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Pedagogical Strategies to Support Oral Language Development and Emergent Literacy in Early Childhood Education and Care

A Review of the Literature

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Summary: Pedagogical Strategies to Support Oral Language Development and Emergent Literacy in Early Childhood Education and Care (ECEC)

Children are born primed to engage with people, to explore, learn and make meaning from the world around them (National Council for Curriculum & Assessment, 2009). Therefore, the experiences and relationships that children encounter in many different settings is of the utmost importance. This review responds to the questions of what pedagogical strategies support children from birth to six in developing oral language and emergent literacy.

- A promising link between children’s experiences in play and literacy learning, in particular for vocabulary, language development and comprehension has been established (Rand & Morrow, 2021). Oral language development from birth to four years predicts reading comprehension in later years (Language and Reading Research Consortium & Chiu, 2018). The adult’s role is important in engaging in play and providing a play environment (literacy props in thematic play areas, e.g. home corner, library). Time for children’s play must be protected (Rand & Morrow, 2021).
- In the context of preschool and school aged children, studies on the specific (and broad) language skills that were affected by shared reading are inconclusive (Noble et al., 2019). However, longer shared reading interventions than in the studies in this review, were recommended (Rogde et al., 2019) along with, smaller group size, contingent talk and child directed speech. Dialogic and shared reading interventions contain a lot of “language boosting ingredients” (Noble et al., 2019, p.8) with the adult modelling higher levels of syntactic and lexical diversity (Schickedanz & McGee, 2010). The style of dialogic reading is important, e.g. use of higher- order questions and targeting outcomes and vocabulary (Walsh & Hodge, 2018), developing conversations around books (Snow, 2017) and utilising culturally responsive texts (Lennox, 2013).
- An ‘eco-behavioural’ model of language development which assumes that children learn language (and later literacy skills) through the opportunities afforded by adult–child interactions involves the beliefs and skills of the adult, the resources, environment, and government policies and practices which are distal influences on the timing, frequency, and quality of these interactions (Ford et al., 2018). Early vocalisations and babbling are important as a useful marker for children who are later identified as language impaired (Morgan & Wren, 2018). There is no convincing evidence that ‘baby sign’ enhances communication in typically developing infants who can hear (Fitzpatrick et al., 2014). What makes the difference is speech that is varied in words, syntactical structure and grammatical complexity (Zauche et al., 2016). However, directives that change the focus of a child’s attention have been found to have a negative impact on their language development (Topping et al., 2013).
- Six-month-old babies are capable of making marks in their yoghurt on their high chair trays. From two years of age children create, express, imagine, and test hypotheses and understanding about their world through making marks on a page or a digital tablet (Neuman, 2022). Enhancing the quality of the environments and adult engagement within the context of authentic early writing experiences (Hall et al., 2015) and invented spelling facilitates young children’s early literacy development (Ouellette & Sénéchal, 2017; Albuquerque & Alves Martins, 2019). Please see French

(2022) in this suite of papers (Literature Review to update a New Literacy, Numeracy and Digital Literacy Strategy) for further discussion on mark-making/emergent writing and invented spelling.

- There is inconclusive evidence as to whether higher levels of educator education impact on academic, cognitive, social, and emotional outcomes for children (Falenchuk et al., 2017; Nocita et al., 2020). However, Brunsek et al. (2020) found positive associations were identified when child outcomes aligned with the content of professional learning and development programmes (e.g., in Language/Literacy). The features of quality professional learning and development programmes were identified: tailored to the audience; embedded in the curriculum; multiple components of content, coaching, in practice feedback and communities of practice; and long duration (Markussen et al., 2017; Brunsek et al., 2020; Ciesielski & Creaghead, 2020). The importance of investment in high quality professional learning and development programmes was highlighted.
- In summary, embedding language development in comprehensive, multi-component programmes that incorporate the key pedagogical strategies of: play,; shared storybook reading, opportunities to communicate through mark making and emergent writing and a mix of child and adult-initiated interactive activities can be effective in supporting young children's language and emergent literacy. The adult's role is critical, therefore the quality of the workforce and the importance of professional learning and development in the context of supporting language and emergent literacy is necessary.

Recommendations

Recognise that from birth, early childhood is a sensitive period for language learning and development. Elevating the importance of early childhood to include language and emergent literacy development in policy in Ireland is a necessary first step [*All pillars*].

Provide play experiences to enable children to “develop language skills, including vocabulary, decontextualized language, and oral narrative competence; provide opportunities for functional literacy behaviors; and support decoding-related skills” (Rand & Morrow, 2021, p.245). Socio-dramatic play, games and rich environments provide the context for carefully planned learning experiences scaffolded by an adult who guides the play. Young children must be given sufficient time and space for such play experiences. Pedagogical strategies to enhance play that have been shown to support emergent literacy must be included as part of teacher preparation in ECEC. [*Pillar 1:Enabling Parents & Communities; Pillar 4:Curriculum and the learning experience; Pillar 3:School and ECEC leadership*]

Make shared storybook reading an integral pedagogy in the education of our youngest learners. The interactive and relational nature of sustained programmes of dialogic reading in particular, and the opportunities for rich conversation that they provide, should form the basis of early childhood pedagogy (Lake & Evangelou, 2019). The implicit teaching of vocabulary during shared storybook reading can complement wider explicit teaching of language throughout the day (Lennox, 2013). Dialogic skills can be taught to educators, therefore, enhance word learning (Walsh & Hodge, 2018). Investing in further research on the nature and duration of successful dialogic reading interventions can provide a richer evidence base for what pragmatically can work in ECEC settings. [*Pillar 4: Curriculum and the learning experience*]

Promote children’s language and emergent literacy by exposing children to: varying and challenging word quantity (and quality), targeted words, lexical diversity, syntax and grammatical complexity, correct intonation and prosody and gestures, responsiveness, positivity affect and sensitivity, cognitive stimulation interactions, linguistic encouragement, quality book reading, singing, storytelling and rhymes (Zauche, et al., 2016). Understanding early phonetic development in babbling is important due to its contribution to speech and language development and potential for early intervention (Morgan & Wren, 2018). Further research in Ireland on teacher-child interactions, using an ecobehavioural model, which involves adult’s knowledge, beliefs, and behaviour; environmental considerations, and policies and practices is required to maximize language development for all children (Ford et al., 2018). [*Pillar 1: Enabling Parents & Communities; Pillar 4: Curriculum and the learning experience; Pillar 3: School and ECEC leadership*]

Invest in early childhood educators and provide evidenced-based CPD programmes with multiple components of orientation to content area (language and emergent literacy), coaching, feedback on practice through video analysis and communities of practice. Such an approach lays the strongest possible foundation for a child’s later language and literacy development and proficiency and should be incorporated into curriculum development and quality assurance programmes (Brunsek, et al., 2020; Ciesielski and Creaghead, 2020; Markussen-Brown et al., 2017). Ongoing research on CPD programmes, in terms of content, amount, and type, is necessary (Brunsek, et al., 2020). A comprehensive model of emergent literacy which incorporates language is proposed to form the components of CPD (Rohde, 2015). [*Pillar 2: Teachers and ECEC*]

Introduction

Children are born primed to engage with people, to explore, learn and make meaning from the world around them (National Council for Curriculum & Assessment [NCCA], 2009). The experiences and relationships that children encounter in many different settings is of the utmost importance. In this literature review, we look at oral language development and emergent literacy in the context of best pedagogical strategies and those myriad interactions that underpin them.

Oral language is constituted by five domains: phonology, syntax, semantics, morphology and pragmatics (Honig, 2017). Language enables children to express their thoughts and emotions. It helps them to enter the social world (Vygotsky, 1978) and narrate it (Dickinson et al., 2009) and it has long been associated with later school success (Shanahan & Longian, 2010; Kamhi, 2007) Early emergent literacy skills “include the knowledge and abilities related to the alphabet, phonological awareness, symbolic representation, and communication” and “can be viewed as an interactive process of skills and context rather than a linear series of individual components” (Rohde, 2015, p.1). Both language and emergent literacy are significant domains of development and are singled out at primary level in the Primary Language Curriculum (NCCA, 2019) and before primary school, mainly, in the Communicating strand of the Aistear Curricular Framework (NCCA, 2009).

The research in this review shows that embedding language development in comprehensive, multi-component programmes that incorporate the following key pedagogical strategies of play; shared storybook reading and a mix of child and adult-initiated interactive activities can be effective in supporting young children’s language and emergent literacy. Finally, the quality of the workforce and the importance of continued professional learning and development in the context of supporting language and emergent literacy is addressed. The review responds to the following research questions. See the Appendix for the research strategy and tabulation of results.

Research questions

1. What pedagogical strategies support children from birth to six in developing oral language?
2. What pedagogical strategies support children from birth to six in developing emergent literacy?

Play as a Pedagogical Strategy to Support Oral Language Development and Emergent Literacy

It is acknowledged within national frameworks for early childhood curriculum, Aistear (NCCA, 2009) and quality, Síolta (Centre for Early Childhood Development and Education, 2006) that play is one of the key contexts for children's early learning and development. Through relationships in play, children develop and demonstrate improved verbal communication, high levels of social and interaction skills, creative use of play materials, imaginative and divergent thinking and problem-solving capacities (French, 2012). We now have evidence that "a promising link between play experiences and literacy learning, particularly for language and vocabulary development" has been established (Rand & Morrow, 2021, p.246). This is particularly important due to a tendency (in the US context) to reduce time for play, replaced by a narrow focus on decoding skills through systematic, direct instruction in phonics and phonemic awareness. Such a narrow approach ignores vocabulary, comprehension and fluency and risks that children will not understand what they are reading (Cabell & Hwang, 2020, cited in Rand & Morrow, 2021). Rand and Morrow (2021) expand the scope of the 'science of reading' (p.239) to include play experiences, thus providing a wider range of skills that support the development of competencies that will ensure children's success in reading in later years (Rand & Morrow, 2021).

Rand and Morrow (2021, p.239) reviewed research linking play experiences to three areas: "(1) the development of language skills ... (2) opportunities for functional literacy behaviours...; and (3) skills related to decoding... The research also has demonstrated the value of adult guidance during play experiences in optimizing literacy learning." In the context of the history and models of early reading, Rand and Morrow cite research which determines that oral language development in early childhood (birth to four years) predicts reading comprehension in later years (Language and Reading Research Consortium & Chiu, 2018). Reading comprehension is influenced by oral language development, and that influence increases when children develop decoding skills (Cervetti et al., 2020). The development of vocabulary is particularly important (Nation & Snowling, 1998). Only focussing on the decoding elements of the simple view of reading negates the importance of language-related skills (Dickinson et al., 2010).

Play, particularly socio-dramatic play (imaginary play, role-play [where children negotiate events and roles] and symbolic representation) contributes to language skills related to linguistic comprehension and supports children to develop “functional skills of working with print and texts” (Rand & Morrow, 2021, p.240). Play has a role in reading development by providing the context to develop vocabulary breadth and depth, which in turn supports meaning-making and code-based skills. Play also provides opportunities for decontextualized language, which is critical for explaining and answering questions; and oral narrative competence, which is required for storytelling. Studies which combined vocabulary interventions (embedded in story time routines) with play episodes demonstrated that play can improve depth of vocabulary, or the quality of a child’s knowledge about words (Hadley et al., 2019) and the ability to understand words in new contexts (Toub et al., 2018). It was the “playful aspect that affected vocabulary rather than just the added adult scaffolding in reviewing target words” (Rand & Morrow, 2021, p.242).

The play environment is also important in relation to the provision of literacy props in thematic play areas (for example, home corner, library or office). The materials chosen for a literacy intervention were based on “appropriateness for children’s sustained play interactions, authenticity for the children’s real world, and utility as common, functional literacy objects” (Rand & Morrow, 2021, p.243). Such thematic play environments afford young children practice in literacy experiences such as paper and book handling, mark making and pretend reading. This is particularly important for children whose home environment might not offer the same early literacy experiences. However, further research is needed to examine the impacts of the environment on later literacy development (Rand & Morrow, 2021). Please see French (2022) in this suite of papers (Literature Review to update a New Literacy, Numeracy and Digital Literacy Strategy) for further discussion on mark-making/emergent writing and invented spelling.

The adult’s role in guiding or scaffolding the children’s play is critical (Rand and Morrow, 2021). Rand and Morrow found that adult engagement in sociodramatic play results in greater literacy skills and playful learning. Active assistance in play, taking roles of onlooker (audience and validator of the play); player (adult takes on a role within the play scenario thereby scaffolding story and character development) and the leader role (adult provides the props, offers suggestions for the play) facilitates literacy learning (Rand & Morrow, 2021). In addition, the adult can widen the scope of play to expose children to a

literacy rich environment by providing playful opportunities with books. Shared storybook reading incorporates such a playful approach to language development.

Shared Storybook Reading as a Pedagogical Strategy to Support Oral Language Development and Emergent Literacy

Shared storybook reading has long since been used by educators and researchers as a means of supporting young children's language development (Lake & Evangelou, 2019; Sedgwick & Stothard, 2017). Extant evidence states that discussion with an adult or a more experienced peer during storybook reading provided a moderate effect size for both receptive (Cohen's $d = 0.45$) and productive language (Cohen's $d = 0.62$) (Mol, Bus & de Jong, 2009). Mol and Bus in their meta analyses in 2011, concluded that an early start of shared book reading sets in motion a causal spiral, in which print exposure stimulates language and reading development, which, in turn, stimulates the quantity of print exposure (Fletcher & Reese, 2005). Mol and Bus (2011) reported a moderate relationship between print exposure and both oral language and basic reading skills among two to six year olds, explaining 12% of the variance in pre-schoolers' and kindergartners' oral language skills (Mol & Bus, 2011). A National Early Literacy Panel (NELP) report in the USA in 2008, reported moderate effect sizes on oral language measures also. NELP purported that this was due to the fact that children's books contain three times as many low-frequency words as television programmes or adult conversations with children (Mol & Bus, 2011).

However, more recent studies have been less conclusive about the specific language skills (or indeed broad ones) that were affected by shared reading. Noble et al. (2019), in their meta-analysis, sought to ascertain definitive answers about the effectiveness of shared reading. Noble et al (2019) found that the effect size for shared reading was actually **modest** in size ($g = 0.194$, $p = .002$). This is in contrast to Flack et al. (2018), who found a more **moderate** effect size for shared reading: "Comprehension test studies report a positive effect of shared storybook reading on word learning, $k = 110$, raw change = 3.025 words (95%, CI [2.622, 3.366]), $p = .001$. Overall, children learned 46% (SD = 25%) of the words to which they were exposed" (Flack et al., 2018: p1338). However, Noble et al note that Flack and colleagues did not exclude studies that did not have a control group and they examined specific outcome measures of language rather than a broader range of skills. It is difficult to conclude that any effects of shared reading were definitively moderate in Flack's study, due to these methodological discrepancies.

Despite Noble et al's (2019) modest findings, the authors discuss the importance of the practice of shared reading and offer some explanation as to why they found lesser effect sizes than previous reviews. They argue that the difficulty in the accurate and generalizable measurement of language skills in very young children may have led to lower reliability of results in previous studies. In future research, they call for delayed post-testing on a wide range of language outcomes, among a range of socio-economic groups with studies using active control groups (non-language promoting activities). Sedgwick and Stothard (2017) support longer small group or individual interventions for children at risk of speech, language and communication needs. Noble et al also recommend that shared reading interventions should be longer, i.e. between 6 and 12 months rather than the ones listed in their review, which lasted, on average, between 6 and 8 weeks. Longer interventions, they suggest, may lead to more lasting and pronounced stronger effects on young children's language development. In their comprehensive Campbell Review, Rogde et al. (2019) also support language interventions with longer timeframes with follow-up assessments. Noble et al (2019) do concede, however, that dialogic and shared reading interventions contain a lot of "language boosting ingredients" (Noble et al., 2019, p.8). Therefore, they should be encouraged among educators. These ingredients include joint attention, contingent talk and child directed speech with higher levels of syntactic and lexical diversity. These all have been proven to support children's language development in independent previous studies and have strong theoretical foundations (Bruner 1983; Tomasello, 2009; Lake & Evangelou, 2019; Schickedanz & McGee, 2010). It is evident that in the shared book reading sessions described above, there is a clear role for the adult too. This will be discussed next.

Style of Shared Reading

Schickedanz and McGee (2010) suggest that the expertise and style of the educator/parent who is reading the book, can affect whether the shared reading session is successful or not, or indeed whether the children even participate in the activity. Walsh and Hodge (2018) in their review of shared book reading, differentiate between three different styles of shared reading:

1. Descriptor reading (focusing on lower order questions),
2. Comprehender style (focusing on story meaning) and;
3. Performance oriented (PO) (focusing on the introduction of the book and the story's meaning).

Each of these styles in Walsh and Hodge's review had different effects on language. For example, the descriptor style appeared to have an effect on receptive vocabulary and print skills and PO seemed to have a larger impact on children's vocabulary skills (worth noting that the children had high vocabulary scores to begin with). The authors conclude that educators need to plan how they are going to read to children, if they are hoping their practice is to have an impact on children's language development. They suggest that educators should consider what outcomes they are targeting, as well as the existing language levels of the children, to whom they will read. This will determine what style of shared reading they employ.

Walsh and Hodge's review built on the work of Whitehurst et al. (1998), Biemiller and Boote (2006), Justice et al., (2005) and Senechal (1997) who all contended that, in particular, dialogic type styles of shared reading, similar to that of performance oriented style reading purported by Walsh and Hodge, can be taught to the educator/adult. This, in turn, can result in enhanced word learning in young children.

Dialogic Reading

Flack et al's review (2018) found that reading style affected the number of target words learned (in terms of comprehension). Specifically, the use of dialogic techniques like, pointing, providing definitions, describing pictures or asking the children questions during reading, all influenced the number of new words being learned. Lennox, in her review in 2013 suggests that this dialogic reading focuses on conversational exchanges that are reciprocal in nature (Lennox, 2013). The exchanges often involve elaborations of children's responses and talk around the book which is usually unscripted, dynamic in nature and can enhance young children's language development (Lennox 2013; Justice et al., 2008). Van Kleeck (2008) argues for the promotion of inferential thinking during these sessions. Here, children draw on their background knowledge in relation to the questions being asked during the dialogic reading session. This is achieved by the educator asking higher order questions. Typically, the evidence to date has shown that educators are inconsistent in their asking of higher order questions and the evidence itself is also inconsistent (Walsh & Hodge, 2018). Walsh and Hodge (2018) found that specific vocabulary learning studies tended to focus on lower order questioning only, during dialogic reading. Studies that were concerned with more wide-ranging language skills (such as, lexical production, receptive vocabulary) tended to use more a mixture of lower and higher order questions. However, Walsh and Hodge also

note that standardised vocabulary measures are over-represented generally in the research on shared reading. Thus the effects on outcomes such as story comprehension, narrative or the children's responses are not yet conclusive. Snow too (2017) cautions against the over-reliance on the vocabulary repertoire as the sole measure of language ability. She argues for more conversations around books with children and that opportunities for these create richer contexts for the measurement of more all-round language development.

However, it is worth noting that Flack and colleagues (2018) found that multiple exposures to the same new target words (featured originally in a dialogic reading session) had the effect of increasing the vocabulary learned. This is a very simple and straightforward intervention that educators working with young children can employ. Careful choice of words and repeated exposure to them throughout the day can have a meaningful effect, allowing for deeper comprehension of the words. Furthermore, Lennox's review (2013), argued for systematic teaching of the target words, alongside the implicit teaching of the words through the sharing of the book. This allows the child to interact more meaningfully with the book. It enables them to formulate their thoughts and express them when discussing the book (Lennox, 2013; Beck and McKeown, 2007). This type of intervention is in keeping with a more comprehensive approach to supporting children's language development (Rohde et al., 2015).

Lastly, what needs to be considered carefully when engaging in dialogic reading is the careful selection of the books used. Lennox' review (2013) argues for culturally responsive texts that feature many different genres. This, she concludes, can affect how children respond to books more generally (Lennox, 2013). Often educators rely on narratives as their chosen book for dialogic reading. This can go on to affect children's own choices of books for independent reading (Lennox, 2013; Yopp and Yopp, 2006, 2012). Children, Lennox (2013) argues in her review, should be exposed to texts beyond their independent reading level. They need exposure to sophisticated language during shared reading episodes. This can increase their own repertoire and the lexical complexity of the language they produce. The interactions during the dialogic reading session are central to its effectiveness. They are central to early pedagogy more generally and will be discussed next.

Interactions as a Pedagogical Strategy to Support Oral Language Development and Emergent Literacy

It is acknowledged that children's daily interactions in their ECEC settings "are the most proximal drivers of children's development, learning and well-being" (Organisation for the Economic Cooperation and Development [OECD], 2021, p.15). Ford et al. (2018, p.246) propose and outlined an 'ecobehavioral' model of language development that assumes that children learn language (and later literacy skills) through the opportunities afforded by adult-child interactions. This model, though focussed on parent-child interactions, is relevant to educator-child interactions. The model attempts to further articulate Hart and Risley's study (1995), which suggests that the number of words to which a child is exposed, in isolation, causes language development. The ecobehavioural model is embedded in sociolinguistic theory and empirical literature and involves more complex variables such as functional variables of adult's knowledge, beliefs, and behaviour; the available resources and environmental considerations, and the policies and practices which are distal influences on the timing, frequency, and quality of these interactions. Potential actions and intended outcomes to increase interactions are outlined. For example, the action of promoting children's initiation of language results in the adult using prompts within the immediate environment; the adult supporting active participation of the child results in the child initiating conversations. The value of the model is the potential for researchers and community actors to create improved and holistic policies, practices, and interventions to maximize language development for all children, even our youngest babies (Ford et al., 2020).

Examining early phonetic development in babbling is important due to its contribution to speech and language development (Morgan & Wren, 2018) and later literacy and cognitive ability (Zauche et al., 2016). Morgon and Wren (2018) reviewed the collective contribution of literature to our understanding of early vocalisations and babbling of babies, from nine to eighteen months, with a view to providing information on typical patterns of early development. The following factors are associated with increased vocabulary acquisition: increased volume of early vocalizations at 6 months, increased complexity of babbling (multisyllabic, reduplicate, variegated and canonical babbling [e.g. Oller, 1980]) and specific use of consonants (alveolar [t,d]) and labial [p,b] stops and nasals [m, n] and velar stops [k/g, e.g. McCune & Vihman [2001]). However, the studies in this review have demonstrated individual variation in how infants move through early vocalisations and

babbling. This is important as research indicates that babbling might be a useful marker for children who are later identified as language impaired. Therefore, there is a need for educators to understand the nature and development of early vocalisations to allow “services more means and opportunities to monitor them from a very young age and to intervene earlier (Morgon & Wren, 2018, p. 9).

Research related to the effectiveness of symbolic gesture (e.g. sniffing for ‘flower’) for typically developing hearing infants (under 36 months) with hearing parents was systematically reviewed (Fitzpatrick et al., 2014). Symbolic gestures, as considered in this review, are also often referred to as ‘baby sign’ when caregivers deliberately and specifically provide enhanced gesture training to infants to promote early communication development (which differs from established sign language used in communicating with people who are deaf). The American Academy of Pediatrics (AAP) endorsed baby sign language as an aid to improve communication (AAP, 2011). However, Fitzpatrick et al. (2014, p 503) reported that there was “no convincing evidence that exposure to symbolic gesture intervention is associated with benefits in language acquisition for typically developing children”. Equally, there was no evidence to suggest that using baby sign interferes with typical child development. Baby sign language has become a popular intervention, alongside programmes focused on massage, multisensory experience, music and movement. Howard and Doherty-Sneddon (2014) commented in response to the review that there is no evidence to suggest that baby sign enhances communication. There is ambiguity in the definition of baby sign as there is evidence to suggest that babies are not equating the sign to representation, but merely imitating (Tomasello, 2003) and that parents who are deaf phase in signs with their children. Based on the evidence it is reasonable to infer that baby sign does not enhance communication. Furthermore, there is a need for more rigorous research to evaluate whether early exposure to baby sign can enhance children’s development.

Zauche et al. (2016) undertook an integrated systematic review to evaluate the influence of ‘language nutrition’ (talking, interacting, or reading), on early childhood and language or cognitive development in the first three years of life. The limitations of the review were reported: some of the 103 studies were small, there was the potential for bias and there were variations in methodology across studies. However, the majority of studies were observational cohort studies or quasi-experimental and sampled from a variety of populations, which increased the generalisability of the findings. The vast majority of the

articles reported significant benefits of the following interaction strategies. Speech that is varied in words, syntactical structure and grammatical complexity supports language acquisition, understanding and production of language. Zauche et al. (2016) cite research which identified that the quality and complexity of the words used mediates the adverse effects of low levels of parent education; preterm birth, maternal depression, and poverty on language and cognitive outcomes (Huttenlocher et al., 2010; Poehlmann & Fiese, 2001). Studies indicate that the varied intonation and prosody (expression) in educators' speech and targeted vocabulary aid the development of word segmentation and phonemic awareness (Read, 2014; Saint-Georges et al., 2013). Interaction strategies of gesture and establishing joint attention help children recognise words (Martoccio et al., 2014; Schmidt & Lawson, 2002). It should be noted that not all language exposure is beneficial for children's learning. The use of directives that change the focus of a child's attention have been found to have a negative impact on their language development (Topping et al., 2013). Directives close down conversations and negate children's contributions/agency. On the contrary, actions that encourage children's participation in conversation (supporting children to contribute to the conversation through attention, facial expression, contingent comments i.e., serve and return interactions), within supportive trusting relationships lay the foundation for language development and critically later literacy and academic success. Other literacy promoting experiences include shared book reading, storytelling, singing songs and rhymes, exposure to number and letters and lead to greater generative language use (Topping et al., 2013).

Continued professional learning and development is required to give early childhood educators the skills in appropriately entering children's play, scaffolding their learning and using appropriate strategies to intentionally promote language and literacy practices. This leads us to the next section on the quality of the workforce.

The Quality of the Workforce to Enhance Oral Language and Emergent Literacy

The relationships that children experience which are embedded in sensitivity, attunement, responsiveness, and rich in verbal and cognitive stimulation are regarded as the central component of ECEC quality (Hatfield et al., 2016). "Understanding the factors that can influence child outcomes by improving the quality of these interactions is therefore imperative" (Brunsek et al., 2020, p.219). A recent international review reported that having higher qualifications supported early childhood professionals' ability to provide responsive, nurturing, sensitive care and education to children under three years (Melhuish et al., 2015). However, Falenchuk et al. (2017) and Nocita et al. (2020) in their reviews, found that higher

levels of staff education yielded mixed findings when it came to academic, cognitive, social, and emotional outcomes for children. Falenchuk et al. (2017) acknowledged in their research that family outcomes were not controlled for and some research was observational in nature and subject to biases in the research design. Furthermore, results from the review were hampered by heterogeneity in how staff education was defined, variability in whose education was measured and the child outcomes that were assessed. They referred to the paucity of research in this area and that more is required (Nocita et al., 2020). A third systematic review by the same authors (Brunsek et al., 2020) found positive associations were identified when child outcomes aligned with the content of continued professional development programmes (e.g., Language/Literacy CPD). It is reasonable, therefore, to conclude that providing focussed evidence-based professional development opportunities on language and emergent literacy (after initial qualification), and supervision while working in ECEC will impact positively on staff's ability to enhance children's learning and development (Mathers et al., 2014; Melhuish et al., 2015).

Rohde (2015, p.1) who developed a comprehensive model of emergent literacy reported research evidence that demonstrates that early childhood teachers with "limited knowledge about literacy development are significantly less able to provide such experiences for children." The importance of interactions and experiences in young children's daily lives was highlighted by the OECD, with the recommendation that they be facilitated through training and investment in the ECEC workforce (OECD, 2018). Several studies have focused on CPD specifically in the context of supporting young children's early language and literacy in ECEC (Markussen et al., 2017, Brunsek et al., 2020 and Ciesielski and Creaghead, 2020). Caution is acknowledged in interpreting the findings due to the heterogeneity of the programmes and evaluation methodologies and implementation fidelity. However, combining Brunsek et al. (2020), Ciesielski and Creaghead (2020) and Markussen et al. (2017), some features of programmes with successful outcomes were identified in the delivery of language and emergent literacy focussed professional learning (see also King et al., 2022 for more general principles and practices in professional learning and development).

It is important to tailor the professional learning and development to the participants (educators and children) as instruction is not a 'one-size fits all' (Ciesielski & Creaghead, 2020). For example, educators with lower levels of education may benefit from higher levels of scripting. Explicit instruction of the content area (in this case phonological awareness) is

beneficial. Programmes with the highest effect sizes did not supplant the ECEC curriculum but were designed to be incorporated into the existing programme (Ciesielski & Creaghead, 2020). Multiple components of professional learning and development are required to be successful. For example, where educators are provided with an orientation to content, accompanied by coaching/mentoring with the appropriate feedback needed to perfect new practices “and regular meetings in communities of practice to discuss progress... The combination of these elements creates multiple fora for sustaining opportunities to learn specific content” (Markussen et al., 2017, p.117). Indeed, one programme cited in Brunsek et al. (2020) called the Exceptional Coaching for Early Language and Literacy (Wasik & Hindman, 2011) achieved the highest impact factor. The programme consisted of two full days of professional learning and development plus weekly sessions (three hours each), weekly coaching sessions (three hours each), live performance feedback of in-class instruction and videotaped instruction, the duration of which went over two preschool years. Stone and colleagues in their comprehensive Campbell Review of Latin America and Caribbean also concede that even though they were yet to find evidence of the success of coaching in the majority Latin American countries, in high-income economies, professional learning and development can positively affect early grade literacy when complemented by sustained coaching (Stone et al. 2019). Brunsek et al. (2020, p. 244) highlights the “importance of investment in PD, both in terms of research attention as well as investments in practitioners through in-service training”.

To sum up in the context of what could be included in the components of a professional learning and development programme for oral language and emergent literacy the following is proposed. Rohde (2015) outlines a comprehensive model of emergent literacy that incorporates language and emphasises the holistic nature of emergent literacy (and all) learning for young children. Each component (print awareness, phonological awareness and oral language) has its own developmental sequence and supports the development of the other components (but not in a linear way). A fourth component (writing) overlaps with the other three. The environment is instrumental to the child’s language development and the model takes account of the national policy guidelines on early childhood education. The intersections and overlaps of the model demonstrate the holistic nature of EL learning for young children. See Figure 1 The Comprehensive Emergent Literacy Model (Rohde, 2015, p.8) overleaf.

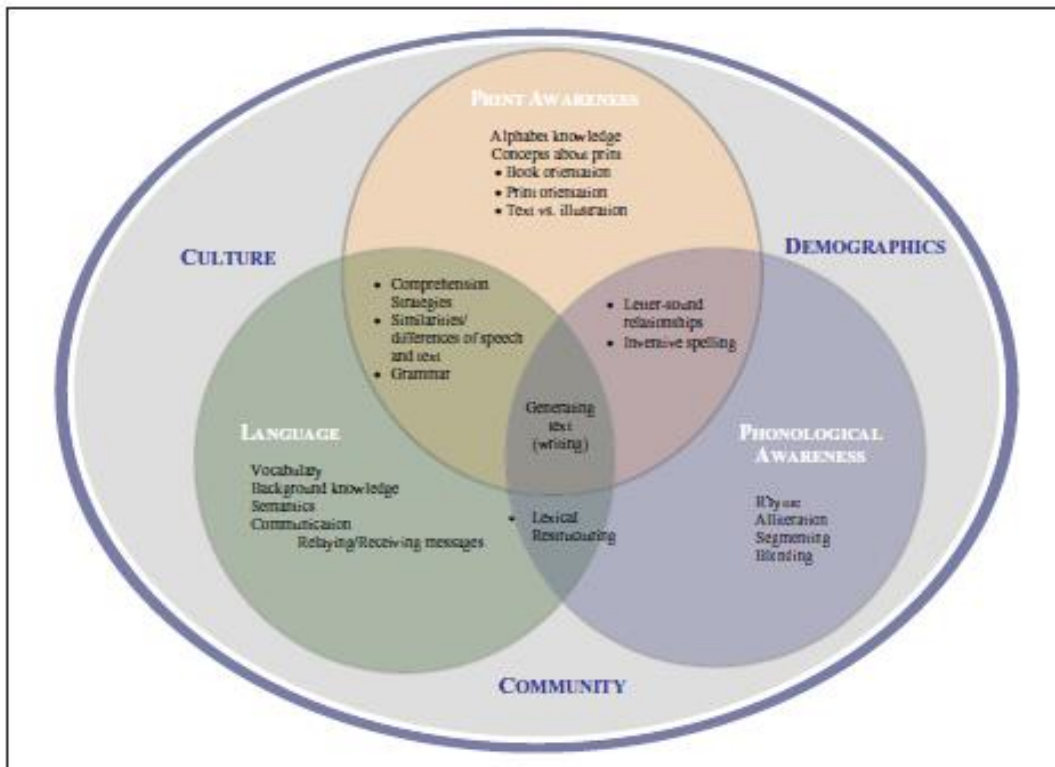


Figure 1 The Comprehensive Emergent Literacy Model, source Rohde (2015, p.8)

ECEC staff “require comprehensive initial education programmes, ongoing professional learning and development during employment and supportive working conditions to effectively engage in high-quality interactions” (OECD, 2021 p.16). ECEC leaders shape the conditions and strategies for ensuring quality in settings, and themselves need access to appropriate training and support structures to be most effective. Protected time for early childhood teachers to access professional learning and development is required (OECD, 2021). Early childhood educators will be better able to support all of the components of oral language development and emergent literacy through play, dialogic reading and interactions discussed in this review if they have access to, and understanding of, a model that describes the components, their interactions, and the importance of environmental factors in supporting children.

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***Dr Gillian Lake** is an Assistant Professor in Early Childhood Education and Chair of Postgraduate Studies by Research at DCU Institute of Education and a Fellow of Advance HE (FHEA). She was a Primary Teacher in Ireland before first undertaking an MSc in Child Development & Education and then a Doctorate of Philosophy in Education at University of Oxford, focusing on language development and Early Childhood Education. She has continued to work in this area, both as a lecturer (DCU & Oxford Brookes University, UK) and a researcher. She collaborates with industry, the early childhood sector and international research partners in the area of Early Childhood Education.*

Appendix Research strategy and Tabulation of Results

Overview

The overarching focus of the search strategy in this section was to discover what pedagogical strategies are required for adults to support the development of oral language and emergent literacy in the context of children, from birth to six years, in early childhood education and care settings.

Research questions

3. What pedagogical strategies support children from birth to six in developing oral language?
4. What pedagogical strategies support children from birth to six in developing emergent literacy?

1. What pedagogical strategies support children from birth to six in developing oral language?

Key Search Terms

Ebsco

DE: DE "ORAL communication" OR DE "LANGUAGE acquisition" OR DE "CHILDREN'S language" OR DE "VERBAL ability" OR DE "COMMUNICATIVE competence in children"

1. DE "ORAL communication" OR DE "LANGUAGE acquisition" OR DE "CHILDREN'S language" OR DE "VERBAL ability" OR DE "COMMUNICATIVE competence in children" (DE with limiter from 2011) 12,640

2. ORAL communication OR LANGUAGE acquisition OR CHILDREN'S language OR VERBAL ability OR COMMUNICATIVE competence in children (as a free text search and search title, abstract and keyword fields as an OR search) 16,675

3. Search 1 and two combined with OR 24,110

4. Run Search 3 AND meta-analysis or systematic review (title field) 326

5. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) 117

6. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) AND (Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler) 18

ERIC

1. DE "ORAL communication" OR DE "LANGUAGE acquisition" OR DE "CHILDREN'S language" OR DE "VERBAL ability" OR DE "COMMUNICATIVE competence in children" (DE with limiter from 2011) 4,699
2. ORAL communication OR LANGUAGE acquisition OR CHILDREN'S language OR VERBAL ability OR COMMUNICATIVE competence in children (as a free text search and search title, abstract and keyword fields as an OR search) 7,341
3. Search 1 and two combined with OR 10,036
4. Run Search 3 AND meta-analysis or systematic review (title field) 109
5. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) 83
6. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) AND (Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler) 28

Scopus

1. ORAL communication OR LANGUAGE acquisition OR CHILDREN'S language OR VERBAL ability OR COMMUNICATIVE competence in children (as a free text search and search title, abstract and keyword fields as an OR search limited to year, social sciences and English) 9,363
2. Search within results 1 AND meta-analysis or systematic review 2,020
3. Exclude Arts and humanities, Medical, Engineering, Business, Dentistry, Biochemistry among others 557
4. Search within results Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler 247
5. Limited to English. 240

Google scholar

ORAL communication OR LANGUAGE acquisition OR CHILDREN'S language OR VERBAL ability OR COMMUNICATIVE competence in children Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler Sorted by date and relevance. 48

2. What pedagogical strategies support children from birth to six in developing emergent literacy? Key Search Terms

Ebsco

DE: DE "EMERGENT literacy" OR DE "EMERGENT literacy research" OR DE "LITERACY programs" OR DE "LITERACY education" OR DE "FUNCTIONAL literacy" OR DE "LITERACY research"

1. DE "EMERGENT literacy" OR DE "EMERGENT literacy research" OR DE "LITERACY programs" OR DE "LITERACY education" OR DE "FUNCTIONAL literacy" OR DE "LITERACY research" 10,151
2. EMERGENT literacy OR EMERGENT literacy research OR LITERACY programs OR LITERACY education OR FUNCTIONAL literacy OR LITERACY research (as a free text search and search title, abstract and keyword fields as an OR search) 14,898
3. Search 1 and two combined with OR with limiters 21,451 (edited to peer reviewed, from 2011) 7,049
4. Run Search 3 AND meta-analysis or systematic review (title field) 56
5. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) 35
6. Run search 5 AND Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler. 6

ERIC

DE: DE "EMERGENT literacy" OR DE "EMERGENT literacy research" OR DE "LITERACY programs" OR DE "LITERACY education" OR DE "FUNCTIONAL literacy" OR DE "LITERACY research"

1. DE "EMERGENT literacy" OR DE "EMERGENT literacy research" OR DE "LITERACY programs" OR DE "LITERACY education" OR DE "FUNCTIONAL literacy" OR DE "LITERACY research" 19,047
2. EMERGENT literacy OR EMERGENT literacy research OR LITERACY programs OR LITERACY education OR FUNCTIONAL literacy OR LITERACY research (as a free text search and search title, abstract and keyword fields as an OR search) 18,506
3. Search 1 and two combined with OR with limiters 29,438 (edited to peer reviewed, from 2011) 7,175
4. Run Search 3 AND meta-analysis or systematic review (title field) 43
5. S3 AND TI (meta-analysis or systematic review) NOT (NOT Medical OR Medicine OR Autism OR Parent) 37
6. Run search 5 AND Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler. 16

Scopus

1. EMERGENT literacy OR EMERGENT literacy research OR LITERACY programs OR LITERACY education OR FUNCTIONAL literacy OR LITERACY research (as a free text search in article title, abstract and keyword as an OR search limited to year) 220
2. Search within results 1 limited to social sciences, psychology and neuroscience 184
3. Search within results AND meta-analysis or systematic review 44

4. Search within results Early childhood education OR Kindergarten OR Foundation Stage OR Young children OR Preschool OR Early Years OR Baby OR Toddler and limited to English. 10

Google scholar

EMERGENT literacy OR EMERGENT literacy research OR LITERACY programs OR LITERACY education OR FUNCTIONAL literacy OR LITERACY research (as a free text search in article title, abstract and keyword as an OR search limited to year. 8

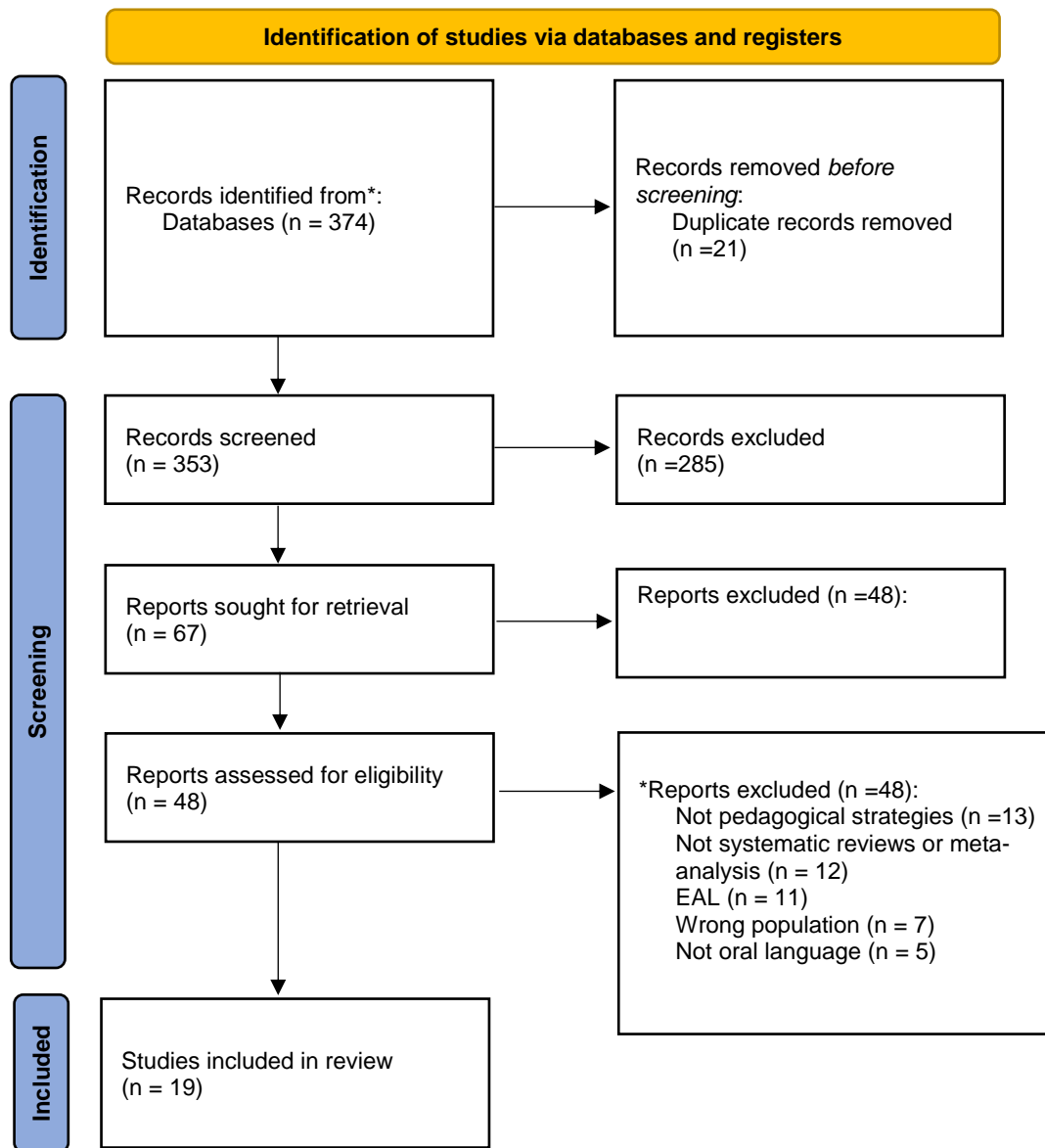
Key Data Sources Consulted

- SCOPUS, ERIC, Education Research Complete
- Google Scholar
- Handbooks in the field published since 2011
- ‘Grey literature’ (for example, National Council for Curriculum and Assessment, Organisation for Economic Cooperation and Development)

Inclusion Criteria (abstract & title search)	Exclusion criteria (abstract & title search)
Systematic review or meta-analysis Best-evidence Synthesis Oral language ORAL communication LANGUAGE acquisition CHILDREN'S language VERBAL ability OR COMMUNICATIVE competence EMERGENT literacy LITERACY programs LITERACY education FUNCTIONAL literacy Early childhood education Post 2011 Pedagogical strategies	Predominant focus on something other than education (e.g., health literacy) Medical Medicine Autism Parent Post-primary Secondary High School Higher-education Speech pathology Speech and language Unpublished theses Books, except specific Handbooks Book review Preservice teachers Student teachers Single case study not sufficient for inclusion unless relevant to under-represented disciplinary area (mathematics or digital literacy) or age-range (secondary)

See Prisma chart overleaf

PRISMA Chart: Pedagogical strategies to support oral language and emergent literacy in ECEC



*Records excluded following blind review by two reviewers using Covidence

Tabulation of Results Pedagogical strategies to support oral language development and emergent literacy in Early Childhood Education and Care

Review	Number of studies	Effect size (If available)	Theme	Age range	Finding
Brunsek, Perlman, McMullen, Falenchuk, Fletcher, Nocita Kamkar & Shah, 2020	64 studies 13 similar studies meta-analysed	0.03 - 3.25	Quality of the workforce Professional learning and development.	2.5 to 6 years	Professional learning and development (PL/D) appears to be an important lever for improving practice in Early Childhood Education and Care (ECEC) programs. Positive associations were identified when child outcomes aligned with the content of PD programs (e.g., Language/Literacy PD). The systematic review similarly identified more associations when outcomes were related to PD content and for programs that included a coaching component, were shorter, and used author-created outcome measures.
Ciesielski & Creaghead 2020	15	From $d = -0.02$ to 1.94	Quality of the workforce Impact of PL/D on early childhood educators on children's phonological awareness	3 - 6 years	Aspects of effective PD, including the education and experience of the ECEs, the format and structure of the PD, and the content of the educational program, are considered. The findings have important instructional implications for PD in the preschool setting. In general, educational programs that were highly structured, providing specific, defined activities including scope, sequence, and wording, were more successful. Educational programmes using scripted activities or highly detailed lesson plan scopes and sequences resulted in the greatest gains in PA skills. Programmes demonstrating the highest ES's as were those designed to be incorporated into the existing preschool programme.
D'Agostino, Harmey, 2016	16	$g^- = 0.59$	Evaluation of Reading Recovery	6-7 years	Based on a random effects model, the estimated overall effect was .59, with larger effects for outcomes based on the Observation Survey (Clay, 2013), and stronger effects in certain literacy domains, such as text reading, print knowledge, and general literacy. Although United States studies produced a larger point estimate (.61) compared to other countries (.52), and experiments (.69) yielded a larger estimate than quasi-experiments (.43), neither difference was statistically significant.

Falenchuk Perlman, McMullen, , Fletcher, & Shah, 2017	39	Not reported	Quality of the workforce Association between teachers' education and outcomes	2.5 - 6 years	Staff education is considered key to the quality of early childhood education and care (ECEC) programmes. However, findings about associations between staff education and children's outcomes have been inconsistent. Research is subject to biases. Results from the systematic review were hampered by heterogeneity in how staff education was defined, variability in whose education was measured and the child outcomes that were assessed. Overall the qualitative summary indicates that associations between staff education and childhood outcomes are non-existent to very borderline positive.
Fitzpatrick, Thibert, Grandpierre & Johnston, 2014	10	From p =.0009 to p = .94	Interactions (Baby sign)	Birth to 36 months	Baby sign language is advocated to improve children's communication development. However, the evidence to support the advantages of baby sign has been inconclusive. A systematic review was undertaken to summarize and appraise the research related to the effectiveness of symbolic gestures for typically developing, hearing infants with hearing parents. This review shows that the effectiveness of baby sign in improving communication development remains unclear. The authors reiterate in a response the need for rigorous studies to evaluate whether early exposure to baby sign can enhance children's development.
Flack, Field & Horst, 2018	38	(change in raw scores) k=110, raw change 3.025 words (95%, CI [2.622, 3.366]), p .001	Effects of shared reading on word learning		Results indicate reading style and use of dialogic techniques (such as pointing, providing definitions, or asking children questions as you read) significantly influences the number of new words children learn from shared storybook reading. In fact, our results suggest that, after adjusting for the number of target words, the use of dialogic styles increases word learning by more than one word per child.

Markussen-Brown, Juhl, Piasta, Bleses, Højen & Justice, 2017	25	Process, structural quality & knowledge (1.07); receptive vocabulary (0.21); phonological awareness (0.30); and alphabet knowledge (0.12) no relationship between educator outcomes and child outcomes ($p = 0.338$)	Quality of workforce Professional learning and development.	Early childhood	Professional learning and development (PL/D) is increasingly used to improve early childhood educators' skills and knowledge in providing quality language and emergent literacy environments for children. However, the literature does not clearly indicate the extent to which such efforts reach their goals, or whether improvements in educator outcomes translate to learning gains for children. A meta-analysis was conducted to evaluate the effects of language- and literacy-focused PD on process quality, structural quality, and educator knowledge as primary outcomes. Furthermore, we estimated effects for three child outcomes: receptive vocabulary, phonological awareness, and alphabet knowledge. The total number of PL/D components was the strongest predictor of process quality The results suggested that PL/D is a viable method of improving language and literacy processes and structures in preschools, but effects may need to be substantial if they are to translate into higher child outcomes.
Mol & Bus, 2011	99	Print exposure explaining 12% of variance in oral language skills	Relationship between print exposure and oral language	Preschool kindergartners, college and university students	Shared book reading to preconventional readers may be part of a continuum of out-of-school reading experiences that facilitate children's language, reading, and spelling achievement throughout their development.

Morgon, & Wren, 2018	13	Not reported	Interactions (Early vocalisations and babbling patterns)	9-18 months	Children's speech development begins in infancy. The review identified progressive increases in the complexity and volume of infants' early vocalizations through the period of 9-18 months. It also found a broad order of phonological acquisition. Although marked individual variation was demonstrated in the studies, the review provides indicative patterns of development which can be used as a basis to explore relationships with later speech development in future studies.
Noble, Sala, Peter, Lingwood, Rowland, Gobet & Pine, 2019	54	($g^- = 0.194$, $p = .002$).	Impact of shared book reading on language development	Preschool and school age	Results show that, while there is an effect of shared reading on language development, this effect is smaller than reported in previous meta-analyses
Nocita Perlman, McMullen, Falenchuk, Brusek, Fletcher, Kamkar & Shah, 2020	16	Not reported	Quality of the workforce	Preschool aged children	Early childhood teacher specialization (e.g., early childhood education, child development) is used frequently as an indicator in ECEC quality. Results revealed few significant associations. However, qualification was separated out from other indicators (e.g. centre quality, experience, and professional development). Specialisation is likely to drive how teachers interact with children. Early childhood specialization may not be as important as whether they use their child-related knowledge to inform how they interact with children. In reality, the interaction of various quality indicators may be what matters most. Paucity of research in this area more is required.

Rogde, Hagen, Lervag, Lervag, 2019	43	$g^- = 0.16$	Campbell systematic review examines the effects of linguistic comprehension instruction on generalized measures of language and reading comprehension skills.	preschool and school age	The effect of linguistic comprehension instruction on generalized outcomes of linguistic comprehension skills is small in studies of both the overall immediate and follow-up effects. Analysis of differential language outcomes shows small effects on vocabulary and grammatical knowledge and moderate effects on narrative and listening comprehension. Programmes with longer time frames and follow-up assessments than what was included in this review must be developed in the future.
Schickedanz, Mc Gee, 2010	19	-0.12 - 2.87	Systematic review of NELP Chapter 4 review	Preschool-Kindergarten	The authors discuss the 19 individual studies included in chapter 4 (shared story reading interventions) of the report of the National Early Literacy Panel (NELP) and offer more nuanced conclusions than the report's authors do. They also emphasise the need for more comprehensive approaches to shared story reading in preschool than those found in the studies available to the NELP for its meta-analysis. Like the panel authors, the authors of this response call especially for shared reading interventions that support children's understanding of meaning, as well as vocabulary and syntax development and print-related skills.

Sedgwick, Stothard 2017	17	Not reported	Review of oral language interventions	5-7 years	General oral language interventions can be very effective, as demonstrated by significant increases in standardized tests of receptive and expressive language. Specific vocabulary acquisition interventions are also highly effective, as shown by significant increases in researcher-developed measures of expressive and receptive target word knowledge. General oral language interventions do develop children's vocabulary, but comparisons with interventions, whose focus is the acquisition of specific tier two words, are not possible because of the outcome measures used. Therefore, careful consideration of purpose is required. Non-specialists, however, must receive quality training and adhere to the programme.
Stone, de Hoop, Coombes, Nakamura 2019	107		Examines effectiveness and fidelity of early grade literacy programmes in Latin America and Caribbean	Birth-Grade 3	Overall, programs did not have statistically significant effects on EGL outcomes. But there are instances in which programs may have positive or negative effects. For example, teacher training did not show positive effects on EGL outcomes, but a study from Chile showed that teacher training can possibly positively affect EGL outcomes in high-income economies when it is well implemented and complemented by sustained coaching. Other studies showed that phonemic awareness, phonics, fluency, and comprehension are associated with reading ability. Furthermore, poverty and child labour are negatively correlated with EGL outcomes. This finding supports the result that nutrition programmes may be effective in settings with high rates of stunting and wasting.
Walsh & Hodge, 2018	17	Not reported	Questioning strategies during SBR	Preschool	The studies reviewed here suggest that optimal groups size may depend on the purpose of the reading. If the purpose is to elicit language from children, then smaller groups in which all children have a chance to respond individually are likely to be more effective. Second, teachers need to consider the outcomes they are aiming for when planning their reading style and questioning strategies. Finally, greater understanding by teachers of the effects of different questioning practices on language learning and emergent literacy will assist them to modify their SBR strategies and develop the language abilities of children in their care.

Wanzek, Vaughn, Scammacca, Gaitlin, Walker, & Capin, 2016	72	From 0.36-0.62	Effects of Tier 2 (less extensive) reading interventions on foundational reading skills	Kindergarten-Grade 3	Overall, the research demonstrated moderate, positive effects of less extensive interventions on both standardized and not-standardized measures of foundational reading skills such as phonemic awareness, decoding, word identification, decoding fluency, word identification fluency, and text reading fluency. Smaller effects were noted for less extensive interventions on standardized measures of language/comprehension, with the majority of the standardized measures assessing reading comprehension. There were no differences in effects related to intervention type, instructional group size, grade level, intervention implementer, or the number of intervention hours.
Zauche, Thula, Darcy Mahoney & Stapel-Wax, 2016	103	Not reported	Interactions (Influence of language-rich interactions for optimal language and cognitive development.)	Pre-birth to – 8 years	This integrated review highlights that early childhood is a critical period for language and cognitive development. The review was conducted to evaluate the influence of language nutrition, through talking, interacting, or reading, in early childhood and language or cognitive development. Findings related to word quantity, lexical diversity, linguistic productivity, syntax, intonation and prosody and gestures, responsiveness, positivity affect and sensitivity, cognitive stimulation interactions, frequency of book reading, quality of book reading and other literacy-promoting activities. Families and early childhood educators need to be a key target for information, education, and skill building.