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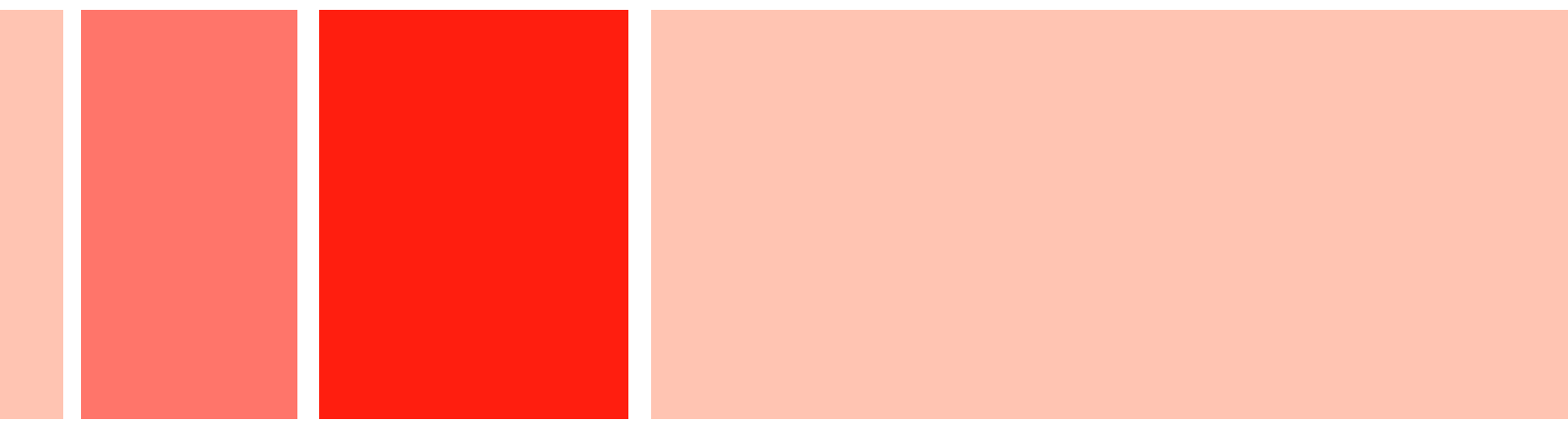
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# A review of research evidence on the effectiveness of different approaches to promoting early speech and language development



# **A review of research evidence on the effectiveness of different approaches to promoting early speech and language development**

May 2014

## **Arad Research in partnership with the National Centre for Language and Literacy (University of Reading)**

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Views expressed in this report are those of the researchers and not necessarily those of the Welsh Government.

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# 1 Executive summary

## Introduction to the review

1. Arad Research, working in partnership with the National Centre for Language and Literacy based at the University of Reading, was commissioned to conduct a review of national and international research literature on the impact of early language development interventions for children under four.
2. The findings of this review of evidence are intended to help shape guidance associated with the early language development entitlement of the Flying Start programme. Flying Start is a Welsh Government flagship programme targeted at families with children aged between nought and three living in some of the most disadvantaged communities in Wales.

## Methodology and overview of the evidence base

3. The research team delivered the study using the Rapid Evidence Assessment (REA) method. REA involves a structured and systematic approach to reviewing existing evidence and literature.
4. The key impact question around which a literature search was developed was as follows: *What are the effective language-development interventions for children under the age of four?* The findings described in this report relate predominantly to this question. Additional non-impact questions were also considered as part of the study, examining themes including (i) the features of successful interventions; (ii) bilingual/multilingual interventions and assessments; (iii) parental engagement with language development interventions; (iv) specialist staff training, and (v) gaps in knowledge.
5. A systematic search strategy was developed, reflecting the key research objective of identifying those interventions and approaches which have been well-evaluated as being successful. A series of inclusion criteria

was agreed for the search strategy, including that literature must be peer-reviewed and must have been published in or after 2008.

6. In order to identify the most relevant literature and evaluations, a two-stage screening process was carried out. Following this process, 11 articles were retained for full review. The interventions described in these articles provided a good mix in terms of geography, monolingual and bilingual settings, the target of the interventions (children vs. parents or teachers) and the setting of the intervention (home vs. classroom).
7. The 11 evaluations were scored and ranked according to the strength of their methodology, sample size and quality of the assessment tools used. The methods used in interventions to promote language development were extracted and weighted according to the strength of evidence for their effectiveness. The key methods are described below.

### **Understanding the key features of successful interventions**

8. ***Parental engagement in language development and learning:*** helping parents appreciate the value of their children's language development and their own role in the process plays an important role in shaping children's language outcomes. It is particularly helpful to (i) share and discuss with parents observations about their child, (ii) discuss with them developmental information; and (iii) share ideas with parents about how to support the child's development.
9. ***Simple exposure to text:*** this involves reading and telling stories, rhymes and songs to children; it also involves directing their attention to printed text encountered in everyday situations. Exposure to text can be effective in enhancing the expressive communication of children as young as 15 months.
10. ***Conversational styles:*** this refers to the way in which different language styles used by parents when talking to children can support early language development. In particular, modelling rich language and

active listening have been shown to enhance children's receptive and expressive vocabularies<sup>1</sup> as well as their language comprehension.

11. **Dialogic book reading<sup>2</sup>**: this involves actively engaging the child in the process of reading. Using this approach, adults ask open-ended questions about a particular story, building vocabulary by introducing it beforehand and making connections. Dialogic book reading can be effective in contributing to positive early language development outcomes.
12. **Production of narrative text**: helping children dramatise text and/or produce books about themselves and their families using photographs and other materials can be very effective in supporting early language development. Bookmaking and the creation of original narrative is shown in the literature to be a particularly effective approach among bilingual and multilingual families and can be used to meet the specific literacy needs of families.
13. **Other activities and exercises**: further methods used in successful interventions include: (i) introducing new words and promoting conceptual development through taxonomic categorisation, which involves introducing new vocabulary in clusters linked to specific themes or topics; and (ii) explicit instruction in literacy skills through games and activities that were designed to promote phonological awareness<sup>3</sup> and alphabet knowledge.

### **Early language assessments for bilingual/multilingual children**

14. The current review was tasked with considering the impact and assessment tools of successful interventions in bilingual/multilingual settings. However, as the search strategy was primarily tailored to the impact question specified above, there are limitations associated with this element of the review.

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<sup>1</sup> Receptive vocabulary refers to words that a child can comprehend and respond to, even if the child cannot produce those words. This is in contrast with expressive vocabulary, which refers to words that a child can express or produce, for example, by speaking or writing.

<sup>2</sup> Dialogic reading is a technique that encourages adults to prompt children with questions and engage them in discussions while reading to them.

<sup>3</sup> Phonological awareness is the awareness of the sound structure of spoken words. It can be measured by assessing the sensitivity to alliteration and rhymes.

15. Five of the 11 interventions involved bilingual children. The language development activities in these interventions were supported through the following: children making books about themselves and/or their families; promoting the language and literacy achievements of children; and practitioners encouraging language-friendly parental behaviours.
16. Most of the interventions used standardised assessment tools that were available in several languages and that therefore could be used to assess children's language development in their preferred language. Researchers also used some non-standardised measures that were tailored to the language and literacy skills they taught.
17. An additional academic paper was reviewed to consider some of the specific questions associated with supporting language development in Welsh-medium or bilingual nursery and childcare settings. This document (Hickey et al., 2014) recognises the need for particular strategies in the context of Welsh/English bilingual provision to support language development. This requires an understanding among programme managers and practitioners of the need for differentiated approaches within mixed language groups.

### **Parental engagement in, and understanding of, early language development initiatives**

18. The REA offers some learning points in relation to promoting parental understanding of language-development interventions.
19. Based on the findings of the REA, practitioners recognise that a home environment that supports effective language development is essential if the effects of interventions on children are to be sustained. In those interventions where investigators sought to involve parents, particular importance was placed on discussing the child's progress, agreeing milestones for their development and equipping parents with specific strategies they could use to help their children's language skills develop. This was shown to enhance both the motivation and ability of parents to support language development in the home.

## **Features of practitioner training associated with the interventions reviewed**

20. The literature reviewed underlines the importance of effective training for professionals responsible for delivering interventions. The following features were seen as being key to effective training: ensuring practitioners understand the value of early language development; ensuring they have the knowledge and skills to interact with children in a way that promotes language development (e.g., modelling rich language, asking open-ended questions); and ensuring practitioners can deal effectively with a diverse range of families in their homes (e.g., by showing respect for the family context).

## **Conclusions**

21. The evaluations included in the sample of literature reviewed cover a wide range of interventions. The main features of successful interventions are outlined below.

22. It is fundamentally important that practitioners share and discuss observations with parents about their child. The literatures stresses the value of a number of methods that can support early language development, including:

- parents modelling rich language and listening actively;
- regularly exposing children to text is a simple yet effective method of promoting early written language development;
- dialogic book reading can enhance children's language outcomes, encouraging children to be active participants in the process of reading and telling stories;
- the production of narrative text – bookmaking, dramatisation of stories and role play – can provide personalised, multimodal<sup>4</sup>, and highly meaningful experiences around literacy;

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<sup>4</sup> Multimodal teaching involves using a range of auditory and visual methods, or visual and tactile methods.



- games and activities that promote phonological awareness and alphabet knowledge can also contribute to the development of early language.

23. The review also shows that home-based provision and encouraging parents to deliver and co-deliver aspects of the programme activity can contribute to the success of interventions. Future guidance relating to the early language development entitlement of Flying Start can be informed by the findings in this report.

## 2 Introduction to the review

- 2.1 Arad Research, working in partnership with the National Centre for Language and Literacy based at the University of Reading, was commissioned to conduct a review of national and international research literature on the impact of early language development interventions for children, specifically for children under four.
- 2.2 This research was commissioned to inform future Flying Start policy. The findings of this review of evidence are intended to help shape guidance associated with the early language development entitlement of the programme.
- 2.3 This report presents the findings of the research, which was carried out as a Rapid Evidence Assessment during January and February 2014.

### Flying Start

- 2.4 In 2006/7, the Welsh Government launched the Flying Start programme, which aims *'to make a decisive difference to the life chances of children aged under four in the areas in which it runs'* (p. 1, Welsh Government, 2009). The programme is an area-based programme, geographically targeted to some of the most disadvantaged areas of Wales and is universally available to families with children aged nought to four in those areas. Through early identification of the needs of these individual families, the programme aims to improve children's language development, cognitive skills, social and emotional development and physical health. By supporting children's development, the programme aims in the longer term to reduce the number of people with very poor skills, improve qualifications at the end of schooling and increase employment prospects.
- 2.5 Flying Start is administered as a grant to local authorities to fund provision for children and their families within selected target areas.

Provision delivered as part of the programme consists of the following core elements:

- Free, high quality, part-time childcare;
- Intensive health visiting support;
- Parenting support;
- Support for early language development.

2.6 The National Evaluation of Flying Start reports that

*Flying Start takes a child-centred approach to improve child outcomes through the provision of four key service entitlements, with an additional overarching focus on early identification of additional support needs (p. 12, Welsh Government, 2013c).*

All families within the targeted areas have access to the core entitlements of the Flying Start programme. Tailored support is provided depending on individual families' needs. These entitlements are delivered as a holistic package based on specific individual family needs.

### **Aim and objectives of the study**

2.7 The overall aim of the project, as set out in the specification for the research, was to review the national and international research literature on the impact of early language development interventions for children and, in particular, for those under four years old.

2.8 The specific objectives were defined in the specification as follows:

- To review published research evidence on language development programmes in the early years, identifying those interventions and approaches (including formal and informal courses) which have been well-evaluated as being more successful. This includes identification and consideration of how and under what conditions interventions have been shown to be effective, for example, the impact of setting.
- To review published research on parents understanding of, and engagement in, early language development initiatives,

identifying successful strategies to increase parental understanding and engagement in early language programmes. This should build on the findings from the national evaluation of Flying Start (e.g., Welsh Government, 2013b, 2013c, 2013c).

- To focus on the impact on early language development within bilingual countries and include a review of early language assessments tailored for bilingual/multilingual children.
- To review published evidence on the impact of specialist staff training to improve their skills in supporting early language development.
- To identify any significant gaps in knowledge on how such interventions operate.

2.9 These objectives were used as a basis for identifying the specific research questions to be addressed and for planning the search strategy. Further detail on the methodology used is set out in Section 3, below.

2.10 The inclusion of the early language development entitlement within Flying Start is based on a well-established evidence base that *‘early language ability is an important predictor of later progress in literacy and has an impact on social skills as well as behaviour in children’* (Welsh Government, 2009)

2.11 Findings from the most recent qualitative evaluation of Flying Start indicate that the early language development entitlement is *‘much less appreciated than other elements of the programme because many parents did not understand how it would help them or their children and instead often perceived it as more of a social opportunity’* (p. 6, Welsh Government, 2013c).

2.12 This research has been commissioned to support the process of reviewing early language development activities within Flying Start, drawing on published literature that presents learning from effective interventions that support language development in the early years in different contexts. In addition, the Welsh Government has

commissioned a parallel study looking at current practice in the delivery of early language development in Flying Start areas. This separate study has also been led by Arad Research and, where possible, this report cross-references relevant findings and observations between the two studies so as to highlight corresponding or complementary conclusions.

### 3 Methodology and overview of the evidence base

- 3.1 This section provides a broad overview of the Rapid Evidence Assessment as a research method, before outlining the specific methodology employed, including the detail of the search strategy.

#### Overview of the Rapid Evidence Assessment

- 3.2 Rapid Evidence Assessment (REA) is a method of collecting and analysing research evidence that prioritises efficiency and balance in reviewing existing knowledge. The main feature of the method is that it is explicit and structured, enabling it to provide systematic reviews and syntheses of relevant evidence. It is designed to answer well-defined, constrained research questions, usually focused on a single key topic. The method is being used increasingly as policy-makers seek to ground their decisions in the most up-to-date research and to do so in a quick and efficient manner.
- 3.3 The REA Toolkit developed by the Government Social Research Service provided a useful reference point in planning the study (Civil Service, 2014a). The toolkit sets out a number of advantages of REA as a method, including the ability to provide
- a balanced assessment of what is already known about a policy or practice issue... when a policy decision is required within months and policy makers/researchers want to make decisions based on the best available evidence within that time* (online, Civil Service, 2014b)
- 3.4 The research team considered that REA was an appropriate method for addressing the objectives of this project for a number of reasons. Firstly, a full systematic review would not be practicable due to the timescales involved. Equally, a narrative literature review could introduce substantial bias into the selection of relevant sources and therefore compromise the validity of the results. A final reason to opt for a REA is the wide range of research available on the subject of

language development interventions for young children, which called for a method that would enable the research team to deal with information in a way that is structured, efficient and unbiased.

## Defining the research questions

- 3.5 REAs can address more than one type of question, albeit that these questions should relate to a unifying theme. Based on the objectives and requirements set out in the specification document, the research team identified a series of key research questions that would serve to guide the evidence review, synthesis and reporting. These consist of one impact question and five further non-impact questions, as set out below:

### *Impact question:*

1. *Of the formal and informal interventions related to early years language development reported in the literature (including those tailored for bilingual/multilingual children), which were well-evaluated as having been successful?*

### *Non-impact questions:*

2. *What were the key features of successful interventions identified in the literature? (E.g. setting, early identification, up-skilling of staff, taking an integrated multi-agency approach to engaging families).*
3. *How was the language development of bilingual/multilingual children assessed in these interventions?*
4. *What was the role of parents in the delivery of successful early years language-development interventions? What was their understanding of, and engagement with, these programmes? What strategies did the interventions employ in order to increase parental understanding and engagement?*
5. *What was the role of specialist staff training? Does up-skilling contribute to the success of early years language-development*

*interventions?*

6. *What are the gaps in the knowledge on how the successful interventions operate?*

- 3.6 For the purposes of simplicity, the impact question can be rephrased as follows:

*What are the effective language-development interventions for children under the age of four?*

- 3.7 Thus, the search strategy described in the section below was designed to identify effective language development interventions for children under the age of four. The non-impact questions were addressed to the final sample of the research reports selected for full-text review. **Consequently, the findings described in Sections 4-8 of this report are more directly related to the impact question, above.**

### **Search strategy**

- 3.8 Drawing on the research questions outlined above, the search strategy identified five main inclusion criteria:
1. Articles/literature must report an evaluation of an intervention;
  2. The intervention must have been evaluated as successful;
  3. The intervention must aim to improve language development;
  4. The target population of the intervention must be children under the age of four;
  5. Language development in disabled children and children with additional support needs is not the focus of the research.
- 3.9 As can be seen from point five, above, it was agreed at the project inception meeting with the Welsh Government that the literature search should exclude interventions designed to support disabled children or those specific disorders including hearing impairments and autism. It was felt that including such interventions would have been inappropriate, because it would have resulted in the scope of



the research being too broad. In addition, it was noted that Flying Start provides support for the general population, albeit in areas of disadvantage where many of the children and families supported have multiple and complex support needs. Exploring international evidence of effective interventions targeting children with additional language development needs would be an interesting area for future research.

- 3.10 Other parameters and conditions were also set by the research team: only articles that were peer reviewed were included, in order to ensure their quality and rigour; the literature was limited to texts in English or Welsh; and, finally, it was decided that only articles published in 2008 or later would be included, in order to ensure that the findings draw on relatively recent examples of successful interventions.

### Data sources

- 3.11 Table 1 shows the list of the databases used in the search. It comprises a mix of education and social sciences databases; each database has a different focus, which served to maximise our chances of finding as much relevant evidence as possible.

*Table 1: Databases searched as part of the review*

<p><b>British Education Index (BEI)</b></p> <p>A database for persons interested in education and training. It includes more than 300 relevant journals published in the UK as well as other publications, covering all areas of education.</p>
<p><b>Australian Education Index (AEI)</b></p> <p>An education, policy and practice database that includes more than 130,000 entries from 1979 to present.</p>
<p><b>Education Resources Information Centre (ERIC)</b></p> <p>A US-based digital library of research and information on education. It aims to be a comprehensive database for education.</p>
<p><b>PsycINFO</b></p> <p>A database which abstracts and indexes peer-reviewed research in the behavioural sciences and mental health. It contains more than 3 million entries.</p>
<p><b>Linguistics and Language Behaviour Abstracts (LLBA)</b></p> <p>A database which abstracts and indexes the international literature in linguistics and related disciplines in the language sciences. The database draws on over</p>

1,500 serials publications.

**Applied Social Sciences Index and Abstracts (ASSIA)**

A database that indexes and abstracts the literature on health, social services, psychology, sociology, economics, politics, race relations and education. It contains over 375,000 records from over 500 journals published in 16 different countries.

- 3.12 'Grey' literature<sup>5</sup> was not included in the search strategy for a number of reasons. First, such literature rarely appears in the databases listed above. Secondly, it is more difficult to track down and obtain, thus giving rise to delay. Finally, the nature of the current enquiry – with its focus on successful and well-evaluated interventions – minimises the need for unpublished manuscripts. It is widely agreed that studies which report positive results are more likely to be published than studies that are not (the 'publication bias', see e.g. Song et al., 2010) and the focus of the current project means that the overwhelming majority of the relevant reports will be within the published domain. Thus, exclusion of the grey literature is unlikely to have impacted the results or conclusions significantly.
- 3.13 For each database used, search terms for the agreed criteria (see 3.8 above) were developed based on the thesauri and the internal dictionaries of the databases. The search syntax was then developed around the identified subject headings. When subject headings alone were deemed to be insufficient, additional title searches were added to the search syntax. Table 2 below shows the search terms and search syntax we used for the ERIC database (for the full list of search syntaxes, see Annex 1). In total, the initial search yielded 283 non-duplicate entries across all databases.

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<sup>5</sup> 'Grey' literature refers to manuscripts that are not controlled by commercial publishers and are therefore difficult to locate through conventional means; it can include reports produced by governments, academics, business and industry.

Table 2: Search terms and syntax used for ERIC

Search terms	Language Development	Intervention Evaluation	0-3 years of age
	Verbal development Child language Language proficiency Language skills Language usage	Early intervention Validated programs Course evaluation Program evaluation Evaluation indicators	Nursery schools Young children Preschool education Child
Search syntax	SU.EXPLODE("nursery schools" OR "young children" OR "preschool education" OR "child") AND SU.EXPLODE("verbal development" OR "child language" OR "language proficiency" OR "language skills" OR "language usage") AND (SU.EXPLODE("early intervention" OR "validated programs" OR "course evaluation" OR "program evaluation") OR ti("program*" OR "interven*" OR "evaluat*")) AND PD(20080101-20131231) NOT SU.EXPLODE("disabilities") Limit: peer reviewed		

### Testing and verifying our search strategy

- 3.14 We verified the sensitivity of the search strategy by testing whether it was successful in identifying articles that were known to be relevant to the search criteria. The list of such articles was derived from Department for Education (2012), a publication identified by the research team during initial enquiries into available sources at the inception phase.
- 3.15 Department for Education (2012) describe and review 61 interventions for children with speech, language and communication needs. Of these interventions, three were relevant to the focus of the current enquiry: *Let's Learn Language* (Wake et al., 2011; Sheehan et al., 2009), *Focused Stimulation* (Wolfe et al., 2010) and *Talking Time* (Dockrell et al., 2006). These interventions targeted children in the general population and of the appropriate age for which there was at least a moderate level of evidence of effectiveness. Of the relevant articles, the three that were published in or after 2008 (one of the search criteria) were all among the 283 results yielded by our search. This satisfied the research team that our search strategy was fit for purpose. The article that had not been located by the search strategy was included in the list of publications under consideration during screening.

## **Other Sources**

- 3.16 In addition to sourcing references through the databases mentioned above, we employed other strategies to identify relevant publications. These were implemented at the appropriate (later) stages of research. Some of the publications located by our search were reviews of interventions rather than evaluations of interventions. These articles, identified at the second stage of the screening process, were used to identify relevant publications that described evaluations of interventions.
- 3.17 Given the reputation of Australian researchers in the field, a direct approach was made to Professor Bridie Raban, an expert in early childhood education and Senior Research Fellow at the Australian Council for Educational Research. Prof. Raban was able to direct us to several publications that she felt were relevant to our enquiry, one of these publications satisfied the search criteria and was thus included in the REA.

## **Screening**

- 3.18 In order to identify the most relevant reports among the 283 results of our search strategy, we undertook a two-stage screening process.

### *Stage 1 screening: based on abstracts*

- 3.19 Stage 1 of the screening was based on the abstracts, and involved double-checking the inclusion criteria used in the search. Thus, of the 283 articles identified through the search, 239 were screened out for the reasons outlined in Table 3.

*Table 3: Numbers of articles screened out at Stage 1*

Wrong age group	87 publications
Wrong target population: examples include articles that focus on populations with autism and hearing problems.	20 publications
Wrong focus: examples include publications dealing with developing assessment tools, looking at foster care outcomes, children's rights, low-birth weight outcomes, theoretic accounts, etc.	122 publications
Interventions evaluated as being unsuccessful	10 publications
<b>Total screened out at stage 1</b>	<b>239 publications</b>

3.20 For quality assurance purposes, Professor Viv Edwards, our expert adviser on the team from the National Centre for Language and Literacy, checked 35% of the screened articles. The agreement rate was close to 100%: based on 99 articles that were cross-checked, there was agreement on all but two. These articles were re-examined and discussed in further detail, leading to eventual consensus as to which publications should be included in the second stage screening. Thus, Stage 1 of the screening yielded a total of 44 articles.

*Stage 2 screening: based on full text*

3.21 For Screening 2, full texts of the articles were obtained where possible. In addition to the original 44 articles, the final list of screened publications also included (i) the article recommended by Prof. Raban, (ii) the relevant article from the check against Department for Education (2012, see Section 3.15 and (iii) relevant references from the reviews of interventions found in the initial screening exercise. A number of the reviews referred to articles published earlier, some before 2008. It was decided in favour of including these publications, as the interventions cited were relevant and the reviews themselves were current. Thus, the full list of references at this stage contained 49 entries, from 2004 onwards.

3.22 It had been anticipated that, to a large extent, Stage 2 would be based on a measure of methodological quality, whereby the articles

would be rated and then ranked according to the rigour of their methodological approach. However, the initial examination of the full texts of the articles revealed that the criteria used to screen articles at Stage 1 were still applicable, due to the fact that the full texts provided more detailed information that was often omitted in the abstracts. Following further examination, therefore, 35 articles were excluded on the basis that they were dealing with the wrong age group (six) or because they did not have the appropriate focus (29).

3.23 The methodological quality of the remaining 14 articles was assessed using the Maryland Scale for Scientific Methods (Sherman et al., 1997, see Table 4). The tool was appropriate because, despite the inclusion of qualitative evaluations in the search, all of the publications in the final list presented quantitative evaluations of interventions. Three out of 14 articles scored two or lower on the scale, and were screened out. The remaining 11 articles were retained for full review.

*Table 4: The Maryland Scale of Scientific Methods, Sherman et al., 1997*

Level 1	Observed correlation between an intervention and outcomes at a single point in time. A study that only measured the impact of the service using a questionnaire at the end of the intervention would fall into this level.
Level 2	Temporal sequence between the intervention and the outcome clearly observed; or the presence of a comparison group that cannot be demonstrated to be comparable. A study that measured the outcomes of people who used a service before it was set up and after it finished would fit into this level.
Level 3	A comparison between two or more comparable units of analysis, one with and one without the intervention. A matched-area design using two locations in the UK would fit into this category if the individuals in the research and the areas themselves were comparable.
Level 4	Comparison between multiple units with and without the intervention, controlling for other factors or using comparison units that evidence only minor differences. A method such as propensity score matching, that used statistical techniques to ensure that the programme and comparison groups were similar would fall into this category.
Level 5	Random assignment and analysis of comparable units to intervention and control groups. A well-conducted Randomised Controlled Trial fits into this category.

*Source: REA Toolkit*

3.24 Table 5 below lists the 11 interventions retained for the full review and the associated publications.

Table 5: List of publications retained for full-text review following Screening 2

	<b>Names</b>	<b>Full reference</b>
1	<b>Joint Reading*</b>	Aram, D. and S. Biron (2004). 'Joint storybook reading and joint writing interventions among low SES pre-schoolers: Differential contributions to early literacy.' <i>Early Childhood Research Quarterly</i> 19: 22: 588-610.
2	<b>Early Authors Program</b>	Bernhard, J. K., et al. (2008). 'Read My Story!' Using the Early Authors Program to Promote Early Literacy among Diverse, Urban Preschool Children in Poverty.' <i>Journal of Education for Students Placed at Risk</i> 13(1): 29: 76-105.
3	<b>SHELLS</b> (Storytelling for the Home Enrichment of Language and literacy Skills)	Boyce, L. K., et al. (2010). 'Telling Stories and Making Books: Evidence for an Intervention to Help Parents in Migrant Head Start Families Support Their Children's Language and Literacy.' <i>Early Education and Development</i> 21(3): 28: 343-371.
4	<b>Talking Time</b>	Dockrell, J., et al. (2006). 'Implementing effective oral language interventions in pre-school settings. <i>Language and Social Disadvantage: theory into practice.</i> ' J. Clegg and J. Ginsborg. West Sussex, John Wiley and Sons: 11: 177-188.  Dockrell, J. et al. (2010). 'Supporting early oral language skills for English language learners in inner city preschool provision.' <i>British Journal of Education Psychology</i> 80: 497-515
5	<b>ORIM</b> (Opportunities, Recognition, Interaction, Models)	Hirst, K., et al. (2010). 'Effects of a pre-school bilingual family literacy programme.' <i>Journal of Early Childhood Literacy</i> 10(2): 25: 183-208.
6	<b>Early Head Start</b>	Love, J. M., et al. (2013). 'What Makes a Difference: Early Head Start Evaluation Findings in a Developmental Context.' <i>Monographs of the Society for Research in Child Development</i> 78(1): 173: 1-173.
7	<b>World of Words</b>	Neuman, S. B., et al. (2011). 'Educational Effects of a Vocabulary Intervention on Preschoolers' Word Knowledge and Conceptual Development: A Cluster-Randomized Trial.' <i>Reading Research Quarterly</i> 46(3): 23: 249-272.
8	<b>Getting Ready</b>	Sheridan, S. M., et al. (2011). 'A randomized trial examining the effects of parent engagement on early language and literacy: The Getting Ready intervention.' <i>Journal of School Psychology</i> 49(3): 22: 361-383.
9	<b>PCMGP</b> (Parent-Child Mother Goose Program)	Terrett, G., et al. (2012). 'A preliminary evaluation of the Parent-Child Mother Goose Program in relation to children's language and parenting stress.' <i>Journal of Early Childhood Research</i> 11(1): 10: 16-26
10	<b>Dialogic Book Reading</b>	Tsybina, I. and A. Eriks-Brophy (2010). 'Bilingual dialogic book-reading intervention for preschoolers with slow expressive vocabulary development.' <i>Journal of Communication Disorders</i> 43(6): 18: 538-556.
11	<b>Opportunities for Language*</b>	Wasik, B., et al. (2006). 'The effects of a language and literacy intervention on Head Start children and teachers.' <i>Journal of Educational Psychology</i> 98: 11: 63-74.

Notes: 1. The second column of the above table indicates in bold text the names of the interventions used in this report. 2. Full names are used where they contain three words or fewer and abbreviations when the names that contain more than three words. 3. Interventions marked with an asterisk (\*) were not given names by the authors, therefore for ease of reference, we have assigned names that we felt were appropriate. 4. Talking Time contains two references because the original manuscript (Dockrell et al., 2006) did not contain enough relevant information. When contacted, the first author suggested the 2010 publication should be used in conjunction with the 2006 publication.

3.25 An appraisal template was produced, based on the EPPI-Centre (2007) data extraction and coding tool. The purpose of this template was to extract key information about each of the interventions and evaluations reviewed, to serve as a basis for the comparison and analysis of the texts. Full texts were reviewed over a period of three weeks in January. The template is included in Annex 2.

### **Overview of the evidence base**

3.26 Of the 11 interventions described in the articles selected for full review, six were from the US, two from the UK, and the remaining three were from Israel, Canada and Australia, respectively. At least four of the interventions were carried out with bilingual or multilingual populations. Seven interventions involved children who were on average over 40 months of age; one was tailored for children 'under 36 months' of age, and the remaining three involved children who were on average approximately 14, 28, and 37 months old. With regard to the target of the intervention, six out of 11 targeted only children, a further two targeted parents as well as children, two targeted parents only, and the remaining intervention targeted teachers. The setting of the intervention was participants' homes in four interventions, and classrooms/centres in another six interventions; the remaining intervention used a mixed setting. For the interventions where authors reported the relevant information, there was a good spread in intensity, with durations varying from 1.5 months to 36 months, the number of sessions varying from five to 66, and contact time varying from five to 40 hours (see Annex 3 for details).



## Understanding the methodological rigour of the evidence base

3.27 The search strategy and screening process yielded 11 articles published during the last 10 years that reported successful language development interventions for children under the age of four. Each of these interventions scored above two on the Maryland Scale of Scientific Merit (MSSM, see Table 4, page 13) but they varied with respect to the degree of methodological rigour (MSSM 3 to 5), the sample size reported, and the outcomes measured.<sup>6</sup> Together, these factors contributed to variability in the quality of the results. In order to account for this variability, a scoring method was devised that made it possible to rank the relative strengths of the interventions. The scoring method is shown in Table 6 below.

*Table 6: Scoring method for ranking the relative strengths of interventions reviewed*

<b>Sample size</b>	<b>SCORE</b>
Less than 50	1
50 to 150	2
More than 150	3
<b>Maryland Scale of Scientific Merit</b>	
Level 3	1
Level 4	2
Level 5	3
<b>Outcome measures</b>	
Not standardised, reliability unknown	1
Not standardised, reliable	2
Standardised, reliable	3

3.28 The details of how each intervention was scored can be found in Annexes 4 and 5. The raw scores for each intervention were summed to yield a score between four and eight. These scores provide an indication of the relative strengths of the interventions, with higher scores corresponding to methodologically stronger evaluations. It should be noted, however, that all of the interventions described have been evaluated as being successful and provide interesting learning points in relation to early language development.

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<sup>6</sup> Another relevant factor was effect size, but not all articles reported the relevant effect sizes, so this was not included in the scoring.

3.29 The following sections present the findings from our review of the literature relating to these interventions. In seeking to answer our key research questions, we have grouped evidence under four chapter headings:

- Features of successful interventions;
- Interventions in bilingual settings;
- Parental engagement;
- Training and up-skilling of staff.

## **4 Understanding the key features of successful interventions**

- 4.1 This section of the report presents findings in relation to the main impact question around which this REA was focused. Firstly, it explains our approach to determining the methodological rigour of the evaluations. This section then presents a typology of the activities and approaches used in the interventions to promote early language development; this typology includes an assessment of the strengths of the evidence base for each activity and approach included. Finally, it describes in more detail what these activities and approaches entail in practice, before reiterating which three features of the interventions were the most effective in promoting early language development, based on the literature reviewed.
- 4.2 This section of the report presents findings in relation to the main impact question around which this REA was focused. It presents a typology of the activities and approaches used in the interventions to promote early language development; this typology includes an assessment of the strengths of the evidence base for each activity and approach included. It then describes in more detail what these activities and approaches entail in practice, before reiterating which three features of the interventions were the most effective in promoting early language development, based on the literature reviewed.

### **A typology of approaches to supporting language development**

- 4.3 The literature reviewed as part of this REA demonstrated a range of approaches to supporting language development among children under four years of age. Furthermore, the focus of the programmes and approaches evaluated varied, with some targeted at practitioners, others focused on promoting the skills of parents/carers to support language development and some centred around direct interaction with children.
- 4.4 Figure 1 provides a summary of the skills and approaches evidenced in the interventions reviewed during the REA. It should be

noted that the programmes described in the literature are targeted at children at varying stages of language development. One common theme, however, is an acknowledgement of the need for practitioners and carers to follow the child’s lead, adapting strategies and activities to reflect the child’s developmental stage.

Figure 1: Overview of the activities supported through interventions in the literature reviewed

Focus	TYPE OF ACTIVITY SUPPORTED
<b>Parents</b>	<b>Parental engagement in language development and learning</b>
	Share and discuss with parents observations about their child Provide and discuss developmental information Share ideas with parents about how to support the child’s development
	<b>Parents/Teachers/Practitioners</b>
Read, tell and retell stories, rhymes, songs	
Use environmental print (i.e. text encountered in everyday situations such as on shopping bags, road signs, adverts and posters)	
<b>Conversational styles</b>	
Model rich language Provide information about child’s activities Expand children’s utterances into well-formed equivalents Recast children’s utterances into other grammatical forms	
Use active listening	
<b>Dialogic book reading</b>	
Ask open-ended questions	
Build vocabulary Introduce vocabulary Make connections	
<b>Children</b>	
	<b>Production of narrative text</b>
	Help children produce books about themselves and/or their families using photographs, etc.
	Dramatise text/scenarios
	<b>Other activities and exercises</b>
	<b>Vocabulary and conceptual development</b>
	Taxonomic categorisation
	<b>Early literacy</b>
Games/activities to promote phonological awareness and alphabet knowledge	
Key: <span style="background-color: #c8e6c9; padding: 2px 10px;">Strong</span> <span style="background-color: #fff9c4; padding: 2px 10px;">Less strong</span> <span style="background-color: #ffe0b2; padding: 2px 10px;">Least strong</span>	

4.5 The colour-coding in the right hand column indicates the strength of the evidence in relation to each skill, drawing on the ranking described in 3.27-3.28, above. Green indicates that there is strong

evidence to support the effectiveness of a particular skill or language development method; yellow denotes that the supporting evidence is less strong; red signifies that the evidence is drawn from literature that scored lowest in terms of the ranking. Thus, 'ask open-ended questions' (see Figure 1) is a dialogic book reading skill for parents, teachers and practitioners, and there is strong evidence within the literature reviewed that this is effective in promoting early language development.

- 4.6 The colour coding in the figure should be used with some caution. Although the ranking of references was based on objective scoring (see Annexes 4 and 5), a degree of subjectivity is involved in the process. The coding should, therefore, serve as a guide to the strengths of the evidence rather than as a definitive verdict on the usefulness of the relevant skill or activity.<sup>7</sup>

### **Parental engagement in language development and learning**

- 4.7 Two of the articles reviewed are concerned with aspects of parental engagement in language development and learning: Sheridan et al. (2011) and Hirst et al. (2010).
- 4.8 The Getting Ready intervention was the focus of a randomised trial (Sheridan et al., 2011) and aimed to support parental participation in their child's learning. The study noted that '*a great deal of early language and social learning occurs in the context of interactive experiences within children's families when parents are highly engaged*' (p. 362).

In keeping with this, the intervention focused on promoting strategies to improve interaction between parents and children through additional support provided by preschool teachers trained in the Getting Ready intervention. Getting Ready was delivered to families over a two-year period following the child's third birthday. Preschool teachers carried out home visits with a view to enhancing

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<sup>7</sup> In addition, each intervention reviewed involved several skills, meaning that it is not possible to isolate the effect of any individual skill on the outcomes reported in the interventions.

the quality of parent-child interactions and learning experiences in daily routines and positively influencing children's school readiness.

- 4.9 The design of Getting Ready underlined the importance of a collaborative approach to promoting parent-child interaction, with the practitioner/teacher observing existing activity and modelling new strategies. There was an emphasis on establishing a partnership between the preschool teachers and parents during the home visits. These visits were structured so as to include the following:

- Understanding important events in family/child's life (set context and establish relationship/trust);
- Teacher and parent to identify and agree materials and activities to support learning opportunities;
- Observation of parent-child interactions;
- Focus the parent's attention on what the child does;
- Encourage parent to problem-solve/share ideas about new possibilities for child and parent;
- Provide developmental information and help caregiver associate it with what a child does and needs;
- Model or demonstrate a strategy or interaction with the child;
- Provide parent with a suggestion specific to the observed situation;
- Discuss and summarise the helpful aspects of the visit for the parent, the child, and teacher;
- Identify possible learning opportunities for the child during the upcoming week's daily routines;
- Identify interactions or materials the parent could use with the child to maximise learning opportunities between visits.

Source: Sheridan et al., 2011

- 4.10 Two assessment tools were used to measure the effects of the intervention on children's language and literacy: the Teacher Rating of Oral Language and Literacy (TROLL) and the Preschool Language Scale. These measures were multi-source and multi-method, including both teacher-report and direct child assessment components. The researchers (Sheridan et al., 2011) noted that:

*Significant differences were observed between treatment and control participants in the rate of change over time on teacher reports of language use, reading, and writing. Although the*

*control group significantly improved on each subscale, the intervention group experienced more growth over time. Preschool children in the Getting Ready intervention demonstrated significantly enhanced gains in their level of oral language use over time compared to children in the control group (p. 374).*

- 4.11 In addition to the structure of the visits, the training of the practitioners who engaged with parents was found to have contributed to children's language development outcomes. The training involved a two-day course delivered by Getting Ready staff that focused on helping practitioners understand and apply the model and strategies used in the intervention. The Getting Ready intervention was particularly beneficial for children whose development caused concern and children who did not speak English at school entry. These children made bigger gains in language and literacy compared to the other children in the intervention whose development was not a cause for concern and/or who spoke English at school entry.
- 4.12 Sheridan et al. (2011) refer to other successful models that focus on parent behaviour in supporting developmental outcomes through structured programmes led by expert/trained facilitators. This includes programmes developed by the Hanen Centre, which are used by a number of Flying Start teams across Wales. The Review of Practice (Welsh Government, 2014) being completed in parallel with this study considers the use of Hanen language development programmes in Flying Start areas.
- 4.13 Another of the documents reviewed, Hirst et al. (2010), presented evidence relating to the importance of supporting parental engagement in their child's language development. The intervention consisted of a preschool family literacy programme with bilingual families in the UK. Its key activities involved home visits to families by professionals to share literacy resources and to lead structured activities around language development. These visits took place at three-weekly intervals over a twelve-month period before children began mainstream school. Follow-up contact and group activities were arranged once relationships were established.

4.14 The programme was based on the ORIM framework developed by Hannon and Nutbrown (1997) and aimed to promote parents' awareness of how they could help to enhance their preschool child's reading, writing and related oral language (see Figure 2). This approach places an emphasis on providing opportunities for the child's literacy development, encouraging parents to recognise their child's achievements, interacting with their child and being models of literacy users. The aspect of the ORIM framework that is of particular relevance to parental engagement is the 'R', which stands for 'recognition'. It underlines the importance of enabling parents to recognise the value of their children's developing language abilities.

*Figure 2: ORIM framework*

		Strands of early literacy development			
		Environmental print	Books	Early writing	Oral language
Families can provide	Opportunities				
	Recognition				
	Interaction				
	Model				

*Source: Nutbrown et al. (2005)*

4.15 A key finding from the study (Hirst et al., 2010) is that all participating families felt their involvement was beneficial for the child, and that the programme should be offered to all families with young children.

*As a result of the programme, families were further enabled to provide literacy opportunities, recognise their children's achievements, interact with their children and provide models of literacy (p. 206, Hirst et al., 2010)*



- 4.16 Overall, the evidence presented in this section suggests that helping parents appreciate the value of their children’s language development and their own role in the process plays an important role in shaping children’s future language outcomes.

### **Simple exposure to text**

- 4.17 The abstracts reviewed during the initial screening phase reveal that there is a large volume of research dedicated to the benefits of exposing children to text. In our review, support for this comes from two interventions: the PCMGP (Parent-Child Mother Goose Program, Terret et al., 2012) and ORIM (Hirst et al., 2010).
- 4.18 In the case of PCMGP – a programme designed to strengthen the parent-child relationship and promote positive language interactions – exposure to text was found to have been effective from a very young age. The average age of the children involved in the programme was less than 15 months and the evaluation found that children’s expressive communication improved.
- 4.19 Exposure to text was seen to have been effective in bilingual and multilingual settings in ORIM (Hirst et al., 2010). Dual language books (e.g. Urdu/English) were seen as effective in helping parents and children to value literacy in English and in other languages. The ORIM intervention emphasises that books are not the only avenue for exposing children to text: environmental print (text encountered in everyday situations such as on shopping bags, road signs, adverts and posters, etc) provides an important and meaningful exposure to text. Language development activities that use environmental print have the advantage of accessibility and being rooted in daily experiences.
- 4.20 Exposing children to literacy activities (such as giving them books and reading to them), is of fundamental importance and, as many of the interventions show, can be enriched in ways that further enhance children’s language development outcomes. These interactions can be broadly broken down into conversational styles (general interactions that can occur in or outside of the context of

reading books) and dialogic book reading (interactions that occur during book-reading). The following two subsections describe these skills in more detail.

### **Conversational styles**

- 4.21 Evidence supporting the effectiveness of conversational styles to promote early language development is found in 6 interventions reviewed as part of this study: Opportunities for Language (Wasik et al., 2006), Dialogic Book Reading (Tsybina et al., 2010), Talking Time (Dockrell et al., 2006; Dockrell et al., 2010), SHELLS (Boyce et al., 2009), ORIM (Hirst et al., 2010) and Joint Reading (Aram et al., 2004). These skills are taught to parents and teachers, who can use them both within and outside of the context of book-reading.
- 4.22 The main feature of an enhanced conversational style is that it involves **modelling rich language** to children. This has been shown to maximise children's exposure to a wide range of vocabulary as well as conventional lexical and syntactical forms, which contributes to the development of their language skills. For example, instead of simply saying '*good job*', a teacher or a parent who models rich language would comment on a child's activity by saying '*I like the way you use the colour blue to draw the sky*' (p. 67, Wasik et al., 2006). There are at least three components to modelling rich language:
- **Provide information:** informational talk, an elaborated, rich description of common classroom activities or events. An example of informational talk is the following: "You are putting the big rectangular block on the small square block."
  - **Expanding children's utterances:** another strategy was expanding on children's language. For example, if a child said, "I made a house," the teacher would respond with "Yes, you built a house with the 10 blocks," repeating or expanding what the child said using a more detailed explanation and additional vocabulary.

- **Recasting children's utterances** (see Wasik et al., 2006): replacing one or more unconventional component in a child's utterance with the conventional form while maintaining the meaning. For example, if a child says 'I want read', the teacher might answer 'Oh, you want to read?'

4.23 Another feature of a conversation style that promotes language development in young children is **active listening** (Opportunities for Language, Dialogic Book Reading). When adults listen actively, they encourage children to use language more often and in a more sophisticated way. In essence, active listening is a combination of modelling rich language (see above) and asking open-ended questions (see the next section). The adult first acknowledges what has been said and then either comments on it using rich language and/or asks questions to encourage the child to recognise and talk about the subject matter further. For example, to a child who says 'I see a dog', an adult can say 'Yes, you see a big, black dog. What is the dog doing?' (Wasik et al., 2006). The use of active listening has been shown to be effective at promoting the language development of children as young as 28 months old.

4.24 Together, modelling rich language and active listening expose children to topically-relevant vocabulary and grammatical structures, and offer children more opportunities to use their emergent language skills. These practices have been used in successful interventions that were shown to enhance language development outcomes in young children, including both receptive and expressive vocabularies, and language comprehension.

### **Dialogic Book Reading**

4.25 Dialogic book reading is joint reading that involves much more than the simple reproduction of text by an adult in the presence of a child. Instead, book reading is the basis of a dialogue between the adult and the child, where the adult engages the child by asking questions and providing pertinent information, and the child uses language to explore the story in the book.

- 4.26 Evidence of the effectiveness of dialogic book reading comes from five of the 11 interventions examined here: Dialogic Book Reading (Tsybina et al., 2010), Opportunities for Language (Wasik et al., 2006), SHELLS (Boyce et al., 2010), Joint Reading (Aram et al., 2004), and Talking Time (Dockrell et al., 2006; Dockrell et al., 2010). Books used for dialogic reading need to be appropriate for the stage of the child's development; for example, for younger children the books need to have relatively little text, clear illustrations and an engaging story (e.g. Tsybina et al., 2006).
- 4.27 The most important parental skill when it comes to dialogic book reading is the ability to **ask open-ended questions** in order to encourage the child to talk about what is happening in the book, thereby providing further opportunities for expression. This links to another important feature of dialogic book reading, which involves adults (parents or teachers) actively attempting to **build the child's vocabulary**.
- 4.28 This is a two-stage process. First, before the reading begins, the adult **introduces target vocabulary** by showing the child an object and providing information about it. Second, the adult helps the child to **make connections** between the target vocabulary and the rest of the child's knowledge by asking questions about the object and by extending the use of the words to other activities.

***Example: introducing target vocabulary***

*In the book reading module, teachers were instructed to introduce the target vocabulary before reading the book. Teachers were trained to show the children an object that represented the vocabulary word and ask, "What is this?" or "What do you call this?" The teacher then said, "What can I do with the . . .?" or "Tell me what you know about this." Teachers also were trained to ask questions during book reading that promoted discussions, such as "Tell me more about what is happening on this page" and "What do you think will happen next?" Teachers were provided with examples of the open-ended questions. After reading the story, teachers were instructed to ask children reflection questions such as, "What part of the book did you like the best?" and "Tell me why you think the character did what she did." As the teachers implemented the intervention, they developed their own questions that encouraged children to talk about the book. (p. 67, Wasik et al., 2006)*

- 4.29 The purpose of dialogic book reading is to maximise opportunities for children to use language in general and the target vocabulary in particular. This activity offers openings, for instance, for children to **retell the story** and to use language to explore the causal structure of the events in the story, i.e. **predict events and infer causes**. Such active engagement in reading was shown to promote children's oral language development as well as expand their receptive and expressive vocabularies.

### **Production of narrative text**

- 4.30 Encouraging children to use language to recreate and think about published stories is only one way to use narratives to help children develop their language skills. Production of narrative text can also be effective. Evidence for the effectiveness of this method comes from three interventions, Talking Time (Dockrell et al., 2006), SHELLS (Boyce et al., 2008), and Early Authors Program (Bernhard et al., 2008). Each of these interventions was targeted at children over the age of three.
- 4.31 In Talking Time, teachers used photographs of common activities in the child's environment to support language development. SHELLS activities engaged participating families in a process of 'co-constructing narratives about everyday events' to support extended parent-child interaction. This involved using digital cameras and printers to produce books that families could keep and continue to use. Within this approach, home visitors (trained SHELLS practitioners) provided information about the importance of language and helped parents use specific strategies to encourage and extend children's language use during the narratives and bookmaking.
- 4.32 Another intervention, the Early Authors Program, also focused on supporting children and families to author and create books, promoting language development and creativity. Participants were encouraged to author books, presenting themselves as characters. Bookmaking and the creation of original narrative is considered a

particularly effective approach among bilingual and multilingual families because the process is personalised and can be used to meet the specific needs of families in supporting language development.

- 4.33 Two interventions also promoted the dramatisation of stories as a method of enhancing language (Talking Time and Joint Reading). In Talking Time children acted out scenarios under various themes using target vocabulary that had been presented to them in advance. For the Joint Reading intervention, children read a story, discussed it, played games around the key concepts and vocabulary in the story, and finally dramatised it. They were encouraged to tell the story while playing it, and to play different roles.
- 4.34 Empowering children to create or dramatised their own stories, about issues that are important to them, with themselves or significant others as protagonists, provides children with meaningful literacy activities that have been shown to be powerful ways of promoting early language development, especially in diverse population of '*urban young children in poverty*' (p. 100, Bernhard et al., 2008).

#### **Other activities and exercises**

- 4.35 Another method used in the World of Words intervention (Neuman et al., 2010) involved teaching preschool children words through categorisation. It aimed to introduce new words and promote conceptual development through **taxonomic categorisation**, whereby new vocabulary is introduced in clusters linked to specific themes or topics. The intervention also used multi-media to enhance the development of vocabulary and demonstrate the use of new words in multiple contexts. This method was shown to be effective in enhancing children's vocabulary, conceptual knowledge, as well as knowledge of relevant categories and their properties. It has also been shown to enhance their ability to make inferences and generalisations based on their understanding of categories.
- 4.36 Finally, in the Joint Reading intervention (Aram et al., 2004), children were taught early literacy skills through games and

activities that were designed to promote phonological awareness and alphabet knowledge.

- 4.37 This instruction was shown to be effective even for the relatively young children in the sample (three-four year olds vs. four-five year olds). On measures of phonological awareness and alphabet knowledge, young children at post-test scored better than older children at pre-test.

***Example: games and activities to promote phonological awareness***

*Each session contained diverse activities targeting the various competencies. Children were first taught to recognize their written name and the written names of their friends. Gradually, they were taught word segmentation, letter-name and letter-sound correspondence, and merging skills using mostly the children's names and the names of their friends as words for practice. Children practiced letter-name and letter-sound correspondence by matching the first letter of a name to a photograph of the child and then naming the letter, by merging magnetized letters to create the names of the children in the group, by searching for words that represent objects in a box that begin with the same sound as their names, and so on. (p. 595, Aram et al., 2004)*

- 4.38 In conclusion, a wide range of methods can be used successfully to promote language development in young children. However, even though all of the methods described in this section were shown to be effective, the following three enjoy a particularly strong evidence base: modelling rich language, asking open-ended questions, and helping children to produce books or texts about themselves and their families.

## **5 Early language assessments for bilingual/multilingual children**

- 5.1 This section of the report presents findings in relation to the main findings of the review. This review was also tasked with considering the impact of successful interventions in bilingual countries and, as part of this, to look at early language assessments tailored for bilingual/multilingual children.
- 5.2 It is important at the outset to note some of the limitations associated with this element of the review. The search strategy developed for the REA focused principally on identifying evidence of successful interventions in relation to supporting language development. This is therefore not a review of early language assessments; rather, the evidence in this section provides examples of assessment tools used in successful early language development interventions that support bilingual children and families. This distinction should be borne in mind when considering the findings presented.
- 5.3 In this section, we first discuss the nature of the interventions that were tailored for bilingual children, before describing the standardised and non-standardised assessment tools used to measure bilingual language outcomes in these interventions. Finally, we offer additional thoughts on the role of bilingual provision in the Welsh context.

### **Interventions in bilingual settings within the review**

- 5.4 Of the 11 interventions reviewed in this study, five were tailored at least to some extent to bilingual children.
- 5.5 The Early Authors Program (Bernhard et al., 2008): this intervention was undertaken in the US and aimed to promote children's language development by supporting them and their families through a process of making books about themselves. Out of 367 children in the study, 48% were Hispanic, a large proportion of whom spoke Spanish as their first language.



- 5.6 The programme sought to allow children to communicate their personal stories and family photographs, creating '*meaningful, self-authored texts*' (p. 99, Bernhard et al., 2008). This approach drew on previous research that has shown that language and literacy interventions that involve increasing children's participation in meaningful literacy activities, and that do not overemphasise direct teaching of literacy skills, are effective in increasing the language skills of diverse, urban young children in poverty. Importantly, children were given the choice of creating books in their preferred language (either English or Spanish), with support from bilingual specialist literacy teachers.
- 5.7 Early Head Start (Love et al., 2013): this intervention was undertaken in the US and is designed for children between the ages of nought and three. Delivery practices differ substantially between areas, and the 3001 children (24% Hispanic) who took part in the intervention described by Love et al. (2013) were exposed to different language-development activities. Children were assessed either in English or Spanish; however, significant improvements in language outcomes were observed only for measures in English. Love et al. (2013) do not provide information about the contents of the intervention or the reasons for the differential performance in the two languages.
- 5.8 ORIM (Hirst et al., 2010): this intervention was undertaken in the UK and was based on the ORIM framework that seeks to promote children's language development by recognising that carers and parents need to provide children with literacy opportunities, recognition of literacy achievements, quality interactions around literacy and by acting as models themselves. The framework further concentrates on four types of activities for children as shown in section 4.15 (Figure 2): environmental print, books, early writing and oral language. The participants in this study were Pakistani-origin three year old children; the primary language of these children was either Mirpuri Punjabi or Urdu.

- 5.9 SHELLS (Boyce et al., 2010): this intervention was undertaken in the US with Hispanic families from the Migrant Head Start programme and aimed to improve children's literacy skills by encouraging language-friendly parental behaviours. The main activity during the home visits was bookmaking by parents and children and story-telling based around the life of the family. The books are developed in the language of parents' choice (English or Spanish). The 75 children who participated in the intervention were all Spanish speaking.

### **Measures and assessment tools used**

- 5.10 Most of the interventions used standardised measures that were available in several languages in order to assess children in their preferred language. These measures were:
- i. Preschool Language Scale 4 (PSL-4, Zimmerman et al., 2002), which measures children's receptive and expressive language and is suitable for ages 0 to 6 years and 5 months. Bernhard et al. (2008, Early Authors Programme) used the English and Spanish editions of the test. Administration time 20-45 minutes.
  - ii. Peabody Picture Vocabulary Test III (PPVT III), which measures receptive vocabulary. Children are presented with four pictures and asked to identify which picture corresponds to a spoken word. The test is suitable for children between the ages of two and six. Love et al. (2013, Early Head Start) used the American English and Spanish editions of the test. Aram et al. (2004) used a Hebrew translation of the test. Administration time: 10-15 minutes.
  - iii. Learning Accomplishment Profile – Diagnostic Edition (LAP-D), which measures four different domain of children's development including language development (naming and comprehension). The test provides a systematic method of observing children and can be administered only by trained professionals. It is suitable for children between 30 and 72 months old. Bernhard et al. (2008, Early Authors Programme)

use the English and Spanish versions of the test.

Administration time for the entire measure: 1–1.5 hours.

- iv. MacArthur Communicative Development Inventories, which assess language and communication skills through parent reports. The text is suitable for children between eight and 30 months of age. Love et al. (2013, Early Head Start) used the English and Spanish versions of the inventory.

5.11 Non-standardised measures used to assess children's language development were as follows:

- i. Sheffield Early Literacy Development Profile was used by Hirst et al. (2010, ORIM). The tool assessed competencies targeted by the ORIM intervention: knowledge of environmental print, books, writing and letter recognition. The test includes activities such as identifying print on household packaging (environmental print) and telling a story from pictures in a book. The measure is suitable for children between the ages of three and five years. Children were assessed in their preferred language (Mirpuri Punjabi, Urdu or English).
- ii. Number of target words in English and Spanish were assessed by Tsybina et al. (2010, Dialogic Book Reading) in two ways. First, during free play, children were prompted up to three times to name a particular object; second, children were shown a picture book and asked (up to three times) to name relevant pictures.
- iii. Total Number of Words (TNW) and Total Number of Different Words (TND) were assessed by Boyce et al. (2010, SHELLS). For these measures, children were videotaped for two minutes talking to their parents in their preferred language (English or Spanish) about a recent event of their choosing. The videotapes were later analysed and children's total number of word and total number of different words measured.

- 5.12 The use of standardised measures, generally, contributes greater robustness to the process of measuring language development, thus potentially ensures greater consistency in the application of tools by practitioners in different settings, including in different linguistic contexts.

### **Overview of key learning points from the interventions reviewed**

- 5.13 A number of the interventions examined during this study recognise the need to take account of families' language needs in the design and assessment of early language development programmes. This includes ensuring that the content (activities and sessions) and materials (e.g. texts) are available bilingually where required.
- 5.14 In practitioner-led interventions it is important that professionals leading delivery have appropriate language skills in both languages. This is key where interventions involve modelling rich language and developing expressive vocabulary.
- 5.15 Providing the choice of assessment tools in the child or family's preferred language is also an important feature of successful interventions, enabling a more accurate assessment of the progress made by the child and the impact of a particular intervention.
- 5.16 These practical steps serve to promote languages on an equal footing, thereby valuing literacy and language development not only in the dominant language but also in the home or minority language.

### **Additional considerations in the context of English-Welsh bilingual settings**

- 5.17 In considering the evidence for interventions in bilingual settings, there are clear questions concerning relevance to the Welsh context. The bilingual interventions reviewed target minority language families (e.g. Spanish, Urdu) in the process of acquiring English. Many of the activities described aim to support children's transition to English rather than the long-term maintenance of the home language.

- 5.18 While the methods and assessment tools used in these interventions provide some interesting learning points (see 5.13-5.16), it is clear that these interventions cannot be mapped against the specific linguistic context in Wales. There are specific questions associated with supporting language development in Welsh-medium or bilingual nursery and childcare settings. One factor is that provision often involves mixed groups, i.e. including children where Welsh is used in the home or is their first language (referred to as L1) being supported alongside second-language learners (referred to as L2). This requires specific strategies and skills on the part of practitioners.
- 5.19 Based on the outcomes of the literature search, this was identified as an area requiring further exploration. It is unsurprising that a generic search strategy focused on identifying successful interventions in language development (as noted in 5.2, above) did not shine a light on the specific issues relating to minority language development and language learning. Consequently, a further search of existing literature was carried out. This identified a study of language use in Welsh-medium preschool settings, Hickey et al. (2014), which draws attention to the tensions that arise in accommodating the needs of both L1 speakers and L2 learners i.e. accommodating groups from mixed language backgrounds in a single setting. There is an understandable desire on the part of leaders of *cylchoedd meithrin* (Welsh-medium nurseries) to use English translation in the very early stages, for instance, ‘when children are upset and want their mums’. There is, however, a danger that, when Welsh L1 children are in the minority, the input may not be of sufficient quality to compensate for the adjustments made for the L2 learners, thereby potentially failing to provide L1 learners an appropriate level of support in their home language. Suggestions for addressing this issue include the provision of training and ongoing support for *cylchoedd* leaders in differentiated approaches to dealing with L1 and L2 children in the same *cylch*.

For example some practitioners group L1 children for language enrichment activities.

- 5.20 Some of the suggestions made in Hickey et al. (2014) are consistent with practice observed in some Flying Start areas during the Review of Practice, where childcare workers in bilingual settings are sensitive to the differential language development needs of children from different family backgrounds.
- 5.21 To conclude, many of the methods found to be effective across all interventions (as described in Chapter 4) were also effective in bilingual settings. In particular, those approaches that focus on individualised or personalised tasks (e.g. bookmaking) were found to support positive outcomes in language development among bilingual children. A further finding was the need for approaches to be sensitive to cultural context and to respect parents' own use of language in the methods used.
- 5.22 Finally, the recent research by Hickey et al. (2014) recognises the need for particular strategies in the context of Welsh medium and Welsh/English bilingual provision to support language development. This requires an understanding among programme managers and practitioners of the need for differentiated approaches within mixed language groups, particularly during the early stages of immersion in Welsh language nursery settings. This begins with an initial assessment of a child's understanding of Welsh and use of Welsh in the home, and can lead to practitioners tailoring approaches accordingly, including using Welsh and English side by side at the outset for L2 learners (e.g. during the first term at *cylch meithrin* switching between the languages depending on the child's proficiency). This can form part of planned progression in Welsh for all children according to their linguistic ability and background.

## 6 Parental engagement in, and understanding of, early language development initiatives

### The National Evaluation of Flying Start and parental engagement in ELD

- 6.1 In examining evidence of successful interventions, this review has considered to what extent these interventions provide examples of strategies to increase parental understanding of, and engagement in, early language development initiatives. It was intended that this element of the study would build on the findings of the National Evaluation of Flying Start (Welsh Government, 2013c), which reported that the ELD entitlement was
- much less appreciated by parents than other elements of the programme...because parents failed to understand the 'point' of Language and Play, often not understanding how it would help.*  
(p. 49, Welsh Government, 2013c)
- 6.2 By way of context it is also important to note the distinction between general Language and Play (LAP) activity and ELD provision supported through Flying Start. Generic LAP provision in Wales, funded through the separate LAP grant, is varied but typically includes both structured programmes and one-to-one provision. This is distinct from (however, often linked to) the more targeted ELD provision in Flying Start areas. (This is explored in greater detail in the Review of Practice). The evaluation (Welsh Government, 2013c) found that integrating LAP activities within childcare or as part of parenting programmes could help boost parental engagement.
- 6.3 The National Evaluation of Flying Start Impact Report (Welsh Government, 2013b) found that Flying Start has had a significant impact on levels of awareness of LAP, referrals into LAP and take-up of provision<sup>8</sup>.

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<sup>8</sup> The analysis estimates that 29.4 per cent more respondents in the Flying Start group are aware of LAP than in the matched comparison group. Referrals are also higher with an estimated 24.2 per cent more respondents in the Flying Start group reporting being referred to LAP and 13.2 per cent more reporting they have attended LAP (Table 5).

- 6.4 Echoing this, the National Evaluation Area Case Study Synthesis Report found that the increase in engagement in Flying Start LAP activity was *'less marked than that for each of the other Entitlements'* (p. 26, Welsh Government, 2013a).
- 6.5 In this section, we first discuss the capabilities and limitations of the current evidence base to provide insights about parental engagement in early language development initiatives. We then describe how parental understanding of the programmes and involvement in them was supported in the interventions that sought parental input. We conclude the section with a summary of learning points that can be drawn from the reviewed evidence.

### **The REA evidence base**

- 6.6 As noted in previous sections of this report, the search strategy devised for the REA focused primarily on identifying examples of interventions that have been seen to have positively impacted children's language development. A consideration of parental engagement and understanding of these initiatives should therefore be seen as an important supplementary part of the review, as opposed to a primary factor in identifying the texts. This can be seen in the search terms and syntaxes used (see the example in Table 2, p. 11).
- 6.7 In addition, there is an important difference between parental *engagement* in language development initiatives and parents' *understanding* of those initiatives (although the two are inextricably linked). A challenge for Flying Start teams (as noted in the National Evaluation and as observed during the parallel Review of Practice study) is to boost engagement in ELD and language and play activity. The findings of this REA suggest that one way of achieving this could be through measures to ensure that parents recognise the importance of language development in the context of their child's wider social development.



- 6.8 The interventions reviewed provide very limited information on methods of increasing the take-up of language development activities by parents. This is principally because the interventions described recruited participants through existing programmes (e.g. Head Start) or through institutions (e.g. childcare facilities). Equally, the assessment of the degree to which parents used the skills acquired during the interventions outside or afterwards lay outside of the scope of the evaluations reviewed during the REA.
- 6.9 However, the evidence base does provide information with regard to promoting parental understanding of language-development programmes. Three of the interventions were designed with parents as the target population (PCMGP, Terret et al., 2012; Getting Ready, Sheridan et al., 2011; SHELLS, Boyce et al., 2010), while one other was partly delivered by parents (Dialogic Book Reading, Tsybina et al., 2010). Three other interventions either did not involve parents at all or did not provide any information on the matter (Wasik et al., 2006; Talking Time, Dockrell et al., 2006, Dockrell et al., 2010; World of Words, Neuman et al., 2011). The way in which parental understanding of the importance of language development was supported is described below for each of the relevant interventions in turn, starting with interventions where parental involvement was relatively limited. This is followed by a description of learning points.
- 6.10 In the Joint Reading intervention, Aram et al. (2004) involved parents through targeted information sessions that took place as part of the programme. These sessions consisted of parents receiving a presentation from programme staff, which explained the advantages of storybook reading in supporting language and literacy development and described ways to help children become more active in joint storybook reading. However, only two such sessions were planned and delivered during the course of the intervention (about seven months). The Joint Reading intervention took place in a classroom setting and was delivered directly to children; it was shown to have positive effects on children's letter knowledge,

phonological and orthographic awareness<sup>9</sup>, and receptive language. As the outcomes measured were tailored to the curriculum taught in the classroom, the impact of parental engagement in this intervention is difficult to discern.

- 6.11 In the Early Authors Programme, Bernhard et al. (2008) involved parents through meetings; a total of four during the nine months of the intervention. During these two-hour meetings, parents and other family members engaged in activities similar to the ones used in the intervention with their children by writing simple stories about their lives (e.g. 'I am' books and stories about their children's names). The resulting books were placed in the classrooms or taken home to 'enhance families' ties with the written word' (p. 84, Bernhard et al., 2008). The intervention itself, delivered in a classroom setting directly to children, was shown to enhance children's expressive and receptive language. However, as above, it is difficult to estimate to what degree the strategies to familiarise families with the content of the intervention contributed to children language outcomes.
- 6.12 In Dialogic Book Reading (Tsybina et al., 2010), mothers received training in the method in order to deliver half of the bilingual dialogic book-reading intervention. Supporting mothers was the focus of this study and ensuring their understanding of the intervention was built into the programme's design. The training sessions were carefully structured and not very demanding in terms of the time commitment required.

***Example: parental training and involvement in ELD intervention***

*Mothers' training sessions were on average 30 min long, and consisted of a prescribed sequence of procedures. First, the primary investigator demonstrated dialogic book-reading strategies with the child in English. The strategies modelled by the primary investigator were discussed with the mother. The mother was then given an opportunity to read in Spanish with the child using these same strategies, and feedback was provided by the primary investigator. The mothers also received weekly additional training. Each mother was observed every week by the primary investigator while reading with her child. The primary*

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<sup>9</sup> Orthographic awareness is the awareness of the patterns and sequences of letters in words.

*investigator recorded the strategies the mother was using and provided verbal feedback. Furthermore, mothers were present during most intervention sessions conducted by the primary investigator, and they were able to observe and discuss their child's interaction and the reading strategies used in those sessions. (p. 546, Tsybina et al., 2010)*

Both for the English element of the intervention (delivered by the primary investigator) and the Spanish element (delivered by the mothers), children in the experimental condition made significantly greater gains in the target vocabulary than children in the control condition. However, Spanish word acquisition was smaller than English word acquisition, and the children who made biggest gains in Spanish were those who '*received the most consistent Spanish input outside the intervention sessions*' (p. 550, Tsybina et al., 2010).

- 6.13 The ORIM intervention described in Hirst et al. (2010) was delivered at home and encouraged parents and older siblings to participate in language development activities of the intervention. During each session, practitioners reviewed the literacy activities of the family since the last session and gave ideas for follow-up activities for after the session was over. The evaluation found an overwhelmingly positive reaction from families with positive effects noted in terms of target children's communication skills, literacy and parent-child interaction. The intervention successfully promoted the development of children's language (as measured by the Sheffield Early Literacy Development Profile) and, equally importantly, resulted in a greater understanding among mothers of their role in their children's education and literacy development.
- 6.14 In the SHELLS intervention (Boyce et al., 2010), part of the programme was directed at the parents and at the way they interact with their child. During the home visits of the intervention, children and their parents were supported through making books about their life as a family. The language used was adapted, such that the linguistic style and vocabulary were appropriate for the child. The authors found that not only did the children make gains in their

expressive vocabularies, but that maternal language-supporting behaviours also increased significantly.

- 6.15 In the PCMGP intervention (Terrett et al., 2012), parents were the primary target of the programme, and as such, they actively participated in each of the 20 two-hour, centre-based sessions led by trained PCMGP facilitators.

***Example: structure of parental training, PCMGP intervention***

*These sessions typically begin with interaction time between facilitators, parents and their children. The facilitators then engage the parents in singing a series of songs and rhymes that naturally lead the parents to touch, bounce and hold their children. Following a short break, facilitators teach parents a story that they are encouraged to re-tell to their children later. Teaching is directed at the parent while the child is free to participate, move around the room, or engage in other age-appropriate activities [...]. In addition, facilitators model positive parenting behaviours such as using distraction techniques and praise when responding to children's behaviour, as well as encouraging parents to be sensitive to their child's responses, thereby promoting positive interactions between parents and children. (p. 17, Terrett et al., 2012)*

- 6.16 Terrett et al. (2012) report that children in the intervention made marginally larger gains in receptive language and significantly larger gains in expressive language than their counterparts in the control group. Since the intervention was focused on the parents, it is reasonable to conclude that the differences observed between intervention children and those in the control group can be attributed to the change in parental language-related support. The researchers also found that the intervention was successful in reducing parental perceptions of child 'demandingness', which can be a significant contributor to parental stress.
- 6.17 In the Getting Ready intervention (Sheridan et al., 2011), parents were the main focus and as such, were actively involved in discussing their children's progress and in setting the agenda for the development of their language. Parental understanding of language

development was supported in this intervention by specialists modelling effective strategies, providing developmental information and helping parents understand any additional support that their child needs.

***Example: approach to supporting parents' ability to deliver interventions, Getting Ready***

*As part of their process of interacting with parents, teachers took opportunities to affirm the parents' competence in supporting or advancing children's abilities, ask parents for their reflections and ideas related to children's recent learning needs and interests, and provide feedback and in vivo suggestions as appropriate to draw the parents' attention to their own actions and resultant child behaviours or skills. (p. 369, Sheridan et al., 2011)*

The intervention had large and significant effects on the teacher ratings of children's oral language and literacy for each of the following components: language use, reading and writing. However, these effects were most pronounced for the older children in the sample (four-five years of age).

- 6.18 The findings outlined above are of relevance to current practice in delivering the Flying Start ELD entitlement. A range of speech and language programmes are used by local authorities as part of structured parenting activities. Two programmes cited in the National Evaluation and mentioned frequently in the parallel Review of Practice (Welsh Government, 2014) are Elklan and Hanen. Elklan is a speech and language programme that includes training for practitioners and parents of children under five years old. The Hanen Early Language Programme is a language development programme used in more than 50 countries around the world (including the US, New Zealand, Canada, Slovenia, Turkey, Venezuela, and Kuwait). In a number of areas, Flying Start teams have integrated it as part of broader parenting support. These programmes place an emphasis on involving parents in delivering language development activities.

- 6.19 The evidence presented above suggests that the successful engagement of parents is considered to be of great importance where children's language development is concerned: 8 out of 11 interventions<sup>10</sup> attempted to engage parents in some way. Parental engagement is not a necessary part of successful interventions (four of classroom-based interventions reviewed here did not engage parents at all); however, practitioners recognise that a home environment that supports effective language development is important in order to ensure that the effects of interventions among children are sustained over the longer term. For this reason, even interventions delivered in the classroom directly to children often seek to engage children's families and give them some knowledge of the content and the importance of the interventions (e.g. Aram et al. 2004, Bernhard et al., 2008).
- 6.20 In the interventions where investigators sought to involve parents more fully and to influence child language outcomes through parental understanding and support of language development, particular importance was placed on discussing child progress, setting the agenda for their development and equipping parents with specific strategies they could use to help their children's nascent language skills develop. This was shown to promote both the motivation and the skill of the families to promote language in the home.

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<sup>10</sup> Only seven of these are described in this section, because for the 7<sup>th</sup> (Early Head Start, Love et al., 2013), the authors did not provide enough information about the nature of parental engagement in the manuscript.

## 7 Features of practitioner training associated with the interventions reviewed

- 7.1 As has been noted in earlier sections of this report, a number of the interventions reviewed involved training practitioners and preschool teachers. This entailed a range of training to enable them to employ specific methods or strategies featured in the interventions or more generic training to improve their knowledge and skills to be able to support language development activities.
- 7.2 This section sets out some of the features of practitioner training that were considered to have been effective or that contributed to the success of the interventions in question.

### Examples of effective training and upskilling

- 7.3 Wasik et al. (2006) describes how preschool teachers were trained in specific book reading and conversation strategies. In this intervention the training has been shown to be associated with positive outcomes for child language. Training in the following methods was seen as being particularly effective in supporting the intervention:
- Descriptive questioning;
  - Reflective and predictive questioning;
  - Recalling and reinforcing questioning;
  - Providing feedback to parents in relation to the methods they use to support language development.
- 7.4 Teachers in the World of Words intervention (Neuman et al., 2011) received two full days of professional development training. They attended a four-hour refresher workshop and received ongoing supervision by site directors once a month during the academic year. An important focus of the training was ensuring consistency of programme implementation: '*[T]raining teachers to enact the [intervention] with fidelity was associated with larger effect sizes*' (p. 251).

- 7.5 Other characteristics or common methods used in training practitioners include:
- Initial (sometimes intensive) training to staff involved in programme delivery followed up by regular refresher sessions or supervised activity, with feedback provided to staff (Boyce et al., 2010);
  - A focus on developing skills among practitioners that enable them to support language development in the home, building on existing practices (i.e., understanding family context and routines and embedding new approaches within those routines; see Sheridan et al., 2011);
  - Training childcare staff to understand the benefits to children's language development of modelling rich language and asking open-ended questions (Dockrell et al., 2006).

7.6 It is worth considering the above in the context of the Review of Practice, a project that has been undertaken in parallel with this Review of Evidence. The Review of Practice has identified three main areas of staff up-skilling that are of particular importance to Flying Start's early language development entitlement. These are:

- The need for all client-facing staff to have (at least) some training in ELD norms in order to be able to identify slow or delayed development (perhaps through the use of screening and checklists) and refer children with additional needs to the relevant specialists, if necessary. It is suggested that this should apply to health visitors, parenting and family support workers, advisory teachers and other staff working in childcare settings.
- The need for all client-facing staff to have (at least) some training in adult-child interaction in order to be able to model good practice to parents and carers. It is suggested that this should apply to health visitors, family support workers and staff working in childcare settings.
- The need for staff who spend a greater amount of time working with children (e.g. childcare workers, advisory teachers) to receive further training in effective adult-child interaction in order



to be able to model and provide advice on good practice to parents and carers. Evidence from the review of practice suggests that models where practitioners received around ten sessions of training overseen by speech and language therapists appear to be well received. While all staff should be given access to some training, particular groups (e.g. childcare workers, advisory teachers) should be provided with more extensive training that is appropriate to the amount of time spent interacting with children.

7.7 In conclusion, the literature reviewed indicates a number of features of practitioners' training that are most valued and have been seen to support the effectiveness of interventions. These can be summarised as follows:

- ensuring that all professionals working with children understand the importance of early language development;
- making sure they have the necessary knowledge and skills to speak with children in a way that promotes language development (e.g., modelling rich language, asking open-ended questions);
- with regard to practitioners responsible for delivering a particular programme, making sure they have appropriate information and support in order to deliver the programme with high fidelity; and
- ensuring practitioners can deal effectively with a diverse range of families in their homes (e.g., by showing respect for the family context).

7.8 These findings should be taken into account when responding to the recommendations outlined in the Review of Practice in relation to the future training needs of practitioners.

## 8 Conclusions

- 8.1 In this section we attempt to synthesise the main findings of the literature reviewed, identifying the foremost features of the interventions described in the literature reviewed during this REA. Drawing on the views of the authors and reflecting the impressions of the research team, we have summarised the intervention methods and approaches that were shown to have made a positive difference to the children and families supported. We also consider how these findings relate to the wider body of research regarding language development.

### The evidence base reviewed

- 8.2 The evaluations reviewed cover a wide range of interventions. Although all of the interventions described have been evaluated as being successful, the evaluations vary in rigour and reliability (as described in 4.2 and 4.3). In spite of these variations, it has been possible to extract methods and approaches used as part of successful interventions. This is what we have sought to do through this REA, drawing on the commonalities and outcomes from a range of programmes in different settings.
- 8.3 It is notable in this respect that the evaluations included in the REA were, without exception, quantitative studies. One likely explanation for this bias is that the research questions addressed using this design tend to focus on *whether or not* an intervention is effective – thus matching more closely the specification – rather than addressing *how* and *why* it is successful, as is more often the case in interpretative, qualitative studies. It is important to note that, based on the knowledge and experience of the National Centre for Language and Literacy, the evidence of effective approaches set out in this report is consistent with the wider literature on language development, including literature based on qualitative research designs.

- 8.4 Many of the findings outlined in previous sections of this report underline the importance of effective joint-working between practitioners and parents in the delivery of interventions. The main features of successful interventions are set out below.

### **Features of successful interventions**

- 8.5 There is consensus concerning the importance of active engagement of parents in language development and learning, a recurrent issue raised by practitioners in the review of the implementation of Flying Start. The REA leaves no doubt as to the fundamental importance for practitioners to **share and discuss observations about their child with parents**, and to **provide and discuss developmental information**.
- 8.6 The need for **appropriate training for professionals delivering interventions** is an important and recurrent theme in the literature describing successful interventions. Among other things, training must focus on ensuring that professionals understand the importance of early language development; that they are well-versed in the methods used in the intervention; and that they are comfortable applying and adapting those strategies when working with children (and, when appropriate, their parents).
- 8.7 *Oral language:* There is also consensus that adults – parents and practitioners – can support the development of oral language by using **conversational styles which model rich language**. This can take the form, for instance, of **providing commentary** or information on children’s activities, and **expanding and recasting** their utterances. **Active listening** is another useful strategy, in which the adult comments on what a child says and asks open-ended question to encourage interaction.
- 8.8 *Written language:* There is a similar consensus that **exposure to text** is an important predictor of future literacy. At its simplest, this can take the form of reading, telling and retelling stories, rhymes and songs. **Dialogic book reading** is another powerful activity involving dialogue between the adult and the child. By asking open-

ended questions, introducing vocabulary and making connections between the story and children's own experience, the adult is encouraging them to be active participants, using language to predict and infer and consolidating new vocabulary in the process.

- 8.9 Dialogic reading is a strategy targeted at both adults and children. Other text-focussed strategies requiring the *active* involvement of children include **bookmaking, dramatisation and role play** based on story, and games that promote **phonological awareness** and **alphabet knowledge**.
- 8.10 Other recurring strategies presented in the interventions reviewed – and strategies that are often promoted in tandem – are those that place an emphasis on **home-based provision** and programmes that **encourage parents to deliver or co-deliver aspects** of programme activity.
- 8.11 Future guidance relating to the ELD entitlement of Flying Start can be informed by the findings in this report. They link to a number of the conclusions and recommendations set out in the Review of Practice, notably those relating to training and specific methods used to support language and literacy development. There is recognition in the literature reviewed of the importance of tailored interventions that address the specific needs of families and children, an issue identified as part of the Review of Practice.
- 8.12 Whilst checklists should be used with caution, they can nonetheless be used as the starting point for discussion in reviewing current practice and planning future development and training. Figure 1 (p. 26) could usefully serve as a model for a checklist of this kind to support future Flying Start ELD activity.

## Annex 1: List of search syntaxes

Database	Syntax
ERIC (ProQuest)	SU.EXPLODE("nursery schools" OR "young children" OR "preschool education" OR "child") AND SU.EXPLODE("verbal development" OR "child language" OR "language proficiency" OR "language skills" OR "language usage") AND (SU.EXPLODE("early intervention" OR "validated programs" OR "course evaluation" OR "program evaluation") OR ti("program*" OR "interven*" OR "evaluat*")) AND PD(20080101-20131231) NOT SU.EXPLODE("disabilities" OR "writing skills") Limit: peer reviewed
AEI	su.explode("language acquisition" OR "verbal development" OR "child language" OR "language fluency" OR "language skills") AND su.explode("program validation" OR "program evaluation" OR "course evaluation" OR "early intervention" OR "early childhood education") AND su.explode("young children") and PD(20080101-20131231) NOT su.explode("disabilities" OR "individualised family service plans" or "kindergarten children")
BEI (ProQuest)	su.explode("language acquisition" or "language skills" or "language fluency") and su.explode("intervention" or "course evaluation" or "programme evaluation") and su.explode("preschool children" or "infants") and PD(20080101-20131231) not su("disabilities" or "crisis intervention")
LLBA	SU.EXPLODE("language acquisition" or "fluency" or "literacy programs") and su.explode("preschool children" or "preschool education" or "kindergarten") and ti("program*" or "interven*" or "evaluat*" or "course" or "initiative") and pd(20080101-20131231) not su.explode(disorders) Limit: peer reviewed
PsycINFO (from 1806)	((language development or speech development or language proficiency or literacy programs) and (intervention or education program evaluation or course evaluation or early intervention or literacy programs) and (childhood development or preschool students or early intervention or early childhood development) not disabilities).sh. Limit: 2008 – current; peer reviewed; English; 2-23months; 2-5 years
ASSIA (Proquest)	su.exact.explode("language development" OR "language acquisition" OR "speech development") AND su.exact.explode("preschool children" OR "young children" OR "nursery school" OR "infants" OR "babies") AND (su.exact.explode("early intervention programmes" or "intervention" or "evaluation") or ti("program*" or "interven*" or "evaluat*" or "course" or "initiative")) and PD(20080101-20131231) not su.exact.explode(disability) Limit: peer reviewed

## Annex 2: Appraisal template

Reviewer		Date	
Reference			
<b>Introduction</b>			
What is the name and purpose of the intervention?			
Briefly describe the intervention			
Materials			
Who is the target of the intervention? (Teachers, parents, children)			
What is the age range of the target children population of the intervention?			
What language-relevant skills does the intervention seek to improve? (target outcomes)			
What other skills does the intervention seek to improve?			
Bilingual/multilingual children?			
Early identification of high needs?			
Multiagency approach?			
<b>Participants</b>			
Age		Sample size	
Other population characteristics (e.g. gender, SES, health status)			
Recruitment method			
Matched characteristics, if any:			
<b>Procedure</b>			
What language-related skills are taught?			
How are these skills taught?			
What is the duration of the intervention?			
What is the setting of the intervention? (e.g. home, nursery, etc.)			
Who is delivering the intervention?			
<b>Methodology</b>			
Briefly describe the methodology			
What is the MSSM score?			
<b>Outcome measures</b>			
Outcome measure	Standardised? Reliable?		Quality score
<b>Results</b>			

Measure	Test	Comparators	Covariates	P	Effect size
Other successful measures					
Notes					
<b>Non-impact questions</b>					
How was the language development of bilingual/multilingual children assessed in the intervention?					
What was the role of parents in the delivery of the interventions?					
What was parent's understanding of, and engagement with, these programmes					
What strategies did the intervention employ in order to increase parental understanding and engagement?					
What was the role of specialist staff training?					
<b>Other questions</b>					
What features made the intervention successful?					
What features proved to be unsuccessful in bringing about language outcomes?					
References and other resources					

### Annex 3: Overview of the interventions

	Name of the intervention	Target population	Setting	Duration (months)	No. of Sessions	Contact time (hours)	Age(m)	Country	Bilingual
1	Joint Reading	Children	Small groups	8	66	27.5	47	Israel	no
2	Early Authors Programme	Children	Classroom	12	no info	no info	37	US	yes
3	SHELLS	Parents/ children	Home	no info	5	5*	41	US (HS)	yes
4	Talking Time	Children	Small groups	6	52	9	43	UK	no
5	ORIM	Children	Home	12	16	16*	43	UK	yes
6	Early Head Start	Children/ Parents	Mixed	36	no info	no info	Under 36	US (HS)	varies
7	World of Words	Children	Classroom	9	24	12*	47	US (HS)	no
8	Getting Ready	Parents	Home	24	8.5	8.5	43	US (HS)	no
9	PCMGP	Parents	Center	4	20	40	14	Australia	no
10	Dialogic Book Reading	Children	Home	1.4	60	15	28	Canada	yes
11	Opportunities for Language	Teachers	Groups	9	9	18	46	US (HS)	no

\* based on an estimate



## Annex 4: Scoring applied to each intervention

	<b>Author</b>	<b>Sample size</b>	<b>MSSM</b>	<b>Sample score</b>	<b>MSSM Score</b>	<b>Outcome measure</b>	<b>Total</b>
1	Aram et al., 2004	71	3	2	1	1	4
2	Bernhard et al., 2008	367	3	3	1	3	7
3	Boyce et al., 2010	75	4	2	2	1	5
4	Dockrell et al., 2006	142	3	2	1	2	5
5	Hirst et al., 2010	16	3	1	1	2	4
6	Love et al., 2013	3001	4	3	2	3	8
7	Neuman et al., 2011	604	4	3	2	2	7
8	Sheridan et al., 2011	217	4	3	2	2	7
9	Terret et al., 2012	55	3	2	1	3	6
10	Tsybina et al., 2010	12	3	1	1	1	3
11	Wasik et al., 2006	207	3	3	1	3	7

## Annex 5: Outcome measure scoring system

Scoring is based on the following system: ‘3’ means the measure is standardised and reliable; ‘2’ means it is not standardised, but it is reliable; ‘1’ means it is neither standardised nor reliable.

Intervention	Measures	Standardised?	Reliable?	Ranking
Terret et al., 2012	Preschool Language Scale 3	Yes	Yes	3
Bernhard et al., 2008	Preschool Language Scale 4	Yes	Yes	3
Wasik et al., 2006 Love et al., 2013	Peabody Picture Vocabulary Test III	Yes	Assumed	3
Wasik et al., 2006	Expressive One-Word Vocabulary Test III	Yes	Assumed	3
Bernhard et al., 2008	Learning Accomplishment Profile – Diagnostic Edition	Yes	Yes	3
Love et al., 2013	MacArthur CDI Vocabulary	Yes	Assumed	3
Sheridan et al., 2011	Teacher Rating of Oral Language and Literacy	No	Yes	2
Dockrell et al., 2006	British Ability Scales II Early Years	No	Yes	2
Dockrell et al., 2006	The Grammar and Phonology Screening Test	No	Yes	2
Dockrell et al., 2006	Bus story test	No	Yes	2
Hirst 2010	Sheffield Early Literacy Development Profile	No	Yes	2
Neuman et al., 2011	Curriculum-Related Word Knowledge	No	Yes	2
Tsybina et al., 2010	No of target words	no	No info	1
Aram et al., 2004	Phonological awareness	No	No info	1
Aram et al., 2004	Letter name knowledge	No	No info	1
Aram et al., 2004	Orthographic awareness	No	No info	1
Aram et al., 2004	Listening comprehension	No	No info	1
Boyc et al., 2010	Total Number of Words	No	no info	1
Boyce et al., 2010	Total Number of Different Words	No	No info	1

## Annex 6: Complete list of references

List of 11 interventions subject to full text review.

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