

Centre for Community Child Health



# Reviewing the evidence for supporting children's early language and literacy development

---

Centre for Community Child Health

Jon Quach, Catriona Elek, Ruth Beatson, Jane Bridie, Sharon Goldfeld

Date: 1<sup>st</sup> October 2017

Version: 1.0



## Suggested citation:

Jon Quach, Catriona Elek, Ruth Beatson, Jane Bridie, Sharon Goldfeld “Reviewing the evidence for supporting children’s early language and literacy development” Centre for Community Child Health, Murdoch Children’s Research Institute and Royal Children’s Hospital

## Authors:

- Dr Jon Quach, Centre for Community Child Health
- Dr Ruth Beatson, Centre for Community Child Health
- Catriona Elek, Centre for Community Child Health
- Jane Bridie, Centre for Community Child Health
- Professor Sharon Goldfeld, Centre for Community Child Health

This report was undertaken by the Centre for Community Child Health on behalf of The National Early Language and Literacy Coalition.

**The Centre for Community Child Health is a research group of the Murdoch Children’s Research Institute and a department of The Royal Children’s Hospital, Melbourne.**

*This work is available under a Creative Commons agreement. However, all direct reproduction of any sections of this presented report requires the acknowledgement of the authors using the citation above, and the commissioning body “The National Early Language and Literacy Coalition”.*

Centre for Community Child Health  
Murdoch Children’s Research Institute  
The Royal Children’s Hospital Melbourne  
50 Flemington Road, Parkville  
Victoria 3052 Australia  
Telephone +61 9345 6150  
Email [enquiries.ccch@rch.org.au](mailto:enquiries.ccch@rch.org.au)  
[www.rch.org.au/ccch](http://www.rch.org.au/ccch)

Contents

1. About the National Early Language and Literacy Coalition ..... II

2. The importance of supporting early language and literacy ..... 1

3. Approaches to improving early language and literacy outcomes ..... 10

4. A national approach in Australia..... 17

5. Conclusion ..... 23

6. References..... 24

## 1. THE NATIONAL EARLY LANGUAGE AND LITERACY COALITION

This report was funded by the National Early Language and Literacy Coalition to inform a Position Paper for a National Early Language and Literacy Strategy. It aims to draw together existing knowledge regarding early childhood language and literacy outcomes, the evidence base for effective interventions and the gaps in current policy and funding – to present a clear and compelling case for the need for a national strategy to support early language and literacy in young children in Australia.

In March 2016, the Australian National Early Literacy Summit, organised by the Australian Library and Information Association, in association with the Australian Public Library Alliance, National and State Libraries Australasia, Early Childhood Australia and ARACY, was held in Canberra. The Summit, attended by government, philanthropic, professional and other stakeholder groups, examined child language and literacy efforts in Australia. An outcome of the Summit was the formation of the National Early Literacy and Language Coalition, which aims to focus attention on the importance of children's language and literacy promotion efforts in Australia via a National Early Literacy and Language Strategy (NELLS) in Australia. The Coalition consists of:

- The Australian Library and Information Association (ALIA) <https://www.alia.org.au>
- The Australian Literacy and Numeracy Foundation (ALNF) <https://alnf.org>
- Australian Literacy Educators' Association (ALEA) <https://www.alea.edu.au>
- Australian Research Alliance for Children and Youth (ARACY) <https://www.aracy.org.au>
- Early Childhood Australia (ECA) <http://www.earlychildhoodaustralia.org.au>
- Murdoch Childrens Research Institute (MCRI) <https://www.mcri.edu.au>
- National and State Libraries Australasia (NSLA) <http://www.nsla.org.au>
- The Smith Family [www.thesmithfamily.com.au](http://www.thesmithfamily.com.au)
- Speech Pathology Australia (SPA) [www.speechpathologyaustralia.org.au](http://www.speechpathologyaustralia.org.au)

The National Early Literacy and Language Coalition defines

- 'Language' as the ability to use a shared set of abstract symbols to think and communicate. Language is the vocabulary, sentence structure and sound structure that is used in a conventional way to share meaning. Language is the foundation of literacy, and has a reciprocal relationship with literacy.
- 'Literacy' within the early years quite broadly and refers to multiple literacies, not just reading and writing. Literacy is the capacity, confidence and disposition to use language in all its forms – to talk, listen, see things, read and communicate in different ways. It encompasses a wide range of experiences, skills and cultural meaning and includes literacy in different languages.

This paper and the underpinning literature reviews were conducted in 2017 by the Centre for Community Child Health (CCCH) at the Murdoch Childrens Research Institute (MCRI). The review was undertaken over two months and has drawn together expertise from Coalition members and provides an overview of the evidence base for early childhood language and literacy interventions. A National Early Language and Literacy Strategy led by Government would require consultation with additional stakeholders. Throughout the report, we have also signalled where further policy discussions may be necessary.

## 2. THE IMPORTANCE OF SUPPORTING EARLY LANGUAGE AND LITERACY

### 2.1 WHAT IS EARLY LANGUAGE AND LITERACY?

Language is the ability to think and communicate with others. It requires a child to draw upon the words they know and verbally express them in a way that allows them to interact with those around them. It also encompasses the sound system of a language, and ability to use the spoken medium for a range of purposes. Although there may be differences based on the language a child speaks, the overarching ability to use language enables children not only to communicate, but also to understand the world around them, it supports thinking and problem-solving, and fosters strong relationships.

Literacy in the early years includes the ability to draw upon language skills to read and write. However, it also more broadly includes the capacity, confidence and inclination to use language in all its forms – to talk, listen, see things, read and communicate in different ways. It enables children to expand their use of their language to communicate and interact in different ways. The foundation for learning to read is strong oral language in addition to phonological awareness, phonics, vocabulary, fluency, and comprehension. In addition to language skills, children also require ‘emergent literacy’ skills. These ‘emergent’ skills are the foundations of literacy and refer to skills such as understanding the sounds that letters make, which way to read a book and how different letters interact with each other.

Subsequently, children’s language and literacy are closely related, so it is essential both aspects develop to ensure that a child has the necessary skills to interact with their world. Early childhood (from birth to five years) is a critical time for the development of both language and literacy.

### 2.2 THE DEVELOPMENT OF LANGUAGE AND LITERACY IN THE EARLY YEARS.

The early years of a child’s life, from birth to age 5, are the optimal time to form the foundations of early language and literacy. Over the first few years of life, the brain undergoes dramatic development, laying down the neurological structure that will support future learning, health, and behaviour.<sup>1</sup> During this time, the foundation for learning is shaped by the relationships children form with parents and caregivers, and the interactions they have with these important adults in their lives. Not surprisingly, the most intensive period of speech and language development occurs during the early years of life. In fact, the acquisition of speech sounds begins around birth and babies start to differentiate between sounds of language as early as their fourth month of life.<sup>2</sup>

Language development provides an excellent example of the interactive work of biological and environmental factors. Most children learn to talk without being formally taught to do so because the brain is biologically primed to acquire language skills. Therefore, most children will develop oral language in an environment where they are exposed to spoken language.<sup>3 4, 5</sup> However, it is also

important to note that children who are not exposed to a rich language environment may have delayed language development in terms of their vocabulary, speech and ability to understand spoken words. Therefore, although explicit instruction is not required, the type, quality and quantity of oral language a child is exposed to is vital for promoting development.<sup>6, 7, 8</sup>

There are strong connections between a child's early language experience and later literacy development.<sup>9, 10</sup> For instance, up to 90 per cent of children with persistent language problems at age five have poor literacy outcomes when tested ten years later.<sup>11</sup> Research shows that children who fall behind in oral language and emergent literacy development before formal schooling are less likely to be successful beginning readers.<sup>12</sup> Human brains are naturally wired to speak but need to be specifically taught how to read and write. This is because the components of literacy (e.g., letters, words, and punctuation symbols) were developed to enable the further use of language.<sup>3, 7, 13</sup> The act of becoming literate is considered to be one of the most important goals of early education in industrialised, technological societies.<sup>3</sup>

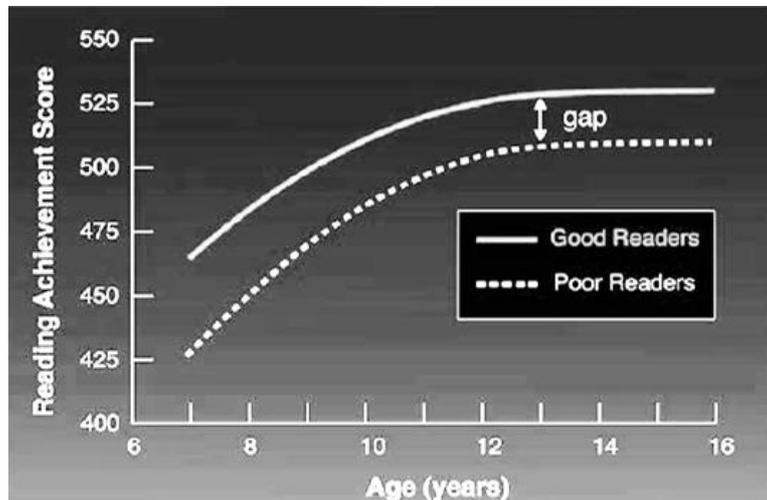
An important precursor to reading is the development of 'emergent literacy' skills during the early years of life. The concept of emergent literacy involves five key components<sup>3, 13, 14</sup>:

- Phonological awareness/sensitivity (being able to identify and manipulate sounds in spoken language)<sup>15</sup>
- Letter identification/knowledge
- Knowledge of letter-sound correspondences
- Language ability (speaking, listening and understanding), including vocabulary and comprehension of the stories and conversations.
- Conventions of print, or understanding the basic concepts of reading and writing text (for example, the left-to-right, top-to-bottom direction of print on a page and the progression of print from front to back across pages)

Just as environments and relationships can affect early brain development, children's early literacy skill development is also affected by what they experience before school.<sup>7, 16, 17</sup> Therefore, it is important to provide stimulating learning environments where there are resources and opportunities for children to become involved with the various elements of literacy. It is now well recognised that it is these early and experience-dependent learning opportunities in literacy-related activities (i.e. exposure to books in the home and early learning settings) that lay the foundation for later literacy development in school.

Once children have acquired the necessary emergent literacy skills, they are then able to apply them to more complex forms of literacy. Evidence suggests that children who fall behind in their first years of reading are less likely to catch up to their peers, even with appropriate intervention.<sup>18</sup> Figure 1 illustrates the reading trajectories of children with and without reading difficulties. It demonstrates that, while children's reading performance improves with age, a gap in performance persists between those with a literacy difficulty and those without a literacy difficulty. Similarly, a study tracking reading fluency among Grade 1 and Grade 2 children found those 'at risk' of

developing a literacy difficulty were initially less fluent than their peers, and that the gap in reading fluency widened over 20 weeks.<sup>19</sup>



**Figure 1: Trajectory of reading skills over time in children and adolescents with reading difficulties and those with no reading difficulties, reproduced from Shaywitz 2003<sup>20</sup>**

Therefore, there is substantial evidence documenting the factors of significance in the development of language and literacy. These are:

- The importance of the early years of life -this is a time of rapid brain development and learning, and when a child's language and literacy development is at its most intensive.
- The importance of high-quality exposure to the activities that promote the development of optimal language (i.e. exposure to speech) and literacy (i.e. book reading) trajectories. This exposure should be through the experiences, relationships and social interactions that a child has.
- Poorer language and literacy development persist into adolescence and adulthood, and therefore targeted interventions may be required for at-risk children.

### 2.3 THE EXTENT OF LANGUAGE AND LITERACY PROBLEMS IN AUSTRALIA

Despite the importance of language and literacy skills, and their close links to outcomes from childhood to adulthood, there remains a substantial number of Australian children who are at risk of poorer language and literacy skills during the preschool and early school years. Both language and literacy difficulties occur across a spectrum of severity, ranging from more subtle to very severe.<sup>21, 22</sup> Current estimates vary due to the number of different definitions applied to describe difficulties in early language and literacy, in childhood as well as in adulthood. However, the following estimates are noteworthy:

- In preschool children, it has been estimated that 1 in 22 children have a speech disorder meeting clinical criteria.<sup>23</sup>

- The Australian Early Development Census has consistently shown that approximately 1 in 7 children arrive at school with developmental vulnerabilities regarding their language and cognitive skills. These difficulties are three times more likely in children from disadvantaged backgrounds, further perpetuating social inequalities.<sup>24</sup>
- About a quarter of Australian parents of 4-5-year-old children report concerns about their child's expressive or receptive language.<sup>25</sup>
- Regarding reading, recent Australian estimates suggest that 1 in 10 children have difficulties with reading.<sup>26</sup>

These difficulties at school entry put children behind their classmates regarding their early learning. Research indicates that difficulty with reading starts at a very young age and that children entering school without strong early literacy foundations may struggle to keep up with their peers' rate of literacy acquisition. Once at school, children who struggle to read in their first years of school are more likely to dislike reading, read less and fall behind. This can affect children's engagement with school and overall success in education and life, perpetuating a cycle of low literacy.

Internationally, the 2011 Progress in International Reading Literacy Study (PIRLS) report shows that Australian Year 4 children are ranked 27th out of 45 countries in reading, making Australia one of the lowest ranking English speaking countries in the world.<sup>27</sup>

Almost half (44 percent) of Australians over 15 years lack the literacy skills they need to meet the demands of everyday life and work.<sup>28</sup> They have poor 'prose literacy' (the ability to read information in text) and 'document literacy' (capacity to understand and use information from a variety of text sources). As a result, they experience real problems understanding and using written information – such as online resources, newspapers, and magazines, job advertisements, labels on medication.

### **2.4 WHAT FACTORS INFLUENCE CHILDREN'S EARLY LANGUAGE AND LITERACY DEVELOPMENT?**

Children's literacy and language development are promoted by the quality of the interactions and support they receive from their parents, caregivers and other adults. It is also important to understand that there are also individual, family and home environments, and broader community and social factors that can influence the child's development and outcomes.

#### **2.4.1 Child factors**

In terms of child factors, neurological differences in cognitive processes related to receptive and expressive oral language, reading, writing, and spelling can impact on a child's early language and literacy development.<sup>29</sup> In addition to underlying neurological factors, other factors have been identified that appear to affect children's early language and literacy development. For instance, boys have a higher risk of early language and literacy difficulties compared to girls. However, this may be as a result of boys being more frequently referred for diagnosis due to a greater likelihood of having additional, comorbid conditions, such as attention deficit hyperactivity disorder (ADHD) or

Autism Spectrum Disorder.<sup>21, 30, 31</sup> Subsequently, difficulties in boys may be recognised at an earlier stage than girls.

Children who may have specific difficulties require an assessment to determine the nature of their challenges and ongoing support from an appropriate professional such as a speech pathologist to support their language and literacy development.

### Family and early home environment

The family and early home environment are critical in enabling children to establish positive language and literacy pathways from a young age. The early home environment makes a difference for children's later academic and literary success, particularly for children in disadvantaged circumstances. What parents value and what they do is often more important than their background.<sup>4-6, 8, 17</sup> This includes:

- **Parents' levels of educational attainment** influence the types of language and literacy practices and resources within the home environment. Parents with limited literacy skills often struggle to support their children to the extent that they desire, resulting in transgenerational literacy difficulties.
- **Parents' attitudes towards reading** influence their child's reading outcomes, as do parents' own reading skills and habits. Parents reading with children earlier, reading more often with children, and including literacy-rich activities as part of their everyday routine, have a positive influence on literacy outcomes.
- **Parent-child relationships and parenting style.** Broader family dynamics and lifestyle factors have all also been found to predict a child's literacy skills. Levels of the **household order** have also been associated with early reading skills. The amount of **'screen time'** has also been shown to play a part, although it is not the length of screen time that is important, more so what and how children watch or use screens (i.e. the extent to which screen-based activities encourage the development of a child's language and literacy).
- **Having resources in the home that support language and literacy development** have been related to the development of early language and literacy skills. Such resources include books, magazines, children's books, writing materials, literacy toys and environmental print. Research suggests, for example, that if a child has more than 30 books in the home, this is significantly related to expressive vocabulary.<sup>32</sup> However, the authors of this study also demonstrate that in addition to the presence of resources, how parents engage with these resources within the home is important for improving child language and literacy.
- **Geographical location** - International evidence also suggests that whether children live in cities or rural areas can also affect the likelihood of timely identification of early language and literacy difficulties. This may relate to the reduced availability of specialist and community services in rural locations, highlighting the importance of ensuring available services are used in a way which yields the greatest benefits.

### 2.4.2 Groups requiring additional consideration

#### **Children with diagnosed Specific Reading Difficulties (SRD) and Developmental Language Disorder (DLD)**

Children who experience difficulties with reading and comprehension are often referred to as having Specific Reading Difficulties (SRD): ‘difficulty learning to read, despite conventional instruction, adequate intelligence and sociocultural opportunity’. As SRD is neurological in origin, it is mostly permanent in nature and resistant to intervention.<sup>33</sup> However, it is important to note that children can be supported to develop skills that compensate for their difficulties. Similarly, Developmental Language Disorder (DLD) is also neurological in nature and identifies children who have difficulty with their expressive and receptive oral language.<sup>22</sup> It is important to note that SRD and DLD both occur across a spectrum of severity – difficulties can range from more subtle to very severe.<sup>21, 22, 34</sup>

There is little information currently available in Australia about the prevalence of SRD and DLD in the preschool and early school years, or in adolescence, and limited data regarding how long children experience language and literacy difficulties at school before their condition is recognised. Both SRD and DLD have strong genetic links. If a child’s parent has a DLD or SRD, the child has an increased risk of also having the condition.<sup>35-37</sup> Furthermore, these two conditions can have similar co-morbidities that exacerbate the difficulties that a child experiences.<sup>34</sup>

#### **Disadvantaged background**

Environmental influences also extend beyond the home. Research has consistently demonstrated the impact of socioeconomic disadvantage on a range of developmental outcomes for children.<sup>38</sup> This is also true of language and literacy outcomes. Lower socioeconomic status has been found to be associated with lower oral language skills, language delay, low vocabulary size and low levels of literacy attainment and reading difficulties. Considerable evidence also exists to link such disadvantage with an increased risk of low levels of language and literacy attainment.<sup>39</sup> In turn, this has been shown to affect children’s opportunities later in life for education, employment, income, and well-being.

Socioeconomic status is most often defined according to the education, income, and occupation of individuals. Parental income, education, postcode, and language background have all been shown to influence literacy outcomes, and low levels of parental education have been associated with lower oral language skills. Changing such factors in order to improve language and literacy outcomes may be difficult. Other influencing factors, however, may be easier to change, such as parental attitudes, skills, behaviours and the home environment.

The background and experiences of children in out of home care are also an important consideration in the development of language and literacy in early childhood.<sup>40</sup> There is some evidence that specific programs targeting both children and caregivers can improve the language and literacy skills of particularly vulnerable young children like those in out-of-home care.

### **Culturally and linguistically diverse (CALD) children**

It is important to recognise that many young children in Australia are raised in rich language and learning environments where English is not the primary spoken language. It is not necessarily the language they are exposed to (for example English, Italian, Arabic) that impacts early language attainment, but rather the overall *quality* and *quantity* of exposure they receive. Furthermore, documenting successful early language practices is of importance, regardless of the language spoken in the home.

However, despite the cognitive benefits of multilingualism, reading difficulties are more common among children who are CALD.<sup>41</sup> For children who are CALD, diagnosis may be more complex, and CALD children with language and literacy difficulties may be under identified.<sup>41</sup> The evidence of language and literacy outcomes for CALD children has tended to focus on school-aged literacy outcomes (rather than any measure of language and literacy skills in the early years prior to school entry). For example, a British study comparing CALD children with English-only speaking children found those still learning English had difficulties with English reading comprehension from Grade 2 to Grade 6, despite being faster readers.<sup>41</sup> Australian cross-sectional evidence from population-level data suggests that CALD children are rated lower by their teachers in basic literacy skills at school entry.<sup>42</sup> In Australia, where academic content is taught in English, and institutional support of a child's home language education is rare, children who do not acquire English proficiency in the first years of school are likely to experience difficulties accessing academic content and demonstrating their learning of that content.<sup>43</sup> In this context, teachers face the challenging task of facilitating English language development for CALD children while at the same time ensuring that children are meeting learning objectives for academic content being taught in English within the school environment.<sup>44</sup> Classroom-level factors, such as the teacher's understanding of second language learning and access to additional school-level supports (e.g., tutoring), are likely to influence the degree to which learning outcomes of CALD children are affected.<sup>45</sup>

### **Aboriginal and Torres Strait Islander children**

The gap in health, education and well-being outcomes between Indigenous and non-Indigenous children is substantial, particularly in remote areas. Data suggest a higher prevalence of reading and writing difficulties when using Standard Australian English for Aboriginal and Torres Strait Islander (ATSI) children. For example, the latest National Report on Schooling (2007) indicates that literacy results among primary school-aged ATSI children have been consistently lower than those of non-Indigenous and CALD (referred to in Figure 2 as children from language backgrounds other than English – LBOTE) children from 1999–2007. Larger differences are evident among Indigenous and non-Indigenous children in the Northern Territory in particular, and among those Indigenous children living in very remote areas (see Figure 2).

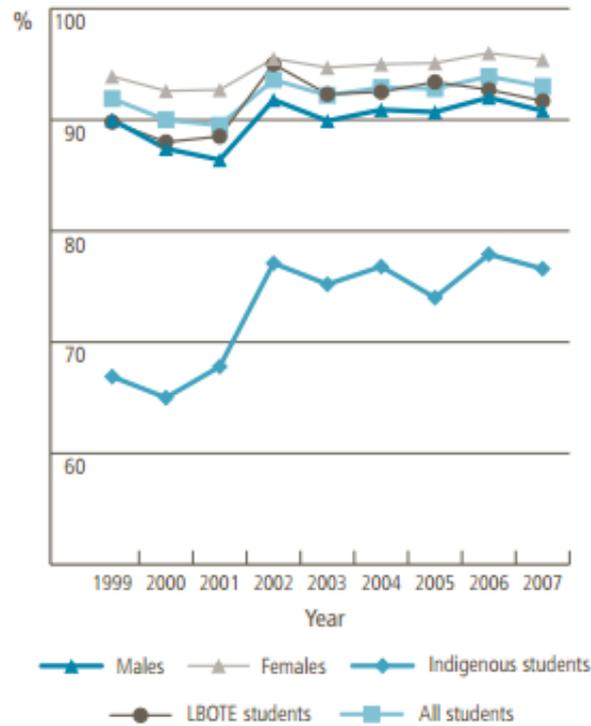


Figure 2: Percentage of Year 3 children achieving national writing benchmarks, by gender and sub-group 1999–2007, taken from National Report on Schooling 2007<sup>38</sup>

## 2.5 OUTCOMES ASSOCIATED WITH POSITIVE EARLY LANGUAGE AND LITERACY DEVELOPMENT

Literacy development is closely linked with language skills and is one of the most important foundations for success in school and life. Improving language and literacy outcomes lead to improved outcomes for children, and for society as a whole. The successful development of language skills is a key developmental milestone, with implications for later outcomes including social relationships and academic achievement. While many children, the language delay appears to impact on the acquisition of subsequent language and literacy skills well into adulthood, as well as on their quality of life, mental health and life chances.

The strongest evidence of outcomes of early language and literacy development in young children focus on those children who did not have strong or positive language and literacy development in early childhood and their subsequent academic and educational outcomes. Those children with positive early language and literacy experiences and development are likely to be on a trajectory for normal, typical academic outcomes.

Early language and literacy difficulties are associated with long-term impacts on academic success, with differences in academic achievement sustained throughout children’s school careers.<sup>35</sup> As well as academic underperformance, adolescents with literacy difficulties are more

likely to drop out of school.<sup>46</sup> These children may also be less likely to pursue tertiary education: while around 10 per cent of the population experiences literacy difficulties, only 0.2–0.4 per cent of all students in higher education have literacy difficulties.<sup>46</sup> These impacts on learning have associated health and social challenges including limited employment opportunities.<sup>47</sup> There is also evidence that children with literacy difficulties are at risk of emotional problems including anxiety and depression.<sup>48</sup> Academic failure can negatively affect children's self-esteem and feelings of self-confidence as a learner.<sup>49</sup> Children with literacy difficulties can also experience difficulties with peer relationships,<sup>50</sup> such as teasing and bullying.<sup>51</sup>

In addition, there are social and financial costs associated with language difficulties and low levels of literacy. Those with lower levels of literacy have been shown to have higher rates of unemployment, welfare dependence, and teenage pregnancy. The cost of language difficulties to the health care system alone has been demonstrated to be associated with an increase of \$36.8 million annually for children 0-8 years,<sup>52</sup> which is similar to other childhood conditions such as childhood obesity issues.

### 3. APPROACHES TO IMPROVING EARLY LANGUAGE AND LITERACY OUTCOMES

Recent research evidence suggests that future literacy and language outcomes for children can be improved by promoting specific emergent literacy-promoting activities during the years prior to school entry.<sup>53 54</sup> Application of the growing knowledge base has supported the recognition and development of interventions, programs and activities that are aimed at strengthening children's abilities.

There are a number of promising initiatives currently targeting language development and literacy for young children in Australia. While not all approaches have a strong evidence base, there are a range of programs which are based on the best available evidence. It is important to note, aligning with the UK Education Endowment Fund and the US What Works Clearinghouse, that approaches with 'limited evidence' may mean that the practice would be difficult to study with a rigorous experimental design, that the practice has not yet been evaluated, or that the evidence of effectiveness is weak or inconsistent. However, it is also valuable to note the importance of interventions being evidence-informed, taking in to account the theoretical and theory of change that links the intervention activities with achieving changes in a child's early language and literacy.

This section describes the evidence base for a range of activities, programs and interventions that currently seek to promote sound language and literacy foundations for children in the early years. This is not an exhaustive review of all approaches, but rather a selective representation of those that have been subject to quantitative evaluation and with attention to approaches that have been widely implemented, or implemented in Australia. Approaches are broadly grouped according to the setting, followed by a brief discussion of interventions targeting particularly vulnerable children.

#### 3.1 PROGRAMS FROM INFANCY TO PRESCHOOL

For campaign approaches to early language and literacy, the evidence base appears limited using mainly case studies and market research. A recent review of various strategies to promote early literacy, for example, reported an evaluation of the 2012 National Year of Reading that utilised case studies, while the Let's Read campaign utilised market research. This review also drew attention to a lack of research to monitor the impact of the campaign on literacy behaviour change, in addition to raising awareness. The evidence base for specific programs and practices is stronger, with several evaluated in randomised controlled trials and quasi-experimental investigations. In the years prior to school entry, evidence-based early language and literacy approaches are primarily delivered in the home and the local community.<sup>55</sup> Early childhood settings in the local community may be informal (for example, the library) or formal (such as long day care, preschool/kindergarten).

##### 3.1.1 Targeting the home environment

The home literacy environment has been identified as critical in the development of a child's

emergent literacy skills.<sup>55, 56</sup> The home literacy environment can be defined narrowly (for example in terms of the number of books at home or frequency of book reading) or more broadly. Broad conceptualisations incorporate a variety of factors including parental education, reading habits, attitudes to literacy, family dynamics, socio-economic status and child temperament. Importantly, research suggests the quality of the home learning environment and what parents do with their children is more important than parental education, occupation or income. Thus, several approaches aim to improve the home literacy environment.

Book dissemination programs represent one widely utilised approach to improving the home literacy environment. For instance, in the USA the Imagination Library mails a free, high-quality, brand-new book each month to children from birth to age 5 who live in communities that support the program whilst the UK Bookstart (a UK based program providing reading packs to families of nine-month-old babies) aims to provide free books via maternal health visits. There does appear to be some evidence supporting book dissemination programs in terms of raising parent awareness of the importance of shared book reading, but most have not been rigorously evaluated. The strongest evidence of the value of a book dissemination program was conducted on Bookstart. The program was evaluated using an experimental study and found that children in the program achieved higher outcomes on reading, comprehension, writing, spelling, and maths when followed up at age 7.<sup>57</sup> Later evaluations showed less clear positive results of the program.<sup>58</sup> In the US, evaluations of Imagination Library also report positive results (although the evaluation methodology was not strong in these studies).

A more intensive and targeted approach to building home literacy capacity involves home-visiting. One home-visiting program aiming to improve literacy is Australia's Home Interaction Program for Parents and Youngsters (HIPPY). This is a targeted program for disadvantaged communities, delivered by community organisations licensed by the Brotherhood of St Lawrence. The program seeks to improve school readiness via delivery of a curriculum-based program by home tutors who are recruited from the local community and visit parents fortnightly to work through structured activities and materials that parents are then expected to implement with their children. Although some evaluations have produced mixed findings,<sup>59</sup> the strongest evidence for this program in Australia comes from one quasi-experimental evaluation with a matched control group drawn from the Longitudinal Study of Australian Children (LSAC) of 197 parent-child pairs, 22 home tutors, 14 site coordinators and 57 school teachers.<sup>60</sup> Of most relevance to early language and literacy development, the study found no significant difference between HIPPY and matched LSAC children on the child language and vocabulary measures. However, on parent outcomes, the study found that after two years of the program, HIPPY families reported participating in more literacy-promoting activities (i.e. telling stories, craft activities, playing music, visiting the library and playgrounds) than LSAC comparison families. HIPPY parents also reported less concern with their child's verbal communication skills and were more likely to report that their child liked being read to. The authors argue that these findings are unsurprising and potentially attributable to benefits on children's education and school readiness outcomes simply taking longer to emerge.

### 3.2 APPROACHES IN COMMUNITY SETTINGS

There are a variety of approaches to language and literacy emphasising community development, ranging from relatively localised initiatives such as offering regular 'Rhyme Time' sessions at local libraries, to improving access to and the quality of childcare and early education services, to implementing very large multi-component initiatives offering integrated services to improve not only childcare and early education but also health and family support.

#### 3.2.1 Libraries

Library-based approaches to early language and literacy development are typically available to all children in the community. In addition to libraries promoting programs on site, they also utilise connections with other local service providers such as child care centres and maternal and child health nurses to attract families. In Australia, there are over 1500 public libraries which provide such services. There is promising evidence that library-based approaches to improving early language and literacy can be effective.<sup>61-63</sup> These library-based programs draw upon the established evidence that children's emergent literacy skills and phonological awareness can be improved by increasing children's experience with high quality reading interactions and diverse uses of literacy skills.<sup>64-66</sup>

There are a number of library-based initiatives that have been established in Australia. For instance, the First 5 Forever program aims to connect parents to a range of resources and information to assist in early language and literacy development including Baby Time, Rhyme Time and Story Time sessions at local libraries. Whilst the program has been designed using the best available evidence of child development, its recency of implementation means that it has not at this point been evaluated in terms of impact and outcomes. Furthermore, this also highlights the potential for robust studies in which libraries are used as a platform for delivering evidence-based approaches.

There is also potential for libraries to engage with local services. For instance, the Western Australian state government funded *Better Beginnings* is an early intervention family literacy program which aims to support parents to provide positive language and literacy for children by providing reading packs to families during maternal child health visits, and encouraging attendance at Baby Rhyme Time and Story Time. This program is managed by the State Library in partnership with a number of other organisations. An evaluation of *Better Beginnings* showed the program improved the early reading practices, attitudes and beliefs across children and families involved in the program.<sup>67</sup> It highlights the potential role of libraries, through partnerships with key organisations such as Child Health Nurses. Libraries were shown to develop and increase library activities and create 'family spaces' that were directly linked to adult-child interactions promoted through the *Better Beginnings* program.<sup>61</sup>

Library-based approaches and experiences have been developed based on existing evidence about how child emergent language and literacy skills can be improved by improving the quality and quantity of a child's reading interactions and diverse uses of literacy skills.<sup>64-66</sup> However,

robust studies are required in which libraries are used as a platform for delivering evidence-based approaches to fully understand the impact and outcomes on child early language and literacy outcomes.

### **3.2.2 Preschools**

Research consistently demonstrates that enrollment in quality formal preschool programs is strongly linked with both stronger emergent literacy skills<sup>68</sup> and later literacy levels at school.<sup>69</sup> However, Australian research from the E4Kids project found higher quality classrooms were more commonly found in more advantaged areas.<sup>70</sup> Therefore, there is a need to increase the quality of classrooms in disadvantaged regions.

There is strong evidence supporting the relationship between access to quality intensive early education interventions and later literacy. This approach has been tested in randomised controlled trials with longitudinal follow-ups. For example, the Carolina Abecedarian Project, a targeted intervention conducted in the 1970s with 111 infants recruited from low-income families and randomly assigned to receive an intensive educational childcare-based intervention has been evaluated with follow-ups when children were teenagers and adults.<sup>71</sup> Significantly, evaluations have demonstrated clear long-term benefits of the program. At age 21, for example, experimental children outperformed their control counterparts on measures of reading, more years of education, greater likelihood of attending university, and lower rates of teen pregnancy.<sup>72</sup> Moreover, the 30-year follow-up of this study found that children who received the intervention were more likely to have completed a college degree, to have consistent employment over the previous two years, and were less likely to have depended on government benefits<sup>71</sup>. It is worth noting that the original Abecedarian program was implemented in a childcare centre with staff-to-child ratios of 1:3 for infants and up to 1:6 for children aged four to five. It has been recommended that lead teachers possess a Bachelor or masters-level degree in education and that teaching assistant complete at least high school.<sup>73</sup>

In terms of specific practices contributing to child language and literacy development in preschool settings, studies support the use of dialogic book reading, print referencing and nursery rhyme exposure. For example, print referencing, where the teacher uses cues to encourage children to engage and interact with texts during shared-reading activities, has been shown to increase reading, spelling, and comprehension test scores in randomised controlled trials in the US.<sup>74</sup> Similar to studies in libraries, over 12 studies have demonstrated that nursery rhyme experience is associated with increased emergent literacy skills.<sup>75</sup> These studies suggest that in some instances, practices and programs can be applied within different service contexts, on the provision they are implemented by the appropriate professional to different groups of children.

### **3.3 INTENSIVE INTEGRATED SERVICES**

Specific examples of substantial integrated services initiatives including centre-based care and home-visiting components include Sure Start in the UK and Early Head Start in the US.

The Early Head Start program involves the provision of home-visiting with center-based care to disadvantaged families to raise their awareness of the importance of shared-book reading and provide them with resources to effectively engage in this practice with their children. These types of approaches to improve early language and literacy development, among other outcomes, have been evaluated in both randomised and quasi-experimental studies, generally yielding mixed results. For example, the Early Head Start program has been evaluated in a large randomised controlled trial, with longitudinal follow ups at ages 3, 5 and 10 years.<sup>76, 77</sup> Results indicated a positive impact on vocabulary development at age 3, but no differences in early achievement test scores between intervention and control groups at age 5.

Similarly, a National Evaluation of Sure Start comparing 150 Sure Start communities with 50 similar families and children from the Millennium Birth Cohort Study found no differences in language development at age 5 years. However, it did show that higher pre school quality – measured by the type and quality of the teaching, predicted stronger attainment in child language development and that the magnitude of this effect did not vary across policy-relevant population groups.<sup>78</sup> The findings indicate that a focus on improving childcare across all settings is required if such programs are to demonstrate long-term impacts.

### **3.4 PROGRAMS INTEGRATED WITH EXISTING COMMUNITY SERVICES**

Another approach to integrating early language and literacy initiatives is to incorporate literacy promoting activities and modelling in universal health and/or community services – taking a whole system approach.<sup>79</sup>

In the US, for example, the Reach Out and Read program (ROR) is delivered by paediatricians during well-child visits. This program is offered during the 10 routine health visits within paediatric clinics and encourages the health professionals to (i) discuss the benefits of shared book reading, (ii) model effective and age-appropriate reading practices, (iii) encourage shared book reading at home and (iv) provide a free book. In Australia, a similar approach has been taken with the Let's Read program, which is typically delivered by community maternal and child health nurses at key well-child visits. The evidence base supporting these approaches with particularly disadvantaged groups is growing. Over 15 published evaluations, including randomised controlled trials (RCT), of Reach Out and Read suggest positive effects on early language and literacy.<sup>80</sup> In Australia, this program which has been rigorously evaluated in a population-based cluster randomised controlled trial. It involved 563 children residing in areas of low socio-economic status, with the intervention delivered by maternal child health nurses during four key visits (4 months, 12 months, 18 months and 3.5 years). In contrast to the ROR literature, the Let's Read randomised controlled trial found no differences on measures of emergent literacy skills, language development, or home literacy environment. However, it is important to note that families participating in the trial were not regarded by the researchers to be especially disadvantaged and were already highly engaged in shared reading with their children. Goldfeld et al. (2012) suggest higher-intensity versions of the program (e.g. Let's Read Community Program) with very disadvantaged groups may prove more effective.<sup>81, 82</sup>

Another Australian program that utilises existing universal community services is Smalltalk. This parenting intervention includes a strong focus on strengthening the home learning environment of disadvantaged families and has been trialled in several formats including as a component of parenting groups for families with infants and as part of facilitated playgroups for children 1-3 years of age. For the infant version combined with home visiting, small positive effects emerged on parent-reports of verbal responsivity, home learning activities, and home literacy environment as well as on observational assessment of descriptive language use at a 12 week follow up, but these were not maintained at 5 months. The results from the evaluation of the toddler version, however, provide some evidence of sustained effects. Indeed, at the 5 month follow up small effects were observed on parent reports of verbal responsivity and home learning activities for the group-only version of Smalltalk, while moderate effects were observed on observational measures of descriptive language use and maintaining child interest in the Smalltalk Plus condition (including home visiting). Though modest, these effects are noteworthy for two reasons: first, the use of active control conditions (i.e. receiving usual infant parenting groups or facilitated playgroup) provided a stringent test of program benefits, and secondly, the interventions were relatively 'light touch' delivered within existing systems and without employment of specialist staff.

### **3.5 INTERVENTIONS TARGETING PARTICULARLY VULNERABLE CHILDREN**

#### **3.5.1 *Children with speech or language delay***

There is significant evidence that children with a primary diagnosis of speech/language delay will benefit from targeted interventions.<sup>83</sup> For instance, a meta-analysis including 25 randomised controlled trials found support for the effectiveness of clinical speech and language therapy for children with phonological and expressive vocabulary difficulties.<sup>84</sup> This review found less evidence for the effectiveness of therapy for children with expressive syntax difficulties and receptive language difficulties. Furthermore, research examining whether clinical interventions targeting child speech and language are able to be implemented by non-clinically trained professionals have found null findings.<sup>85</sup> This suggests that it is important to ensure appropriately trained professionals are delivering the appropriate type of intervention, especially for young children experiencing difficulties.

#### **3.5.2 *Aboriginal and Torres Strait Islander children***

A variety of literacy programs have been implemented with Indigenous Australians. However, it appears that relatively few programs have undergone rigorous quantitative evaluation of their effectiveness specifically among this population. As such, the level of evidence for such programs with these population groups is limited, and further research is needed.

An example of one home-visiting literacy program implemented with Aboriginal kinder children in Sydney is Bridging the Gap. This program involves school-employed Aboriginal education assistants (AEAs) making fortnightly home visits over a 20-week intervention period to encourage shared book reading. At the beginning of the program, children receive a kit containing a storage

box, tape player, dice tokens for games, stickers, pencils, and a booklet detailing the activities to be completed over the course of the program. At subsequent visits, families receive a new book, audiotape, game and related activity. The AEAs explain book reading procedures, review the game, and discuss any questions parents raise. The evidence-base for this approach needs further evaluation as there has only been a single pre-post design study conducted by Freeman and Bochner (2008). The small study of 22 families and children reported increases in listening comprehension, phonemic awareness, and receptive language. It also reported a positive impact on self-esteem, the home literacy environment, and home-school links. An Australian version of the program (3A Project Abecedarian Approach Australia) being trialled in the Northern Territory with Aboriginal children found significant improvements in child language.<sup>86</sup> This highlights the potential to adapt promising interventions to tailor for different local contexts,<sup>87</sup> and the value of conducting appropriate research to examine their outcomes.

### **3.5.3 Children in out of home care**

There is some evidence that multi-component programs targeting both children and caregivers can improve the language and literacy skills of particularly vulnerable young children, such as those in out-of-home care. The Kids in Transition to School (KITS) program in the USA is one example of this type of approach. In this program, children attend groups structured like a kindergarten class with sessions addressing self-regulation and social skills as well as literacy and numeracy, while caregivers also attend workshops focusing on positive behaviour management skills. The program is delivered in two phases, the first of which occurs in the two months prior to children starting kindergarten. During this school readiness phase, children attend 24 sessions offered twice weekly for two hours each, while caregivers attend four two-hour group sessions in this period. The second (transition) phase of the program is delivered over the first two months of kindergarten. In one randomised control trial conducted with 192 foster children,<sup>88</sup> the program was found to improve performance on standardised and parent-report measures of emergent literacy (such as letter-naming and letter-sound subtests of the DIBELS and Clay's Concepts about print) prior to the transition phase, with results favouring intervention children over those receiving usual services (which included access to psychotherapy, enrollment in Head Start or other preschool programs, and speech pathology). This study also reported small positive effects on self-regulatory skills prior to the transition phase of intervention and lower levels of disruptive classroom behaviour among intervention than comparison children reported at the end of kindergarten.

### 4. A NATIONAL APPROACH IN AUSTRALIA

#### 4.1 CURRENT POLICY FOCUS ON EARLY LANGUAGE AND LITERACY IN AUSTRALIA

Language and literacy form the core building blocks of education, employment, social relationships and participation in our society. There is strong evidence that the early years of a child's life are a critical window of opportunity to promote strong oral language skills and foundational literacy skills. A substantial number of Australia children present with vulnerabilities in language and literacy by the time they start school. Unfortunately, these vulnerabilities often translate into lower achievement in literacy development and other educational outcomes.

There are a range of programs in existence which have been demonstrated to improve early language and literacy development in young children. These programs are funded and delivered inconsistently across the states and territories of Australia. These programs are offered via a range of sectors including education, early years, health, maternal and child health, and library sectors depending on the program and state.

These programs exist within current governmental policies and frameworks – many of which address some but not all important aspects of promoting language and literacy development in young Australian children before they start school.

#### 4.2 SUMMARY OF RELEVANT CURRENT GOVERNMENT POLICIES IN AUSTRALIA

The development of early language and literacy starts before a child begins school. However, national government policies fail to support this critical period comprehensively.

Government policy relating to language and literacy primarily focuses government attention and investment within the education portfolios and is aimed at school-aged children. For example, Quality Schools, Quality Outcomes, the National Partnership Agreement on Literacy and Numeracy, State and Territory based policies and frameworks (such as Victorian Education State policy, the NSW Literacy and Numeracy Strategy:2017-2020) all focus policy reform on literacy and numeracy of school aged children.

While governments do recognise that the early years of a child's life play a critical role in children's health, development and learning outcomes, current government attention, focused specifically policy focus on early childhood language and literacy (prior to school entry) is extremely limited and where it exists, focuses on one policy or program area.

Key national policies include:

- **The National Quality Framework (NQF).** This outlines the government's agenda to ensure Australian children get the best possible start in life. The National Quality Framework sets a consistent, high-quality standards for early childhood education and care services, and outside school hours care services across Australia. The NQF includes (i) the National Law

and National Regulations, (ii) the National Quality Standard and (iii) assessment and quality rating process for national learning frameworks. National Quality Standards address key areas that are important to achieving good outcomes for children such as the physical environment, staffing arrangements, and leadership and service management. In addition, it links to the Early Years Learning Framework which provides the basis for the educational program that is required to be implemented by services. The NQF establishes guidelines for leadership qualifications and leadership of operations and continuous improvement, as well as a national standard for children's education and care across Australia, and details operational requirements and assessment processes. Despite also requiring educators to assess children's needs, well-being, interests, participation and progress – and respond to these needs within the educational program and in partnership with families – there is no mention of the importance of children's language and early literacy in these settings.

- **The National Aboriginal and Torres Strait Islander Education Strategy.** Established by the COAG Education Council, it sets out the principles and priorities that act as a framework to guide jurisdictions in developing and implementing localised policies and actions to improve outcomes for Aboriginal and Torres Strait Islander people. It also outlines a series of national collaborative actions. It does this by setting out the commitment of education ministers to the education of Aboriginal and Torres Strait Islander children and young people by utilising the strategy's principles and priority areas to inform the development and implementation of both local and systemic-level actions and identifying areas where collaborative action between or across governments, in consultation with the non-government sector, is required to complement local efforts. Furthermore, it promotes that early child care settings and schools should set high expectations for learning that incorporates Aboriginal and Torres Strait Islander perspectives. Importantly, child literacy is also stated as a priority area in this strategy.
- **The Melbourne Declaration on Educational Goals for Young Australians** sets out educational goals for young Australians, including the development of skills in areas such as social interaction, cross-disciplinary thinking and the use of digital media. It has a focus on the role of early childcare settings and schools, as well as the wider community. It supports the development of national values of democracy, equity and justice, and personal values and attributes such as honesty, resilience and respect for others. Includes the recognition that successful learners have the essential skills in literacy and numeracy, and are creative and productive users of technology, especially ICT, as a foundation for success in all learning areas. However, early language and literacy are not specifically part of the mentioned goals.
- **The National Framework for Universal Child and Family Health Services** is the cross-governmental agreed description of the key elements to a free, quality universal child and family health services for all Australian children and their families. Whilst the Framework mentions 'language and literacy' as important components of universal child and family services prior to school entry, the Framework focuses strongly on ante-natal care, maternal

and child health service, physical and developmental screening and checks, health promotion, parenting programs and family support services. Workforce components of the Framework focus on health workers (GPs, nurses).

- **National Early Childhood Early Intervention Approach (ECEI)** is the framework for which early intervention services will be provided to eligible children aged up to 6 years through the National Disability Insurance Scheme (NDIS) – funded by all state and territory governments and the federal government. The aim of the ECEI program is to provide young children with experiences, opportunities and supports to improve their functional skills. Whilst the NDIS is still transitioning to full roll out, the ECEI offers an opportunity for eligible children with poor speech, language and communication skills associated with a developmental delay or disability to receive early, evidence-based intervention (such as speech pathology) prior to school entry. The legislative parameters of the NDIS restrict supports and interventions focused on literacy development being provided to these young children.

State and territory governments also have some policy and program focus on early years language and literacy development (such as the Victorian Early Years Learning and Development Framework) although many focus their investment on kindergarten provision and alignment with the National Quality Framework for Early Childhood.

In reviewing the national policies and frameworks, it is evident that each national (and jurisdictional) policy targets a specific area of child early language and development, defined as either specific workforces, child age groups and/or program area depending on which level of government or portfolio it was developed within.

Whilst the National Quality Framework is a cornerstone of government policy for early years education and care, the benefits of investment in this program flow only to those children who are in formalised care and education. It does not cover investment and opportunity in developing language and literacy in babies and young children that emerge through interaction with other government funded services in health, maternal and child health, community services and libraries.

There are no national policies which address key considerations derived from the evidence presented about the important factors required to promote positive child language and literacy development at a population-level.

### 4.3 A NATIONAL APPROACH TO EARLY LANGUAGE AND LITERACY IN AUSTRALIA

In recognition of the importance of raising child language and literacy levels for higher national literacy and educational outcomes, the United Kingdom (since 2011),<sup>89</sup> United States of America (since 2014),<sup>90</sup> and Canada (since 2009) have implemented national strategies to address language and literacy development prior to school entry.

Currently, in Australia, program, policy, and funding responsibility for early childhood language and literacy development is spread across state, federal and local government and portfolios and departments. This fragmented approach with each government or department responsible for one aspect of promoting early language or literacy (through health, kindergartens, libraries etc. depending on their policy and funding responsibilities) means there is no systematic, national approach to advancing early childhood language and literacy.

#### **4.4 WHAT IS NEEDED IN A NATIONAL EARLY LANGUAGE AND LITERACY STRATEGY**

A national early language and literacy strategy would provide a framework and direction for all governments to work towards supporting early childhood language and literacy development and a coordinating mechanism for related programs and initiatives. The Strategy should focus on:

- **Promoting the alignment of services at a systems level, to ensure children receive appropriate support across all settings (i.e. community, health and education)**

It is widely accepted that despite universal early language and literacy promotion efforts, some children may still have language and/or literacy difficulties that require more intensive support. A Response to Intervention (RTI) framework provide a mechanism through which it is possible to identify the levels of support that individual children will require. The RTI approach uses a 3 Tier approach to deliver support to children in a way which recognises each child's needs. For instance, Tier 1 provides universal support for the development of early language and literacy skills. Tier 2 uses small group activities to target children who are having mild/moderate difficulties whilst Tier 3 offers individualised support for those children who are experiencing severe difficulties. Not surprisingly, this requires a multi-disciplinary approach, especially to determine whether children should be referred to Tier 2 and 3 support. This also highlights the importance of having clear pathways so that children who are identified as having additional needs are appropriately referred and able to receive the support they require. This approach also aligns with public health frameworks, such as proportionate universalism, which advocates for the importance of ensuring support is delivered in a way which meets the needs of all children.

- **Ensuring approaches are responsive to each child's needs, based on the child, family and socioeconomic risk and protective factors that may be present**

Children's language and literacy develops rapidly during the preschool and early school years. Therefore, it is important to ensure that all support provided to children is appropriate to their developmental stage and needs. For instance, from 0-3 years, it is important for children to be involved in activities that promote oral language and emergent literacy skills (i.e. learning how to hold a book). As a child develops, they then require interactions and programs which enable them to advance their skills, such as learning to read text for themselves, recognise rhyming and learning how to tell a story.

Given the range of child, family and community factors that influence children's language and

literacy development, approaches need to have the appropriate reach (i.e. get to the right children), quantity (i.e. children receive the right amount of support) and quality (i.e. the intervention is delivered to the right quality). However, it is also important to consider the child's own ability, and the family and community associated with the child. For instance, more intensive supports are required by children living in disadvantaged circumstances. The concept of proportionate universalism suggests that support should take the form of universal efforts to promote child development, but with an intensity that is proportionate to the level of disadvantage. This approach is not just associated with disadvantage, but could be applied to other population groups who may benefit from more intensive efforts to ensure children are able to have positive language and literacy trajectories.

- **Encouraging the use of interventions with a strong-evidence base**

To realise the potential of improving child language and literacy outcomes, it is necessary for all stakeholders who have a role in promoting language and literacy development to be encouraged to use evidence-based and evidence-informed approaches. Further research is required to build the evidence base. Therefore, there is also a need for the system to better support services to identify, implement and evaluate evidence-based interventions within their settings. Building workforce capacity is a part of this, but so too is a greater recognition of the role of different types of language and literacy interventions in supporting all children.

- **Promoting the continued evaluation of outcomes**

There is a wide variety of intervention approaches that have been implemented within the health, education and community settings as many of these services have a high level of autonomy. This makes it imperative that a national strategy should promote the use of effective monitoring of activities, including details around which children the service is providing support for, use of resources and the child outcomes achieved. There should be a mechanism to capture gaps, overlap, and inconsistencies in the system. Targets could be established to monitor alignment of services with best practice. Monitoring and accountability, along with a quality assurance framework and a research and evaluation agenda, represent the mechanism through which lessons are learned, solutions are brokered, and new knowledge and ideas can be incorporated.

- **Building workforce capacity, to ensure stakeholders have the appropriate knowledge and skills to implement interventions within their specific setting**

The effectiveness of implementing interventions is contingent on the existence of sustained, quality and highly motivated professionals. Given the potentially wide range of experience and expertise required in implementing different language and literacy approaches, a challenge is to ensure each profession receives the professional development they require to implement appropriate approaches, and interventions within their settings. Professional development will necessarily vary depending on the nature of the engagement that professionals have in terms of promoting and developing language and literacy. For instance, a person implementing a book reading activity at a library, educational planning in an early learning centre, or specialised therapeutic interventions will need appropriate training in techniques that promote language and emergent literacy in children,

but may not require the same level of understanding as a speech pathologist working with children with diagnosed language and speech difficulties.

The broader importance of strengthening each profession's skills will require guidance from the relevant professional bodies, but the content should align with a common national strategy. Effective training needs to be coupled with the ongoing provision of messages that endorse the value of promoting children's language and literacy in different settings and provides opportunities for continued skill development to increase their skill and confidence in meeting the needs of children. This includes ongoing access to resources such as learning support teams, co-teaching, and mentoring from experienced staff. It is important that professionals are exposed to the positive experiences of motivated, competent and inspiring mentors. For many professionals, this capacity building should start during the training period in which they are building their skillset before taking up employment opportunities. For example, there is substantial research demonstrating the importance of pre-service training for preschool and school teachers to enable them to implement evidence-based approaches within their classrooms.

### 5. CONCLUSION

A significant number of Australian children are at risk of having substantive language and literacy vulnerabilities by the time they start school. Many of these difficulties originate during the preschool years, and the lasting negative impacts are evident in adulthood. Therefore, improving early language and literacy in Australia has the potential for significant benefits not only for children, but also for families, communities and the Australian economy.

At present, there are a number of programs which have been implemented in Australia to support children's language and literacy. These programs range from universal prevention programs delivered through existing health workforces, libraries, community settings and schools, to targeted intervention programs for children with recognised difficulties. However, very few of these interventions have undergone rigorous evaluations where the impact of the intervention has been measured. Furthermore, there is currently limited coordinated effort to share knowledge about which programs are effective, under what circumstances they are effective and by whom they should be delivered and the expected outcomes. Further research and evaluation would help explain the collective benefit of interventions delivered within the same community that provide different types of support for children's language and literacy.

Australia needs a unifying early years strategy that builds on existing early language and literacy initiatives, grows workforce capacity, and consolidates the evidence base to secure enduring benefits at individual, local and national levels. More equitable and improved early language and literacy development can be achieved through (i) high-quality early life experiences and interactions with parents and adults across different settings and (ii) understanding a child's early language and literacy development and intervening when appropriate.

Although the importance of early language and literacy is acknowledged in the narrative of a number of Australian policy and frameworks, there is limited policy or program effort targeted at these issues despite the potential return on investment.

### REFERENCES

1. Phillips DA, Shonkoff JP. From neurons to neighborhoods: The science of early childhood development: National Academies Press; 2000.
2. Kalb G, Van Ours JC. Reading to young children: A head-start in life? Economics of Education Review; 2012.
3. Stone CA, Silliman ER, Wallach GP, Ehren BJ. Handbook of language and literacy: Development and disorders: Guilford Publications; 2016.
4. Hudson S, Levickis P, Down K, Nicholls R, Wake M. Maternal responsiveness predicts child language at ages 3 and 4 in a community-based sample of slow-to-talk toddlers. *International Journal of Language & Communication Disorders*. 2015;50(1):136-142.
5. Levickis P, Reilly S, Girolametto L, Ukoumunne OC, Wake M. Maternal behaviors promoting language acquisition in slow-to-talk toddlers: Prospective community-based study. *Journal of Developmental & Behavioral Pediatrics*. 2014;35(4):274-281.
6. Tamis-LeMonda CS, Kuchirko Y, Luo R, Escobar K, Bornstein MH. Power in methods: Language to infants in structured and naturalistic contexts. *Developmental science*. 2017.
7. Hammer CS, Hoff E, Uchikoshi Y, Gillanders C, Castro DC, Sandilos LE. The language and literacy development of young dual language learners: A critical review. *Early Childhood Research Quarterly*. 2014;29(4):715-733.
8. McKean C, Law J, Mensah F, et al. Predicting Meaningful Differences in School-Entry Language Skills from Child and Family Factors Measured at 12 months of Age. *International Journal of Early Childhood*. 2016;48(3):329-351.
9. Snow CE. What counts as literacy in early childhood. *Handbook of early child development*. 2006:274-294.
10. Snow P, Powell M. Developmental language disorders and adolescent risk: A public-health advocacy role for speech pathologists? *Advances in Speech Language Pathology*. 2004;6(4):221-229.
11. Stothard SE, Snowling MJ, Bishop DV, Chipchase BB, Kaplan CA. Language-Impaired Preschoolers A Follow-Up Into Adolescence. *Journal of Speech, Language, and Hearing Research*. 1998;41(2):407-418.
12. Snowling MJ, Duff FJ, Nash HM, Hulme C. Language profiles and literacy outcomes of children with resolving, emerging, or persisting language impairments. *Journal of Child Psychology and Psychiatry*. 2015.
13. (NIDCD) NIDaOCD. Speech and Language Developmental Milestones. NIH Publication 2010;No. 10-4781. <http://www.nidcd.nih.gov/health/voice/pages/speechandlanguage.aspx>. Published Last Modified Date|. Accessed Dated Accessed|.

14. Whitehurst GJ, Lonigan CJ. Child development and emergent literacy. *Child development*. 1998;69(3):848-872.
15. Snow CE. The theoretical basis for relationships between language and literacy in development. *Journal of Research in Childhood Education*. 1991;6(1):5-10.
16. Hamre B, Hatfield B, Pianta R, Jamil F. Evidence for general and domain-specific elements of teacher–child interactions: Associations with preschool children's development. *Child development*. 2014;85(3):1257-1274.
17. Tamis-LeMonda CS, Luo R, Song L. Parents' Role in Infants' Language Development and Emergent Literacy. *Wellbeing*. 2014.
18. Lonigan CJ, Allan NP, Lerner MD. Assessment of preschool early literacy skills: Linking children's educational needs with empirically supported instructional activities. *Psychology in the Schools*. 2011;48(5):488-501.
19. Speece DL, Ritchey KD. A longitudinal study of the development of oral reading fluency in young children at risk for reading failure. *Journal of Learning Disabilities*. 2005;38(5):387-399.
20. Shaywitz SE, Shaywitz BA. Dyslexia (specific reading disability). *Biological psychiatry*. 2005;57(11):1301-1309.
21. Peterson RL, Pennington BF. Developmental dyslexia. *The Lancet*. 2012;379(9830):1997-2007.
22. Reilly S, Tomblin B, Law J, et al. Specific language impairment: a convenient label for whom? *International Journal of Language & Communication Disorders*. 2014;49(4):416-451.
23. Eadie P, Morgan A, Ukoumunne OC, Ttofari Eecen K, Wake M, Reilly S. Speech sound disorder at 4 years: prevalence, comorbidities, and predictors in a community cohort of children. *Developmental Medicine & Child Neurology*. 2015;57(6):578-584.
24. Goldfeld S, O'connor M, Sayers M, Moore T, Oberklaid F. Prevalence and correlates of special health care needs in a population cohort of Australian children at school entry. *Journal of Developmental & Behavioral Pediatrics*. 2012;33(4):319-327.
25. Harrison LJ, McLeod S, Berthelsen D, Walker S. Literacy, numeracy, and learning in school-aged children identified as having speech and language impairment in early childhood. *International Journal of Speech-Language Pathology*. 2009;11(5):392-403.
26. Association AD. Dyslexia in Australia: Australian: [dyslexiaassociation.org.au/index.php?page=what-is-dyslexia](http://dyslexiaassociation.org.au/index.php?page=what-is-dyslexia). . 2017.
27. Mullis IV, Martin MO, Foy P, Drucker KT. *PIRLS 2011 International Results in Reading*: ERIC; 2012.
28. Schleicher A. Skilled for life? Key findings from the survey of adult skills: Brussels, Belgium: OECD; 2013.

29. Mayes AK, Reilly S, Morgan AT. Neural correlates of childhood language disorder: a systematic review. *Developmental Medicine & Child Neurology*. 2015;57(8):706-717.
30. Sciberras E, Mueller KL, Efron D, et al. Language problems in children with ADHD: A community-based study. *Pediatrics*. 2014:peds. 2013-3355.
31. Charman T, Ricketts J, Dockrell JE, Lindsay G, Palikara O. Emotional and behavioural problems in children with language impairments and children with autism spectrum disorders. *International Journal of Language & Communication Disorders*. 2015;50(1):84-93.
32. Mullan K, Daraganova G. Children's reading in Australia: The home and family context. Paper presented at: 12th Australian Institute of Family Studies Conference: Family and Trajectories. Melbourne, VIC, Australia, 2012.
33. Vellutino FR, Fletcher JM, Snowling MJ, Scanlon DM. Specific reading disability (dyslexia): what have we learned in the past four decades? *Journal of child psychology and psychiatry*. 2004;45(1):2-40.
34. Bishop DV, Snowling MJ. Developmental dyslexia and specific language impairment: Same or different? *Psychological bulletin*. 2004;130(6):858.
35. O'Hare A. Dyslexia: what do paediatricians need to know? *Paediatrics and Child Health*. 2010;20(7):338-343.
36. Vernes SC, Newbury DF, Abrahams BS, et al. A functional genetic link between distinct developmental language disorders. *New England Journal of Medicine*. 2008;359(22):2337-2345.
37. Fisher SE, Lai CS, Monaco AP. Deciphering the genetic basis of speech and language disorders. *Annual review of neuroscience*. 2003;26(1):57-80.
38. Maggi S, Irwin LG, Siddiqi A, Poureslami I, Hertzman E, Hertzman C. *Analytic and strategic review paper: International perspectives on early child development 2006*.
39. McKean C, Reilly S, Bavin EL, et al. Language Outcomes at 7 Years: Early Predictors and Co-Occurring Difficulties. *Pediatrics*. 2017:e20161684.
40. Windsor J, Benigno JP, Wing CA, et al. Effect of foster care on young children's language learning. *Child development*. 2011;82(4):1040-1046.
41. Hutchinson JM, Whiteley HE, Smith CD, Connors L. The early identification of dyslexia: Children with English as an additional language. *Dyslexia*. 2004;10(3):179-195.
42. Goldfeld S, O'Connor M, Mithen J, Sayers M, Brinkman S. Early development of emerging and English-proficient bilingual children at school entry in an Australian population cohort. *International Journal of Behavioral Development*. 2014;38(1):42-51.
43. Eisenclas SA, Schalley AC, Guillemin D. The importance of literacy in the home language: The view from Australia. *Sage Open*. 2013;3(4):2158244013507270.
44. Kibler A, Valdés G, Walqui A. What Does Standards-based Educational Reform Mean for

English Language Learner Populations in Primary and Secondary Schools? *TESOL Quarterly*. 2014;48(3):433-453.

45. Halle T, Hair E, Wandner L, McNamara M, Chien N. Predictors and outcomes of early versus later English language proficiency among English language learners. *Early childhood research quarterly*. 2012;27(1):1-20.

46. MacCullagh L. Participation and experiences of students with dyslexia in higher education: a literature review with an Australian focus. *Australian Journal of Learning Difficulties*. 2014;19(2):93-111.

47. Murasko JE. A lifecourse study on education and health: The relationship between childhood psychosocial resources and outcomes in adolescence and young adulthood. *Social Science Research*. 2007;36(4):1348-1370.

48. Mugnaini D, Lassi S, La Malfa G, Albertini G. Internalizing correlates of dyslexia. *World Journal of Pediatrics*. 2009;5(4):255-264.

49. Singer E. Coping with academic failure, a study of Dutch children with dyslexia. *Dyslexia*. 2008;14(4):314-333.

50. Conway LJ, Levickis PA, Mensah F, McKean C, Smith K, Reilly S. Associations between expressive and receptive language and internalizing and externalizing behaviours in a community-based prospective study of slow-to-talk toddlers. *International Journal of Language & Communication Disorders*. 2017.

51. Bryan T, Burstein K, Ergul C. The social-emotional side of learning disabilities: A science-based presentation of the state of the art. *Learning Disability Quarterly*. 2004;27(1):45-51.

52. Sciberras E, Westrupp EM, Wake M, et al. Healthcare costs associated with language difficulties up to 9 years of age: Australian population-based study. *International journal of speech-language pathology*. 2015;17(1):41-52.

53. Duncan GJ, Dowsett CJ, Claessens A, et al. School readiness and later achievement. *Developmental psychology*. 2007;43(6):1428.

54. Lonigan CJ, Shanahan T. Developing early literacy skills: Things we know we know and things we know we don't know. *Educational Researcher*. 2010;39(4):340-346.

55. Sénéchal M, Young L. 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*. 2008;78(4):880-907.

56. Rodriguez ET, Tamis-LeMonda CS. Trajectories of the home learning environment across the first 5 years: Associations with children's vocabulary and literacy skills at prekindergarten. *Child Development*. 2011;82(4):1058-1075.

57. Wade B, Moore M. A sure start with books. *Early Years*. 2000;20(2):39-46.

58. Hines M, Brooks G. Bookstart National Impact Evaluation. *London: Booktrust*. 2009.

59. Barnett T, Roost FD, McEachran J. Evaluating the effectiveness of the Home Interaction Program for Parents and Youngsters (HIPPY). *Family Matters*. 2012(91):27.
60. Liddell M, Barnett T, Roost FD, McEachran J. *Investing in Our Future: An Evaluation of the National Rollout of the Home Interaction Program for Parents of Youngsters (HIPPY)*: Hippy Australia, Brotherhood of St Laurence; 2011.
61. Barratt-Pugh C, Anderson K, North S. The changing perspectives of librarians in the Better Beginnings family literacy program. *The Australian Library Journal*. 2013;62(3):183-195.
62. Webb K. First 5 forever: Creating opportunities for all Queensland children. *Educating Young Children: Learning and Teaching in the Early Childhood Years*. 2016;22(2):23.
63. DJONOV E, TORR J, PHAM L. Early Literacy in NSW Public Libraries: A survey of library staff involved in early literacy initiatives.
64. Kouri T, Telander K. Children's reading comprehension and narrative recall in sung and spoken story contexts. *Child Language Teaching and Therapy*. 2008;24(3):329-349.
65. Paquette KR, Rieg SA. Using music to support the literacy development of young English language learners. *Early Childhood Education Journal*. 2008;36(3):227-232.
66. Harris JR. *The nurture assumption: Why children turn out the way they do*: Simon and Schuster; 2011.
67. Barratt-Pugh C, Allen N. Making a difference: Findings from Better Beginnings a family literacy intervention programme. *The Australian Library Journal*. 2011;60(3):195-204.
68. Sammons P, Sylva K, Melhuish E, Taggart B, Elliot K, Siraj-Blatchford I. The Effective Provision of Pre-School Education (EPPE) Project: Measuring the impact of pre-school on children's cognitive progress over the pre-school period. 2002.
69. Espinosa LM. *High-quality preschool: Why we need it and what it looks like*: National Institute for Early Education Research; 2002.
70. Tayler C, Ishimine K, Cloney D, Cleveland G, Thorpe K. The quality of early childhood education and care services in Australia. *Australasian Journal of Early Childhood*. 2013;38(2):13.
71. Campbell FA, Pungello EP, Burchinal M, et al. Adult outcomes as a function of an early childhood educational program: an Abecedarian Project follow-up. *Developmental psychology*. 2012;48(4):1033.
72. Shevlin M, McGuckin C, Bell S, Devecchi C. Moving to Higher Education: Opportunities and Barriers Experienced by People with Disabilities. *Access and Participation in Irish Higher Education*: Springer; 2017:159-175.
73. Ramey CT, Ramey SL. Early learning and school readiness: Can early intervention make a difference? *Merrill-Palmer Quarterly*. 2004;50(4):471-491.
74. Piasta SB, Justice LM, McGinty AS, Kaderavek JN. Increasing young children's contact

with print during shared reading: Longitudinal effects on literacy achievement. *Child Development*. 2012;83(3):810-820.

**75.** Dunst CJ, Meter D, Hamby DW. Relationship between young children's nursery rhyme experiences and knowledge and phonological and print-related abilities. *Center for Early Literacy Learning*. 2011;4(1):1-12.

**76.** Jones Harden B, Chazan-Cohen R, Raikes H, Vogel C. Early Head Start home visitation: The role of implementation in bolstering program benefits. *Journal of Community Psychology*. 2012;40(4):438-455.

**77.** Zhai F, Raver CC, Jones SM. Academic performance of subsequent schools and impacts of early interventions: Evidence from a randomized controlled trial in Head Start settings. *Children and Youth Services Review*. 2012;34(5):946-954.

**78.** Melhuish E, Belsky J, Barnes J. Evaluation and value of Sure Start. *Archives of disease in childhood*. 2010;95(3):159-161.

**79.** Fox S, Southwell A, Stafford N, Goodhue R, Jackson D, Smith C. Better Chances: A Review of Research and Practice for Prevention and Early Intervention. Canberra: Australian Research Alliance for Children and Youth (ARACY). 2015.

**80.** Yeager Pelatti C, Pentimonti JM, Justice LM. Methodological review of the quality of Reach Out and Read: does it "work"? *Clinical pediatrics*. 2014;53(4):343-350.

**81.** Goldfeld S, Napiza N, Quach J, Reilly S, Ukoumunne OC, Wake M. Outcomes of a universal shared reading intervention by 2 years of age: the Let's Read trial. *Pediatrics*. 2011;127(3):445-453.

**82.** Goldfeld S, Quach J, Nicholls R, Reilly S, Ukoumunne OC, Wake M. Four-year-old outcomes of a universal infant-toddler shared reading intervention: The Let's Read trial. *Archives of pediatrics & adolescent medicine*. 2012;166(11):1045-1052.

**83.** Reilly S, McKean C, Morgan A, Wake M. Identifying and managing common childhood language and speech impairments. *Bmj*. 2015;350:h2318.

**84.** Law J, Roy P. Parental report of infant language skills: A review of the development and application of the Communicative Development Inventories. *Child and Adolescent Mental Health*. 2008;13(4):198-206.

**85.** Wake M, Levickis P, Tobin S, et al. Two-year outcomes of a population-based intervention for preschool language delay: an RCT. *Pediatrics*. 2015;136(4):e838-e847.

**86.** Brookes I, Tayler C. Effects of an evidence-based intervention on the Australian English language development of a vulnerable group of young Aboriginal children. *Australasian Journal of Early Childhood*. 2016;41(4):4.

**87.** Grace R, Trudgett M. It's not rocket science: The perspectives of Indigenous early childhood workers on supporting the engagement of Indigenous families in early childhood

settings. *Australasian Journal of Early Childhood*. 2012;37(2):10.

**88.** Pears KC, Fisher PA, Kim HK, Bruce J, Healey CV, Yoerger K. Immediate effects of a school readiness intervention for children in foster care. *Early Education & Development*. 2013;24(6):771-791.

**89.** Jama D, Dugdale G. Literacy: State of the Nation--A Picture of Literacy in the UK Today. *National Literacy Trust*. 2012.

**90.** US White House. Summit on Early Childhood Education <https://www.whitehouse.gov/the-press-office/2014/12/10/fact-sheet-invest-us-white-house-summit-early-childhood-education>,. 2017.

Melbourne  
Children's

A world leader  
in child and  
adolescent  
health



Murdoch  
Children's  
Research  
Institute



## Centre for Community Child Health

The Royal Children's Hospital Melbourne  
50 Flemington Road Parkville Victoria 3052 Australia  
[www.rch.org.au/ccch](http://www.rch.org.au/ccch)

The Centre for Community Child Health is a department of The Royal Children's Hospital  
and a research group of Murdoch Children's Research Institute.