified that it was not oral language that predicted emergent literacy, but the inclusion of phonological awareness within the construct of oral language that led to the interrelation. This study suggests it is useful for parents to read to their children before and after they begin reading, as early skill in receptive language predicts reading vocabulary and comprehension long-term.

Sénéchal, et al. (2001) further examined emergent literacy, and found different patterns of association with reading with different literacy constructs, and different relations with oral language and metalinguistic ability. They argued that emergent literacy should be defined in a more focused way, and that language, early literacy and phoneme awareness should be considered separately to disentangle the pattern of connection with later literacy. The findings suggest that interventions might be helpful for children who have limited procedural knowledge about literacy and that teachers should specifically target their emerging conceptual knowledge about literacy, to enhance their phonological awareness and reading acquisition. However, research shows that children in low SES communities are also likely to experience lower quality in early childhood education (Taylor et al., 2013), creating a need for ongoing professional development of teachers in such settings.

Sénéchal and Young (2008) conducted a meta-analysis focused on parent-child activities that improved early reading acquisition for children in kindergarten to Grade 3. They defined reading acquisition as separate to the development of oral language skills. Sixteen intervention studies (1340 families) were included. The review concluded that parents can help their children learn to read,

with a moderate weighted effect size of 0.65. Training parents to tutor their children in literacy skills using particular techniques was twice as effective as training parents to listen to their children, while parents reading to children was not found to improve reading acquisition at all. There may be indirect effects however, such as parental reading to children enhancing oral language skills, with a later impact on reading comprehension. Sénéchal and Young concluded that training parents to tutor their children is resource-intensive, and while other parental involvement types may be less effective, they may be cheaper and easier to implement.

Cultural variation in family language and literacy practices

Research has also explored the cultural variation that exists in families' language and literacy practices. The diversity of practice means that for some children, prior experiences do not align well with school-based practices. There is advantage for some children and families, whose practices are like those of the school, and disadvantage for others, whose practices, albeit rich, do not match or translate well to school expectations.

Research on the shared activities of children in middle-class families in the USA shows that parents often use specialised child-focused activities and conversations that help prepare children for schooling, including lessons and school-like discourse formats (Rogoff et al., 2003). Shirley Brice Heath's (1986) seminal study also identified socioeconomic differences noticeable in children's preparedness for learning to read upon entering school. Her study found that storytelling and story reading occurred less frequently in working class homes in the USA, with middle class children being better prepared for school-based language practices.

Laosa (1980) observed differences in the teaching styles of Chicano and Anglo-American mothers, noting that Anglo-American mothers used inquiry and praise more frequently, while Chicano mothers relied more on modeling, visual cues, directives, and physical control. Tizard and Hughes (1984) also identified differences in educational approaches and language styles between working class and middle-class families in England. Their study affirmed the richness, depth and variety of the conversations children experienced in working class homes and concluded that rather than having a language deficit, young children in working class families were learning different things (such as domestic skills and understanding of the family's work) and in different ways (learning through traditional approaches to teaching literacy and numeracy rather than through play).

Different cultural approaches to learning were also demonstrated in Rogoff, et al. (1993) and Brice Heath's (1993) studies, which identified a key difference in learning interactions between toddlers and adults in their families regarding who took responsibility for learning – the child learning through observation (a feature of interactions in the Guatemalan Mayan and Indian tribal communities), or the adult structuring teaching situations (a feature of the middle-class communities studied in the US and Turkey). However, when families had experience of schooling, they were more likely to adopt and use the practices of schools, such as a hierarchical structure for interaction in which adults manage their children's participation, rather than the more cooperative interactions characteristic of their cultural community (Chavajay & Rogoff, 2002; Laosa, 1980). Other studies show that different literacies, languages, and cultural practices are blended in ways which reflect families' contexts. For example, Gregory et al. (2007) described the blending of discourses used by a Bangladeshi grandmother living in London with her grandchildren.

Research shows that the homes of undereducated families and cultural minority families are often rich in literacy practices and tools, and families value literacy and support children's language and literacy acquisition in many ways (Auerbach, 1995; Anderson et al., 2010; Billings, 2009; Johnson, 2010; Hindman & Wasik, 2010; McTavish, 2007). Samoan children in New Zealand were found to use complex literacy practices in relation to the practice of 'tauloto', the rote memorisation and oral presentation of biblical passages in church and at home (Dickie & McDonald, 2011). Māori children in New Zealand were similarly found to develop high levels of academic skills by being engaged with families in an elaborative, linking, and repetitive interactional style within oral narrative and reminiscing (Neha et al., 2020).

Additionally, some cultural groups prefer a more didactic and moralistic approach to reading in which texts contain facts, morals, and lessons (Anderson et al., 2010; Janes & Kermani, 2001). Differences in family literacy practices also include differences in the direction of literacy support, with children in some recently migrated families assisting their parents with learning new literacies (Anderson et al., 2010, 2017). Overall, research suggests there is great variation in how families use and teach literacy with their children, so assumptions cannot be made according to children's cultural identity or socioeconomic status (McTavish, 2007). Where children are found to read books less often (Hindman et al., 2016) and have few parental interactions with printed texts, this may be because they are instead engaging with a range of digital literacies and blends of digital and media texts (Carrington & Luke, 2003). There may be less emphasis on the print literacy which is valued in school (Billings, 2009; Dickie & McDonald, 2011).

Reports that cite children from so-called disadvantaged groups lacking engagement with literacy (Learning Together Research Project, 2007; Kohen et al., 2008) may in fact be referring to a specific kind of literacy which is valued by schools. Interactions with written texts may be important for the experiences they offer children in features of written language, such as its disembedded nature and use of implicit connections between ideas. These are also

characteristics of the spoken language used in schools, enabling children's successful participation in curriculum-related talk at school (Bernstein, 1996; Wells, 1985). While much of the literature highlights diverse literacy practices as a strength of culturally diverse families, it is important to remember that not all cultural practices should be equally valued, and some may not be beneficial or may even be harmful (Lyster et al., 2007). The denial of access to literacy and education for girls and women in some cultures is a case in point (UNESCO, 2020).

Another area of significant diversity across cultural groups concerns family structure. The assumptions made by schools, teachers and researchers about families and their literacy practices at home often focus on parental interactions with children within nuclear families (Anderson et al., 2010, 2017) and are modelled on the literacy activities of Anglo-European, middle-class families which have the resources (income, education and time) to engage in English language activities with print (Carrington & Luke, 2003). Some research into home literacy practices demonstrates the varied composition of families, and the impact this has on children's literacy practices. Many families are intergenerational, with several generations living in one family group (Gregory et al., 2007; Lyster et al., 2007; Johnson, 2010). Gregory et al. (2007) and Johnson (2010) note the positive impact this has in terms of the complexity of literacy practices offered to each individual child in their respective case studies, enabling the children to draw on the rich literacy histories of their family members. For other children, the single-parent status of their family means that time is pressured within their household, making it more likely that children will gain literacy experience through digital and technological texts and tools (Carrington & Luke, 2003; McLachlan, 2020).

Multiliteracies and family practices

Research shows that family literacy practices, rather than focusing solely on print culture, are often characterised by complex multiliteracies and blends of digital and media texts (Carrington & Luke, 2003; McTavish, 2009; McLachlan, 2020). The term multiliteracies encapsulates how literacy has been influenced by social, cultural, and technological change. The New London Group (1996) proposed a pedagogy of multiliteracies to explain a broader view of literacy teaching and learning, integrating multimodal 'text' including audio, images, sound, graphics, and film through technology (Kalantzis et al., 2016; Winch et al., 2010). The skills children demonstrate include complex authoring, composing, and reading skills associated with email, as well as the multiliteracies involved in game-playing and web-surfing (Carrington & Luke, 2003). In these multimodal literacy practices with non-linear texts, children must integrate a complex array of visual, aural, and textual cues with high levels of speed and coordination (Carrington & Luke, 2003; Kalantzis et al. 2016).

Research has explored the relative merits of digital texts compared to printed texts. Some studies show little difference in learning outcomes associated with reading a digital or printed text, with improved vocabulary and comprehension scores attributed to repeated reading of a text in either format (Broemmel et al., 2015). However, other findings are mixed, with Kim and Anderson (2008) finding that more cognitively complex talk occurred when mothers and children read digital texts (a CD Rom and video clip format) compared to a printed book, and other studies (Korat & Segal-Driori, 2016; Ozturk & Hill, 2020; Parrish-Morriset al., 2013) finding that printed texts elicit more expansive, dialogical and cognitively complex talk (particularly more interactions focused on explanation, elaboration, inference and association) than digital books. Children were more likely to understand higher level aspects of story structure and details of the story when reading a printed book with their parent than a digital book (Parrish-Morris et al., 2013).

Reading a digital book was found to elicit more reference to illustrations and interactions focused on managing behaviour and actions in some studies (Ozturk & Hill, 2020; Parrish-Norris et al., 2013). However, digital books are found to be particularly engaging for toddlers, with toddlers being more attentive, and more engaged with page turning and making comments, as well as demonstrating better retention of new vocabulary and more positive emotion when reading a digital book as opposed to a printed book (Strouse & Ganea, 2017).

Another study showed that animations in digital books mediate children's interactions with the text in a similar way to how adults facilitate interactions with books (Broemmel et al., 2015). In this context, it is likely that digital texts can promote greater learning for toddlers, with the emotional quality of the reading experience in particular linked to future motivation and emergent literacy skills (Strouse & Ganea, 2017). Reading a digital book with an adult has also been found to have a greater impact on children's emergent literacy skills such as recognising letter names, word reading, phonological awareness, and print concepts (Korat & Segal-Driori, 2016). Digital books may also contribute to children's feelings of self-efficacy and sense of identity as competent readers, as in one study children were observed using digital and printed versions of the book together, with the digital book supporting children to make sense of the printed book (Broemmel et al., 2015).

These differences in findings may be attributable to types of digital texts used (Salmon, 2014) as well as the specific outcomes measured. Important features of digital texts that are associated with positive outcomes include the ability to control page-turning and allow time for conversation (Kim & Anderson, 2008), multimedia effects and animations that are aligned with the plot, rather than distracting (Korat & Segal-Drori, 2016), and text that is highlighted as it is read, which may help children track written text and increase their print awareness and reading ability (Korat & Segal-Drori, 2016). It is likely that digital texts, when part of a

broad range of reading experiences, can support children's literacy development, and that an optimal approach might be to read both for reinforcement and repetition (Salmon, 2014). Research on multiliteracies that children develop in homes helps to address assumptions that only the literacy practices mandated by the school are valid and relevant forms of literacy learning (Gregory et al., 2007; Kalantzis et al., 2016).

What and why do teachers need to know about literacy in families?

Research into children's home literacies underscores the need for an awareness of the ways in which children's contexts interact with their literacy practices. As research shows, book-reading interactions are not the only interactions that support children's language and literacy learning (Neha et al., 2020; Scarborough & Dobrich, 1994; Sénéchal, 2006; Sénéchal & Lefevre, 2002; Sénéchal & Young, 2008). Beyond the more traditional literacy teaching activities that align well with school literacy activities, oral narratives, and practices such as reminiscing (Neha et al., 2020), and oral recitations (Dickie & McDonald, 2011) are important cultural practices that support children's early and ongoing learning and can be effectively built upon in education settings (Neha et al., 2020). In addition, as Uğras et al. (2023) argue, the relationship between home and school environments critically impacts on children's learning opportunities, achievements, motivation and confidence. Their review of the evidence of decline in children's literacy learning during the COVID-19 pandemic illustrates the importance of this ongoing relationship to children's learning.

Children use different literacies according to the expectations of various contexts such as church, home, and school, and they are found to be very capable of compartmentalising (Dickie & McDonald, 2011). This may make transfer between settings quite difficult, especially if teachers are unaware of other literacy experiences. Research also shows that children often have rich, intergenerational cultures of literacy at home (Gregory et al., 2007; Johnson, 2010), which are often latent, ready to be enabled through rich and meaningful teaching and curriculum. It is important for teachers to consider Vygotsky's (1978) twin notions of access and mediation in relation to the literacy curriculum for infants, toddlers, and young children in the ECE setting.. Children need access to resources and opportunities in the ECE setting, but they will be limited if they do not receive thoughtful and intentional mediation of literacy at each phase of development. Scaffolding children's developing understandings of literacy in a way that is meaningful and enjoyable for different age groups is a key role of the ECE teacher and this is not easily achieved unless the teacher has a strong understanding of children's literacy experiences at home.

Teachers need to understand the situated nature of children's literacy knowledge, including its "intergenerational richness" (Johnson, 2010, p. 42) through interactions with families that build trust and enable sharing of information. Information can be shared in a variety of ways, perhaps through life history interviews with family members that focus on literacy practices, particularly when a child's learning is different to expected (Johnson, 2010). Some studies have used literacy surveys to collect information about home literacy practices and used these as a springboard for discussions about what works for each family and child (Hindman & Wasik, 2010; McLachlan, et al., 2012: McLachlan & Arrow, 2017). Teachers might find it useful to make home visits to include fathers (Morgan et al., 2009), or to invite children to bring literacy print or texts from home to school, aligning school literacies with those at home (McTavish, 2007). Information gathered from families is crucial, as screening tests focusing solely on the skills and knowledge required for school-based literacies have little value in determining how to support children's literacy development (Learning Together Research Project, 2007; Snow & van Hemel, 2008; McLachlan & Arrow, 2017).

Teachers may need to adopt broader definitions of literacy, to include digital and media texts, such as television, websites, social networking forums, and video games. Some research suggests that teachers tend to recognise only print and school-based literacies and are less likely to embrace activities such as searching for information on the internet instead of using non-fiction printed texts (McTavish, 2009) or authoring, composing, and reading emails (Carrington & Luke, 2003) as literacy practices. The knowledge and skills children bring to school can differ greatly from the school's and teachers' expectations (Carrington & Luke, 2002; McLachlan, 2020), especially when patterns of school literacy remain unchanged (Carrington & Luke, 2003). Miller et al. (2017) confirm these findings, suggesting children experience a complex interplay of multiliteracies experiences in homes, which give them quite sophisticated understandings of literacy. Furthermore, these experiences in the home with multiliteracies also support emergent literacy knowledge and skills related to the alphabet, phonological awareness, and vocabulary (Neumann & Neumann, 2017). These findings contrast with research suggesting that, although teachers may recognise multiliteracies learning in the home environment, it is not necessarily valued or incorporated into the classroom curriculum (Honan, 2012). Learning about families' different literacy practices may challenge and expand teachers' ideas about what literacy is, means and does for children, families, and communities.

Snow and Matthews (2016) argue that teachers need to consider two categories of literacy knowledge and skills that children learn in the early years: constrained and unconstrained. The first category, constrained skills is readily teachable because these skills are finite: for instance, the 26 letters of the alphabet or, later, the 20-30 common spelling rules. These skills have a ceiling which

young children achieve quite readily. The second category, unconstrained skills is more problematic because it is based on individual experiences. For instance, vocabulary and background knowledge are both unconstrained skills because they represent large domains of knowledge acquired gradually through experience. Unconstrained skills are strongly predicted by socioeconomic status and parents' education level, and they are particularly important for long term literacy success in primary school. Therefore, if ECE teachers only focus on teaching constrained skills, like knowledge of the alphabet, without also focusing on unconstrained skills through enriching and extending their vocabulary, they are depriving children of rich learning experiences to increase their understanding of the world and to gain the literacy knowledge and skills required for reading achievement (NELP, 2008).

It is important that teachers plan rich and meaningful literacy activities relevant to the context of children's lives, and provide intentional teaching that is sensitive to children's learning needs and preferences. When research finding are narrowly interpreted, instruction may focus instruction on basic skills and undermine high quality practices that integrate play, interaction, and exploration in educational settings (Paciga et al., 2011). For example, although rapid automatic naming of letters and digits, visual processing and phonological memory are all or moderate predictors of literacy achievement (NELP, 2008), this does not mean teachers should focus instruction on these skills using inappropriate practices such as drills and flashcards (Paciga et al., 2011). The findings indicate that children who already know letters can name letters quickly, not that children learn letters by being asked to name them quickly. As Snow and Matthews (2016) argue, the teacher's role is to support the learning and development of both constrained and unconstrained knowledge and literacy skills.

The Family Literacy program research suggests that culturally appropriate and flexible programs in which families are empowered to direct literacy efforts themselves, may offer the best support (Auerbach, 1995; Anderson et al., 2017). It seems important that interventions are 'home grown' or situated, involving families in their conceptualisation and design (McLachlan & Arrow, 2017) and are contextualised to families' concerns and practices (Learning Together Research Project, 2007). Hohepa and McNaughton (2007) argue that literacy should be bi-directional: the literacy practices at home should add to the educational setting; and contrariwise, the school or center practices add to the home.

Interventions to support family literacy should be planned to meet the diverse needs of children and their families, and should enable genuine partnerships based on open communication, acceptance and responsiveness (Cairney, 2002) whilst advocating for children's optimal learning and development, bearing in mind that it is possible that not all literacy practices are serving children well (Lyster et al., 2007). Intervention might focus on helping families identify strengths, opportunities, and routines that they can build on rather than to impose new activities or insist families make major changes (Carter et al., 2009).

Conclusion

As this review has showed, there is longstanding research on the importance of families in developing the language and literacy knowledge and skills that children need for reading acquisition. Families can positively influence children's language and literacy development and can engage them in a wide range of learning opportunities. However, while most parents value literacy and provide opportunities for learning and development, some children simply have more opportunities to develop language and literacy at home than others. Research also shows that children's access to a variety of literacy activities is influenced by social, cultural and socio-economic factors. The research is clear that early childhood teachers can make a significant difference to children's literacy development, which is particularly important for those children who may not be fortunate enough to have families who offer a rich language and literacy environment in the home (McLachlan & Arrow, 2017; Paciga et al, 2011; Snow & Matthews, 2016; Uğras et al., 2023). Early childhood teachers therefore have an important role in ensuring children have opportunities to experience the rich 'serve and return' interactions that build brain and language capacity (Shonkoff & Levitt, 2013), as well as opportunities to acquire the knowledge and skills that predict reading achievement (NELP, 2008). In addition, research shows that the range and types of language and literacy experiences that children experience in homes and communities provide a rich foundation for literacy, but these may or may not always align with the teaching of literacy in school settings. Therefore, it is important that teachers develop a strong understanding of family literacy practices so they can help build children's constrained and unconstrained knowledge and skills upon these (NELP, 2008; Snow & Matthews, 2016). Ideally, teachers and families collaborate to support early literacy learning and the multicultural, multilingual and multiliteracy experiences of the home are reflected in the early childhood setting; similarly, the literacy opportunities of the ECE center are also encouraged in the home environment. To best support children in transferring their existing or latent knowledge and skills into their ECE settings, teachers, schools and ECE settings may need to change their approaches to literacy (Carrington & Luke, 2003; Kalantzis et al., 2016). A deep and respectful examination of the multimodal literacies that children and families use at home, gained through genuine interest and engagement from the teacher, may have the power to shift teachers' expectations of literacy knowledge and skills children bring from home and to change the life trajectories of children.

Conflicts of interest

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References

Adamson, L.B, Bakeman, R., Suma, K., Robins, D.L. (2019). An Expanded View of Joint Attention: Skill, Engagement, and Language in Typical Development and Autism. *Child Development, 90*(1), e1-e18. doi: 10.1111/cdev.12973.

Altwerger, B., Diehl Faxon, J. & Dockstader-Anderson, K. (1985). Read aloud events as meaning constructors. *Language Arts, 62* (5), 476-484.

Anderson, J., Anderson, A., Freidrich, N., & Kim, J. E. (2010). Taking stock of family literacy: Some contemporary perspectives. *Journal of Early Childhood Literacy, 10*(1) 33–53.doi: 10.1177/1468798409357387

Auerbach, E. (1995). Deconstructing the discourse of strengths in family literacy. *Journal of Reading Behaviour, 27* (4), 643-661

Beals, D. E., & Tabors, P. (1993). Arboretum, bureaucratic and carbohydrates: Preschoolers' explosure to rare vocabulary at home. Paper presented at the Biennial Meeting of the Society for Research in Child Development, March 25-28, New Orleans.

Bernstein, B. (1971). *Class, Codes and Control: Theoretical Studies Towards a Sociology of Language.* Routledge & Kegan Paul.

Bernstein. B. (1996). Pedagogy, symbolic control and identity. *British Journal of Sociology of Education, 18*(1), 119-124.

Billings, E. S. (2009). El alfabetismo y las familias latinas: A critical perspective on the literacy values and practices of Latino families with young children. *Journal of Latinos and Education, 8*(4), 252–269.

Brice Heath, S. (1986). *Ways with words. Language, life and work in communities and classrooms.* Cambridge University Press.

Broemmel, A. D., Moran, M. J., Wooten, D. A. (2015). The impact of animated books on the vocabulary and language development of preschool- aged children in two school settings. *Early Childhood Research & Practice, 17* (1). https://ecrp.illinois.edu/issues.html.

Brown, M.I., Wang, C. & McLeod, S. (2022). Reading with 1–2 year olds impacts academic achievement at 8–11 years. *Early Childhood Research Quarterly, 58*, 198-207. https://doi.org/10.1016/j.ecresq.2021.09.008

Bruner, J. (1974). From communication to language: A psychological perspective. *Cognition, 3* (3), 255-87.

Bruner, J. (1975). Poverty and childhood. Oxford Review of Education, 1, 31– 50. Republished in Bruner, J. (2006). In S*earch of Pedagogy Volume I: The Selected Works of Jerome Bruner, 1957-1978.* (Chapter 15: Poverty and childhood, pp. 267-95). Routledge

Bruner, J. S. (2010). The transactional self. In Bruner, J. S., & Haste, H. (2010). *Making sense: The child's construction of the world* (pp. 54-63). Routledge

Bus, A. G., Besky, J., van Ijzendoorn, M. H., & Crnic, K. (1997). Attachment and bookreading patterns: A study of mothers, fathers and their toddlers. *Early Childhood Research Quarterly, 12,* 81-98.

Bus, A. G., & Van IJzendoorn, M. H. (1988). Mother-child interactions, attachment, and emergent literacy: A cross-sectional study. *Child Development, 59*, 1262-1272

Cairney, T. H. (2002) Bridging home and school literacy: In search of transformative approaches to curriculum. *Early Child Development and Care, 172*(2), 153-172. doi: 10.1080/03004430210883

Carrington, V., & Luke, A. (2003). Reading, homes, and families: From postmodern to modern? In S. A. Stahl, A. Van Kleeck, E. B. Bauer (Eds.) On Reading Books to Children: Parents and Teachers, (pp. 3-14). L. Erlbaum Associates.

Carter, D. R., Chard, D. J., & Pool, J. L. (2009). A family strengths approach to early language and literacy development. *Early Childhood Education Journal, 36,* 519–526. doi: 10.1007/s10643-009-0312-5

Chavajay, P. & Rogoff, B. (2002). Schooling and traditional collaborative social organization of problem solving by Mayan mothers and children. *Developmental Psychology 38* (1), 55-66.

Crain-Thoreson, C., & Dale, P. S. (1992). Do early talkers become early readers? Linguistic precocity, preschool language and emergent literacy. *Developmental Psychology, 28* (3), 421-429.

Dickie, J., & McDonald, G. (2011). Literacy in church and family sites through the eyes of Samoan children in New Zealand. *Literacy, 45* (1), 25-31.

Doi, H. (2020). Social scaffolding of vocal and language development. In Masataka, N. (Ed.) *The origins of language revisited* (pp. 115-137) Springer. https://doi.org/10.1007/978-981-15-4250-3_6

Dozier, M., Peloso, E., Lewis, E., Laurenceau, J. P. & Levine, S. (2008). Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care. *Developmental Psychopathology, 20*(3), 845–859. doi: 10.1017/S0954579408000400

Education Review Office. (2011). *Literacy in early childhood services: Teaching and Learning.* New Zealand Government.

Farah, M.J. (2017). The neuroscience of socio-economic status: correlates, causes and consequences. *Neuron, 96,* 56-71.

Gillespie, L. G., & Greenberg, J. D. (2017). Rocking and rolling: Empowering infants and toddlers' learning

through scaffolding. *Young children, 72* (2), 90-93.

Girolametto, L., Verbey, M., Tannock, R. (1994). Improving joint engagement in parent-child interaction: An intervention study. *Journal of Early Intervention, 18* (2), 155-167 doi: 10.1177/105381519401800204

Gregory, E. (2001). Sisters and brothers as language and literacy teachers: Synergy between siblings playing and working together. *Journal of Early Childhood Literacy, 1*(3), 301–322.

Gregory, E., Arju, T., Jessel, J., Kenner, C., & Ruby, M. (2007). Snow White in different guises: Interlingual and intercultural exchanges between grandparents and young children at home in East London. *Journal of Early Childhood Literacy, 7*(1), 5–25. doi: 10.1177/1468798407074831

Goldsmith, D. F., & Rogoff, B. (1997). Mothers' and toddlers' coordinated join focus of attention: Variations with maternal dysphoric symptoms. *Developmental Psychology, 33* (1), 113-119.

Hart, B. & Risley, T.R. (1995). *Meaningful differences in the everyday experiences of young American children*. Paul H. Brookes Publishing.

Hirsch-Pasek, K., Adamson, L., Bakeman, R., Owen, M., Golinkoff, R. et al. (2015). The contribution of early communication quality to low-income children's language success. *Psychological Science, 26*, 1071-1083.

Hindman, A. H., & Wasik, B. A. (2010). Head Start families sharing home language and literacy experiences. *National Head Start Dialog, 13* (2), 112-118.

Hindman, A. H., Wasik, B. A., & Snell, E. K. (2016) Closing the 30 million word gap: Next steps in designing research to inform practice. *Child Development Perspectives, 10*(2), 134–139

Honan, E. (2012). 'A whole new literacy': Teachers' understanding of students' digital learning at home. *Australian Journal of Language and Literacy, 35*(1), 82-98.

Janes, H., & Kermani, H. (2001). Caregivers' story reading to young children in family literacy programs: Pleasure or punishment? *Journal of Adolescent & Adult Literacy, 44*(5), 458-466

Jednoróg, K., Altarelli, I., Monzalvo, K., Fluss, J., Dubois, J., Billard, C. et al. (2012). The influence of socioeconomic status on children's brain structure. *PLOS ONE, 7*(8), e42486.

Johnson, A. S. (2010). The Jones family's culture of literacy, *The Reading Teacher, 64* (1), 33-44.

Justice, L. & Pence, K. (2005). Scaffolding with story books: A guide for enhancing young children's language and literacy. International Reading Association.

Kalantzis, M., Cope, B., Chan, E, & Dalley-Trim, L. (2016) Literacies (2nd ed.). Cambridge University Press.

Kim, Y.-S. (2009). The relationship between home literacy practices and developmental trajectories of emergent literacy and conventional literacy skills for Korean children. *Reading and Writing, 22*, 57–84. doi: 10.1007/s11145-007-9103-9

Kim, J. E., & Anderson, J. (2008). Mother–child shared reading with print and digital texts. *Journal of Early Childhood Literacy, 8* (2), 233-245. doi:10.1177/1468798408091855

Kohen, D. E., Leventhal, T., Dahinten, V. S., & McIntosh, C. N. (2008). Neighbourhood disadvantage: Pathways of effects for young children. *Child Development, 79*(1), 156 – 169.

Korat, O., & Segal-Drori, O. (2016). E-book and printed book reading in different contexts as emergent literacy facilitator. *Early Education and Development, 27*(4), 532-550. doi: 10.1080/10409289.2016.1095613

Laosa, L. M. (1980). Maternal teaching strategies in Chicano and Anglo-American families: The influence of culture and education on maternal behaviour. *Child Development, 51*, 759-76.

Learning Together Research Project (2007). Investigating children's early literacy learning in family and community contexts: Review of the related literature. Office of Early Childhood and Statewide Services, The State of South Australia Department of Education and Children's Services.

Lyster, E., Desmond, S., Thornton, L. R., Thornton, J., & Dlamini, Z. (2007). Rooting literacy in families: Family literacy approaches in South Africa. *The International Journal of Learning, 14* (5), 39-49.

Marsh, J. (2010). The relationship between home and school literacy practices. In D. Wyse, R. Andrews & J. Hoffman (Eds.), The *Routledge International Handbook of English, Language and Literacy Teaching* (pp. 305-313). Routledge.

Martini, M. (1996). "What's new?" at the dinner table: Family dynamics during mealtimes in two cultural groups in Hawaii. *Early Development & Parenting, 5*(1), 23–34. https://doi.org/10.1002/(SICI)1099-0917(199603)5:1<23::AID-EDP111>3.0.CO;2-D.

Maton, K. & Muller, J. (2007). A sociology for the transmission of knowledges. In F. Christie & J. Martin, J. (eds), *Language, Knowledge and Pedagogy* (pp. 14-33). Continuum.

McLachlan, C. (2021). Multiliteracies in early childhood education. *In Oxford Bibliographies (Education). Oxford University Press*. https://www.oxfordbibliographies.com/abstract/document/obo-9780199756810/obo-9780199756810-0268.xml

McLachlan, C. & Arrow, A. (2017). *Literacy in the early years: Reflections on international research and practice.* Springer.

McLachlan, C., Nicholson, T., Feilding-Barnsley, R., Mercer, L. & Ohi, S. (2012). *Literacy in early childhood and primary: Issues, challenges, solutions.* Cambridge University Press.

McTavish, M. (2007). Constructing the big picture: A working-class family supports their daughter's pathways to literacy. *The Reading Teacher, 60* (5), 476-485.

McTavish, M. (2009). 'I get my facts from the Internet': A case study of the teaching and learning of information literacy in in-school and out-of-school contexts. *Journal of Early Childhood Literacy, 9*(1), 3–28. doi: 10.1177/1468798408101104.

Miller, J., Paciga, K., Danby, S., Beaudoin-Ryan, K. & Taldor, T. (2017). Looking beyond swiping and tapping: Review of design and methodologies for researching young children's use of digital technologies. Cyberpsychology: *Journal of Psychosocial Research on Cyberspace, 11*(3), article 6. http://dx.doi.org/10.5817/CP2017-3-6.

Morgan, A., Nutbrown, C., & Hannon, P. (2009). Fathers' involvement in young children's literacy development: Implications for family literacy programmes. *British Educational Research Journal, 35* (2), 167–185.

National Early Literacy Panel (2008). Executive Summary: Developing Early Literacy. Report of the National Early Literacy Panel. https://lincs.ed.gov/publications/pdf/NELPSummary.pdf

National Scientific Council on the Developing Child, (2004). *Young children develop in an environment of relationships.* National Scientific Council on the Developing Child, Center on the Developing Child at Harvard University.

New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

Neha, T., Reese, E., Schaughency, E., & Taumoepeau, M. (2020). The role of whānau (New Zealand Māori families) for Māori children's early learning. *Developmental Psychology, 56* (8), 1518–1531. http://dx.doi.org/10.1037/dev0000835

Neumann, M., & Neumann, D. L. (2017). The use of touch-screen tablets at home and preschool to foster emergent literacy. *Journal of Early Childhood Literacy, 17*(2), 203-220.

Ninio, A. (1983). Joint book reading as a multiple vocabulary acquisition device. *Developmental Psychology 19*, 445–51.

Noble, K., Englehardt, L., Brito, N., Mack, L., Nail, E. et al. (2015). Socioeconomic disparities in neurocognitive development in the first two years of life. *Developmental Psychology, 57*, 535-551.

Ozturk, G., & Hill, S. (2020). Mother–child interactions during shared reading with digital and print books. *Early Child Development and Care, 190*(9), 1425-1440. doi:10.1080/03004430.2018.1538977

Paciga, K. A., Hoffman, J. L., & Teale, W. H.(2011). The National Early Literacy Panel and Preschool Literacy instruction: Green lights, caution lights and red lights. *Young Children*, 50-57.

Papousek, M., Papousek, H., & Bornstein, M. H. (1984). The naturalistic vocal environment of young infants. *In T. M. Field & N. Fox (Eds.), Social perception in infants* (pp. 269-297). Ablex.

Piazza, E.A., Hasenfratz, L., Hasson, U. & Lew-Williams, C. (2019). Infant and adult brains are coupled to the dynamics of natural communication. *Psychological Science, 31*(1). https://doi.org/10.1177%2F0956797619878698

Parrish-Morris, J., Mahajan, N., Hirsh-Pasek, K., Golinkoff, R. M. & Fuller Collins, M. (2013). Once upon a time: Parent-child dialogue and storybook reading in the electornic era. *Mind, brain and education, 7* (3), 200-211.

Raizada, R., Richards, T., Meltzoff, A. & Kuhl, P. (2008). Socioeconomic status predicts hemispheric specialisation of the left inferior frontal gyrus in young children. *NeuroImage, 40*, 1392-1401.

Rogoff, B. (2003). *The cultural nature of human development.* Oxford University Press.

Rogoff, B. (2014). Learning by observing and pitching in to family and community endeavors: An orientation. *Human Development, 57*(2-3), 69-81. doi: 10.1159/000356757

Rogoff, B., Mistry, J., Göncü, A., Mosier. C., Chavajay, P., & Brice Heath, S. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development, 58* (8), 1-179

Rogoff, B., Paradise, R., Mej´ıa Arauz, R., Correa-Ch´avez, M., & Angelillo, C. (2003). Firsthand learning through intent participation. *Annual Review of Psychology, 54*, 175-203. doi: 10.1146/annurev.psych.54.101601.145118

Romeo, R., Leonard, J., Robinson, S. (2018). Beyond the 30-million-word gap: children's conversational exposure is associated with related brain function. *Psychological Science, 29*(5), 700-710.

Rowe, M.L. (2008). Child-directed speech: relation to socio-economic status, knowledge of child development and child vocabulary skill. *Journal of Child Language, 35*(1), 185-205.

Rowe, M.L. (2012). A longitudinal investigation of the role of quantity and quality of child-directed speech in vocabulary development. *Child Development, 83,* 1762-1774.

Salmon, L. G. (2014). Factors that affect emergent literacy development when engaging with electronic books. *Early Childhood Education Journal, 42*, 85–92. doi: 10.1007/s10643-013-0589-2

Scarborough, H. S., & Dobrich, W. (1994) On the efficacy of reading to preschoolers. *Developmental Review, 14,* 245 - 302

Sénéchal, M. (2006) Testing the Home Literacy Model: Parent involvement in kindergarten is differentially related to Grade 4 reading comprehension, fluency, spelling, and reading for pleasure. *Scientific Studies of Reading, 10*(1), 59-87, doi: 10.1207/s1532799xssr1001_4

Sénéchal, M., LeFevre, J., Hudson, E. & Lawson, E. P. (1996). Knowledge of storybooks as a predictor of young children's vocabulary. *Journal of Educational Psychology, 88* (3), 520-536

Sénéchal, M., LeFevre, J., Smith-Chant, B. L., & Colton, K. V. (2001). On refining theoretical models of emergent literacy: The role of empirical evidence. *Journal of School Psychology, 39* (5), 439–460.

Sénéchal, M. & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development, 73* (2), 445-460.

Sénéchal, M., & Young, L. (2008). The effect of family literacy interventions on children's acquisition of reading from kindergarten to Grade 3: A meta-analytic review. *Review of Educational Research, 78* (4), 880-907.

Shonkoff, J. P. (2010) Building a new biodevelopmental framework to guide the future of early childhood policy. *Child Development (81)*, 357–367.

Shonkoff, J. & Levitt, P. (2010). Neuroscience and the future of early childhood policy: Moving from why to what and how. *Neuron, 67*, 689-691. doi: 10.1016/j.neuron.2010.08.032

Shonkoff J. P., & Fisher, P. A. (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Developmental Psychopathology 25*(5), 1635–1653. doi: 10.1017/S0954579413000813.

Snow, C. E. (1977). Mothers' speech research: From input to interaction. In *Snow, C. E., & Ferguson, C. A. (Eds.) Talking to children: language input and acquisition* (pp. 31- 50). Cambridge University Press.

Snow, C. (1983). Literacy and language: relationships in the pre-school years. *Harvard Educational Review, 53*(2), 165-169.

Snow, C. & Goldfield, B.A. (1983). Turn the page please: situation specific language acquisition. *Child Language, 10,* 551-569.

Snow, C.E. & Matthews, T.J. (2016). Reading and language in the early grades. *The Future of Children, 26*(2), 57-74.

Snow, C.E. & van Hemel, S. (Eds.) (2008*). Early childhood assessment: Why, what, and how.* National Research Council of the National Academies.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research, 104*, 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039

Strouse, G. A., & Ganea, P. A. (2017). Parent–toddler behavior and language differ when reading electronic and print picture books. *Frontiers in Psychology, 8*(677), 1-14. doi: 10.3389/fpsyg.2017.00677

Tayler, C., Ishimine, K., Cloney, D., Cleveland, G., & Thorpe, K. (2013). The Quality of Early Childhood Education and Care Services in Australia. *Australasian Journal of Early Childhood, 38*(2), 13-21. https://doi.org/10.1177/183693911303800203

Teale, W.H., Whittingham, C. E. & Hoffman, E. B. (2020). Early literacy research 2006-2015: A decade of measured progress. *Journal of Early Childhood Literacy, 20*(2), 169-222

Teicher, M. D. (2000). Wounds that time won't heal: The neurobiology of child abuse. *Cerebrum: The Dana Forum on brain science, 2*, 50–67.

Tizard, B. & Hughes, M. (1984). *Young children learning: Talking and thinking at home and at school*. Fontana Press.

Tomasello, M. (2001). Bruner on language acquisition. In *Bakhurst, D., & Shanker, S. G. (Eds.). Jerome Bruner: Language, Culture and Self* (pp. 31-49). SAGE.

Tompkins, V., Guo, Y. & Justice, L. (2013). Inference generation, story comprehension and language in the preschool years. *Reading and Writing, 26*(3), 403-429.

Uğraş, M., Zengin, E., Papadakis, S., & Kalogiannakis, M. (2023). Early childhood learning losses during COVID-19: Systematic review. *Sustainability, 15*(7), 6199. https://doi.org/10.3390/su15076199.

UNESCO. (2020). *Sustainable goals report.* https://www.un.org/sustainabledevelopment/progress-report/

Van der Geest, T. (1977). Some interactional aspects of language acquisition. In *Snow, C. E., & Ferguson, C. A. (Eds.) Talking to children: language input and acquisition* (pp. 89-108). Cambridge University Press.

Vygotsky, L. (1962). *Thought and language.* MIT Press.

Vygotsky, L. (1978). *Mind in society: the development of higher psychological processes*. Harvard University Press.

Wells, G. (1985). 'Preschool literacy-related activities and success in school'. In D. R. Olson, N. Torrance, & A. Hildyard (Eds.). *Literacy language and learning: The nature and consequences of reading and writing* (pp.229-255). Cambridge University Press.

Wertsch, J. V. (1993). Voices of the mind: Sociocultural approach to mediated action. Harvard University Press.

Wheeler, M. P. (1983). Context-related age changes in mother's speech: Joint book reading. *Journal of Child Language, 10,* 259–63.

Winch, G., R. Johnston, P. March, L. Ljungdahl, & M. Holliday. 2010. *Literacy: Reading, writing and children's literature*. 4th ed. Oxford University Press.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem-solving. Journal of Child Psychology & Psychiatry and Allied Disciplines, 17, 89– 100. Republished in Bruner, J. (2006). *In Search of Pedagogy Volume I: The Selected Works of Jerome Bruner, 1957-1978*. (Chapter 16: The role of tutoring in problem-solving, pp. 108-208). Routledge.