# Cambridge Policy Challenge

# How can we improve outcomes in areas of high deprivation? A focus on early years interventions

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## Contact details

This report was written in response to the 2016-2017 joint Cambridgeshire County Council (CCC) and Cambridge University Science and Policy Exchange (CUSPE) 'Policy Challenges'.

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## Context of the Policy Challenge

The policy challenge sought to address the question, *"What actions would have the most impact on addressing deprivation inequalities in Cambridgeshire?"*. Through discussions with the Council we recognised that a particularly beneficial area to focus on was early years interventions for boosting school readiness, because school readiness was a key area of difficulty for children growing up in areas of high deprivation. In parallel with this, it was of interest for us to understand how a particular literacy intervention in one such area, the Waterlees Literacy Project, was successful in improving school readiness. This report therefore provides an evidence review to address the relationship between deprivation, school readiness, and language development in children, with evidence-based recommendations for Cambridgeshire.

## A note on the definition of 'early years'

'Early years' is a widely used term in various policies and programmes. It often refers to 0-3 years or, in the case of The Allen Report (2011) on early intervention, 0-18 years; The Allen Report used this definition to distinguish interventions including older children up to 18 years of age from 'later interventions' in adults and families. Because of the focus of this current report on strategies to boost school readiness in disadvantaged children, 'early years' is used to mean the time from when the child is born to their age at school entry – approximately 0-5 years, and 0-4 years in the case of children who start school before their fifth birthday. Where the evidence reviewed focuses on a different age range, this will be noted clearly in the text.

# 1. Introduction

This report aims to provide an overview of the existing evidence for early interventions to boost school readiness in children from deprived backgrounds, with a particular focus on the evidence for improving children's language skills as a means of supporting school readiness. It is not comprehensive or exhaustive, and rather than providing conclusive recommendations it is intended to provide a useful starting point for the Council to take forward.

When considering actions to reduce the effects of deprivation, it is important to recognise that deprivation is complex and multi-faceted, and that not all areas are deprived in the same way. In England deprivation is often measured in nine main domains: income, employment, education, health, crime, barriers to housing and services, and living environment[1]. Whilst deprivation is strongly associated with low income, families can still be deprived in some of these domains even if they are living in households with incomes above the poverty line. Importantly, a wealth of academic evidence shows that the impact of deprived environments often affects children from an early age, and particularly when children start school[2].

Children's early years, defined here as the time from birth until entry to formal education aged 4 or 5, are widely recognised as a pivotal time to support children's later educational, social, and emotional development. Whilst it is important to be aware that ongoing support during later childhood, adolescence and the transition from school to work is crucial, early years risks are strongly predictive of deprivation in adulthood[3]. Early intervention has therefore recently received considerable interest as having clear economic and social benefits that forestall the intergenerational cycle of poverty.

The current report presents an evidence review of early years interventions to improve school readiness in children from deprived backgrounds, with a particular focus on early language skills. There are three reasons for this. Firstly, the evidence reviewed suggests that both children's early language skills and their socioeconomic background are important predictors of their abilities at school entry[4]. Second, children's early language skills and their school readiness are both associated with their home communication and learning environment. Importantly, this may be amenable to change, suggesting a means of supporting children's early language development and school readiness through effective policies. Third, practices to improve children's early language abilities before school entry may be relatively manageable and inexpensive to implement[5].

[1] English indices of deprivation (2015), Department for Communities and Local Government, https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015
[2] Roulstone, S., Law, J., Rush, R., Clegg, J., and Peters, T. (2015) *Investigating the role of language in children's early educational outcomes.* Research Report DFE-RR-134, Department for Education.
[3] Caspi et al., (2016). *Childhood forecasting of a small segment of the population with a large economic burden.* Nature Human Behaviour, 1.
[4] Roulstone et al. (2015).
[5] Education Endowment Foundation (EEF) Toolkit (link in References).

Finally, in addition to this evidence review this report includes a case study of an effective early years intervention in Cambridgeshire, with an examination of why it may have been particularly effective.

It is important to recognise that children's early experience is shaped by many interrelated factors in their environment and by their own abilities, and supporting only one of these factors will not in itself be sufficient to mitigate the effects of growing up in a deprived environment. However, because children growing up in deprived areas are more likely to arrive at school with language difficulties, the focus here on improving early language to support school readiness is intended to provide an evidence base to be used in conjunction with other programmes.

To aid efficient reading of this report, key points are highlighted in bold in the text. The end of each chapter includes a summary of the main points of the chapter, and reading these summary sections is sufficient to provide an overview of the key take-home points. Finally, Chapter 6 presents the conclusions and recommendations from the findings of the report. The Further Resources at the end of the report includes helpful additional reading on early years interventions, deprivation, and child language development.

# 2. Increasing school readiness in children from deprived backgrounds

## 2.1. What is school readiness?

School readiness refers to the range of skills children require to be able to learn when they start school. There is no nationally set baseline which defines school readiness (including whether it is measured at the start of Reception or on entry into Year 1), and definitions vary among early years and childcare professionals. However, the key points of school readiness are broadly agreed to include that a child is[6]:

- Able to be separated from their parents, and use the bathroom independently;
- Able to listen and pay attention to a subject for brief periods of time;
- Has sufficient language skills to be able to express things about themselves (e.g. thoughts, feelings), and communicate their name, age, and a few details about themselves including information about their family and key factors in their life;
- Able to interact with an adult and/or a peer, including as taking turns and showing responsibility for their actions;
- To have an awareness of and interest in the world around them, and to ask questions;
- To be able to respond to boundary setting and control some of their actions.

In the absence of a nationally set 'school readiness' measure, a commonly used benchmark is the Early Years Foundation Stage Profile (EYFSP). The EYFSP is a teacher assessment of children's abilities at the end of the Reception year, which measures a child's attainment across several areas of learning, known as Early Learning Goals. These include communication and language development; physical development; personal, social and emotional development; literacy; maths; understanding of the world; and expressive arts and design. In each of these areas there is a nationally set level for what the average child is expected to be able to do at the age of 5. Children can be at the 'expected level of development', at the 'emerging level of development' (meaning they are just below the expected level), or 'exceeding the expected level of development'[7].

## 2.2. School readiness in children from deprived backgrounds

Children from deprived backgrounds are more likely than their peers to not reach the expected level of development on the EYFSP. In 2016, 54% of free school meal (FSM) children, those from backgrounds of high socioeconomic disadvantage, achieved a good level of development on the EYFSP, compared to 72% across all non-FSM pupils[8]. The effect of deprivation can also be clearly seen in children's EYFSP results. Figure 1 shows the

[6] Ofsted (2014). *Are you ready? Good practice in school readiness.* Report reference number 140074.

[7] Note that there is some suggestion that the goals sets by the EYFSP may be developmentally inappropriate – that is, they may be too challenging for children to realistically meet at age 5. See Norbury et al. (2015a) in the Reference section for further details.

[8] Department for Education National Statistics, *Early years foundation stage profile results: 2015 to 2016.* Additional tables by pupil characteristics: SFR 50/2016.

percentage of children achieving at least the expected level of development in 2016 on the EYFSP by level of deprivation. It is evident that a lower percentage of children coming from the most deprived areas achieve the expected levels on the EYFSP, compared to children coming from less deprived areas.

The reason school readiness is important is that these children who fall behind at the start of schooling often struggle to catch up, and this 'attainment gap' between FSM and non-FSM pupils at all levels of schooling is well documented[9]. There is evidence to suggest that children's school readiness predicts their subsequent performance. For example, it has been found that children who do not reach the expected level of development in the EYFSP have lower achievement than their peers in English and Maths assessments at the end of Year 2[10]. Whilst this evidence does not indicate that low school readiness *causes* poor subsequent achievement, it suggests that boosting school readiness in children from deprived backgrounds may nonetheless be important for starting school on an equal footing to their peers.

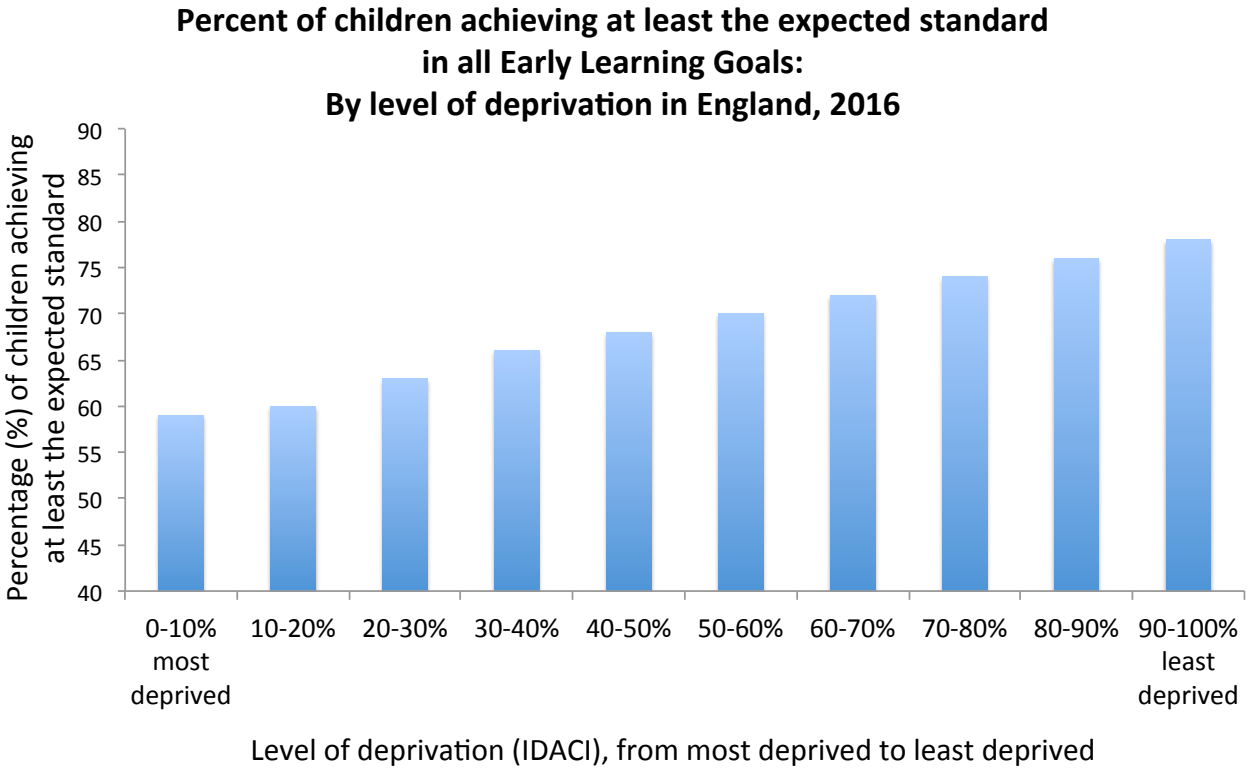


**Figure 1.** The percentage of children achieving at least the 'expected standard of development' on the EYFSP by level of deprivation in England. Source: DfE National Statistics, 2016, SFR 50/2016.

[9] Greaves, E., Macmillan, L, & Sibieta, L. (2014). *Lessons from London schools for attainment gaps and social mobility.* Social Mobility & Child Poverty Commission.

[10] Norbury, C. F., Gooch, D., Baird, G., Charman, T., Simonoff, E., & Pickles, A. (2015a). *Younger children experience lower levels of language competence and academic progress in the first year of school: evidence from a population study.* Journal of Child Psychology and Psychiatry, doi:10.1111/jcpp.12431.

Given the association between deprivation, school readiness, and subsequent educational achievement, an economic case has also been made for boosting school readiness. For example, Public Health England estimated that every child who is 'school ready' may save approximately £1000 per year[11] compared to these children not being 'school ready'. The Allen Report[12], a comprehensive review of early intervention, gives a more complete account of the economic benefits of early intervention in general, in terms of reductions in later costs such as by improving employment opportunities (The Allen Report, Chapter 4, page 54 onwards).

## 2.3. Limitations of interventions to boost school readiness

Whilst early interventions to boost school readiness may seem a powerful way of offsetting the effect of deprivation on a child's development, it is critical to recognise that children's socioeconomic background *continues to have an effect even if their early achievement is equivalent to their peers*[13]. This is shown in Figure 2: this presents often-reported data from Feinstein (2003) that the cognitive abilities of children, captured through a range of measures, are affected by their socioeconomic background (SES). These data suggest that high-ability but low-SES children will have poorer performance over time, relative to low-ability but high-SES children who tend to do better over time. The take-home message from this figure is therefore that even if children's early abilities, such as school readiness, are equivalent, socioeconomic status will continue to exert an effect over time.

This means that boosting school readiness is not in itself sufficient to permanently reset a child's trajectory. Interventions to boost deprived children's school readiness and early attainment to the level of their non-FSM peers have found that these children often 'slip back' behind non-FSM children in terms of performance, suggesting that children's socioeconomic background continues to influence their attainment[14]. In this way it is important to recognise that although boosting children's school readiness is valuable, ongoing support is also required for any improvement to be sustained.

## 2.4. Summary

In summary, the evidence reviewed in this section suggests that:

1. There is no nationally set baseline for school readiness, but the Early Years Foundation Stage Profile (EYFSP) at the end of the Reception year is used as a helpful benchmark of children's ability.
2. When children start school they should be able to communicate simple information about themselves, have the social and emotional development to be separated from their parents and engage in interaction with their teachers and peers, to have an

[11] Public Health England (2016). *A framework for supporting teenage mother and young fathers*, pp 17; https://www.gov.uk/government/publications/teenage-mothers-and-young-fathers-support-framework. Note that such projected savings should be treated with care.
[12] Allen, G., MP. (2011) The Allen Report. Early Intervention: The Next Steps.
[13] Dickerson, A., & Popli, G. (2016). *Persistent poverty and children's cognitive development: evidence from the UK Millennium Cohort Study.* Journal of the Royal Statistical Society A, 179, Part 2, pp. 535-558.
[14] Dickerson & Popli (2016).

awareness of and interest in the world around them, and respond to boundary setting.

3. Children from deprived backgrounds consistently perform more poorly on the EYFSP. This attainment gap between deprived children and peers often persists throughout schooling.
4. Whilst there is therefore a clear case for the importance of supporting school readiness, especially in children from deprived backgrounds, it is important to be aware that a single early intervention will not offset the effects of growing up in deprivation. This point will be addressed more fully in the followings sections.

**The development of the cognitive skills of children of high and low ability, by socioeconomic group**

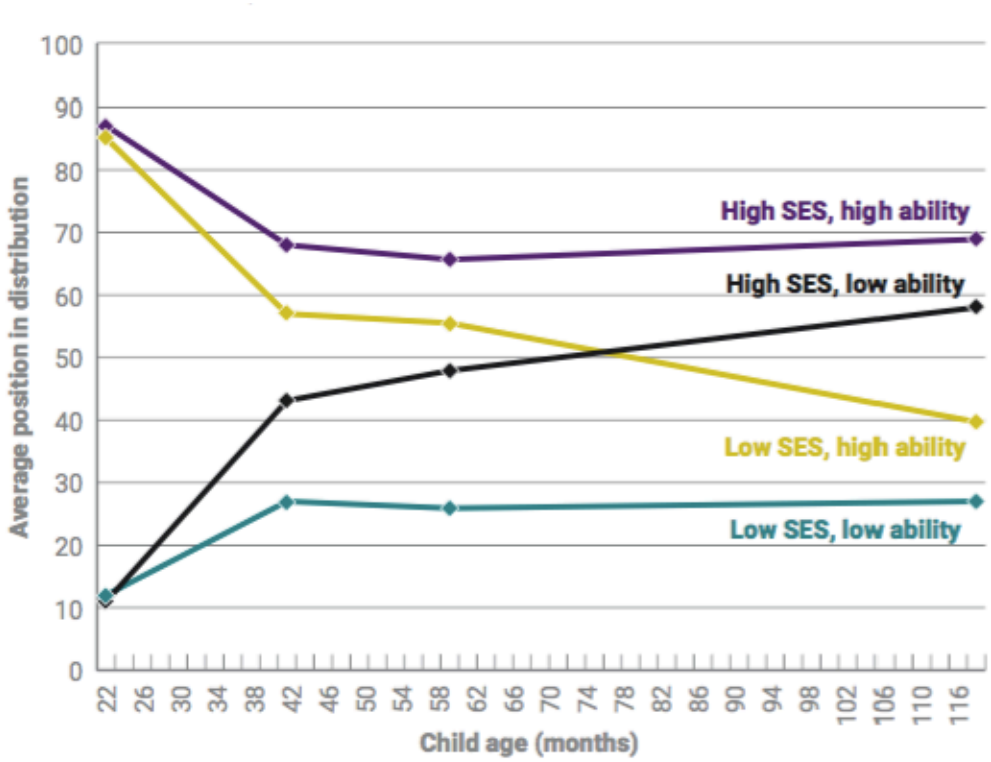


**Figure 2.** The vertical axis shows a ranking of children's cognitive abilities (by percentile), which were measured through a range of different tasks. The horizontal axis shows the change in these scores over time, by socioeconomic status and a child's initial ability, between 18 months and 10 years of age. Source: Feinstein (2003); reproduced from Law et al. (2017), Early Intervention Foundation Report.

# 3. The importance of early language in children's development

## 3.1. Early language abilities

Most children acquire speech and language skills without difficulty, but there is substantial variation in how well children develop these skills. There is strong evidence that children with poorer speech and communication skills at school entry will lag behind their peers with age-typical speech and language skills[15]. Children's language skills at school entry are a window onto learning: it enables them to follow classroom instructions, understand and interact with teachers and peers, express themselves and initiate questions, and keep up with the demands of the classroom. Children who enter school with poor language skills and fall behind will therefore find it particularly difficult to catch up. This may also be the case with reading abilities; there is some evidence that poor spoken vocabulary (i.e. the number of words a child knows and is able to say) when children start learning to read can also influence their progress, and spoken language may therefore be an important pre-literacy skill[16].

The practical importance of language abilities at school entry was noted in a 2014 Ofsted review[17]. Through observation of children's centres and Reception classrooms across England, they recognised children that who had limited vocabulary and difficulty communicating were often not school ready, and were reported by teachers to be more likely to struggle during the following years in education (pg. 9, 11, 17-19).

For a fuller explanation of child language development and its importance for later outcomes, the Early Intervention Foundation report by Law et al. (2017) provides a comprehensive and clear explanation (Chapters 1 & 2)[18].

## 3.2. The relationship between socioeconomic background and language development

It has long been known that a child's language development is associated with their socioeconomic background. Children from deprived socioeconomic backgrounds are more likely to have poor early language skills and slower language development, and this may be related to a more impoverished experience of language in their environment (for example, by fewer caregiver interactions).[19,20,21] This poor language development in the early years

[15] Norbury et al., (2015a).
[16] Ricketts, J. (2011). Research Review: Reading comprehension in developmental disorders of language and communication. *Journal of Child Psychology and Psychiatry.*
[17] Ofsted Report, (2014). Report reference number 140074.
[18] Law, J., Charlton, J., & Asmussen, K. (2017). *Language as a child wellbeing indicator.* Early Intervention Foundation Report.
[19] Madzwawmuse, E., Baumann, N., Jaekel, J., Bartmann, P., & Wolke, D. (2015). Neuro-cognitive performance of very preterm or very low birth weight adults at 26 years. *Journal of Child Psychology and Psychiatry*.
[20] Dickerson & Popli (2016).

**The percentage of children with language delay, by level of socioeconomic disadvantage**

| | Quintile 1 (most disadv'd) | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 (least disadv'd) |
|---|---|---|---|---|---|
| Millennium Cohort study | 18 | 10 | 7 | 5 | 3 |
| Growing up in Scotland | 23 | 18 | 15 | 11 | 10 |
| Early Language in Victoria Study | 21 | 16 | 7 | 12 | 6 |

**Figure 3.** The percentage of children with language delay, shown by level of socioeconomic disadvantage, across three different studies. Socioeconomic disadvantage is divided into five groups, with the first group (quintile) being the most disadvantaged, through to the fifth group being the least disadvantaged. Source: Law et al. (2017), Early Intervention Foundation Report.

often persists in poorer language and communication abilities through schooling and into adulthood[22]. A demonstration of the relationship between deprivation and child language development can be seen in Figure 3 above. This presents the percentage of children with language delay at 5 years of age, by socioeconomic disadvantage. These figures show that across multiple studies, a higher proportion of children from deprived backgrounds have language delay than children from less deprived backgrounds.

Most research into this association between socioeconomic disadvantage and poor language development tends to measure deprivation as a single factor, such as income, maternal education level or parent occupation. However, the association between socioeconomic background and children's language development is complex; this relatively simplistic approach to measuring deprivation therefore make it difficult to disentangle precisely which factors in children's early environments shape their language development.

A 2015 Department for Education research report[23] addressed this by investigating how children's communication environments were tied to their socioeconomic background and language development. The report had the following key findings.

<u>The importance of early language skills:</u>

- **Language abilities at age 2 predicted children's performance on entry to primary school.** Children's use and understanding of vocabulary, and their use of two or three word sentences, was associated with their performance on school entry

[21] McGillion, Pine, Herbert & Matthews. (2017). A randomised controlled trial to test the effect of promoting caregiver contingent talk on language development in infants from diverse socioeconomic status backgrounds. *Journal of Child Psychology and Psychiatry.*
[22] Law et al., (2017). Early Intervention Foundation Report.
[23] Roulstone et al. (2015).

assessments: children with better language skills at age 2 did better on the EYFSP than children with poorer early language skills.

Children's early communication environment influences their language development:

- **Children's early communication environment influenced their language abilities at age 2.** Important factors in children's communication environments included the number of books available to the child, frequency of library visits, parents teaching children a range of activities, the number of toys available, and attendance at preschool. These positively predicted a child's vocabulary at 2 years of age, and children with higher vocabularies at 2 years of age also did better when starting school.

Children's early language skills are more strongly influenced by their communication environment than their socioeconomic background:

- **The communication environment was a stronger predictor of children's language at age 2 than their socioeconomic background.** In the pre-school stages of language development specific aspects of a child's communication environment (outlined in the previous point) were associated with language skills more strongly than the broader family socioeconomic circumstances.

Children's early communication environment *and* their socioeconomic background are both important for their school readiness:

- **Children's language and their communication environment influence their school progress, *in addition to* their social background.** Children's school progress was governed not only by their socioeconomic background, but was also strongly influenced by their communication environment from 0-2 years, and their language at the age of two years. In other words, both children's early language skills *and* their socioeconomic background were strong predictors of children's attainment once they reached school.

These findings are depicted in Figure 4. **The key take-home message is that *both* children's early communication environment and their socioeconomic background influence how children will do when they enter school (i.e. their 'school readiness').** This suggests that supporting the early communication skills of children from deprived backgrounds may be an effective intervention to improve their school readiness.

### 3.3. Limitations of this evidence

Whilst the relationship between children's early language skills and subsequent school performance is clear, it is important to recognise that this relationship is often relatively small. Children's early vocabulary at around 2 years of age often predicts only about 10-

**The relationship between socioeconomic background, a child's early language skills and communication environment, and abilities at school entry**

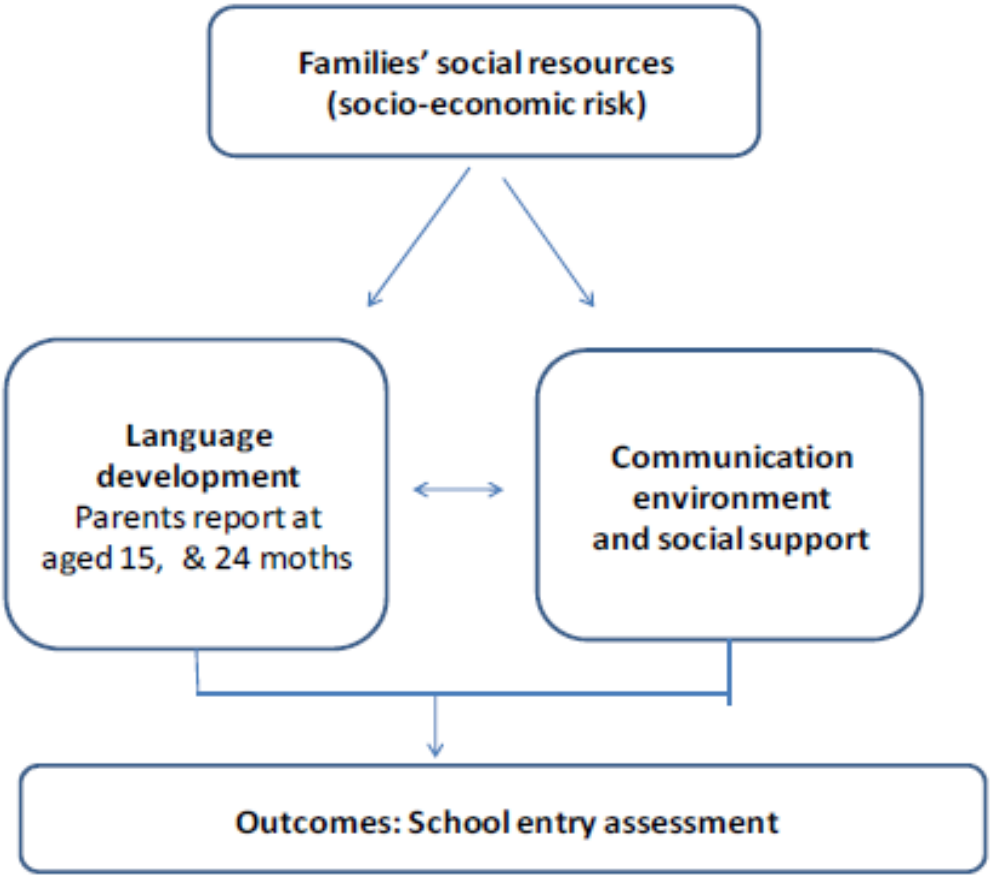


**Figure 4.** Source: Department for Education Research Report DFE-RR134, 'Investigating the role of language in children's early educational outcomes'. Roulstone et al. (2011).

20%[24,25] of the variation in children's abilities when they start school. This indicates that there are multiple other factors that shape a child's outcomes. As such, it is important to be aware that boosting disadvantaged children's early language skills may not alone be sufficient to bring them up to the same level as their peers in the long-term. Further, children's early language skills can be highly variable and volatile until they are approximately 4-5 years of age[26]. This variation means that a one-off screening to identify individual children at the risk of language delay may be unreliable, and as such careful monitoring over time may be a more fruitful approach.

### 3.4. Summary

In summary, the evidence reviewed in this section suggests that:

[24] Duff, Reen, Plunkett, & Nation (2015). Do infant vocabulary skills predict school-age language and literacy outcomes? *Journal of Child Psychology and Psychiatry,* doi:10.1111/jcpp.12378.
[25] McGillion et al. (2017).
[26] Norbury, C. (2015b). Editorial: Early intervention in response to language delays – is there a danger of putting too many eggs in the wrong basket? *Journal of Child Psychology and Psychiatry*.

1. Children's early language abilities are important for their school progress: children who start school with poor language and communication skills will often be behind their peers, and struggle to catch up.
2. Children from deprived socioeconomic backgrounds have a higher risk of early language difficulties, and of arriving at school without sufficient language skills to cope with the demands of the classroom.
3. Children's early communication environment (e.g. parent/caregiver interactions, availability of books, and attendance at preschool) is a stronger predictor of their early language skills than their socioeconomic circumstances.
4. Children's language abilities at age 2, their socioeconomic background, and their communication environment all predict their performance when they start school.

The finding that children's communication environment is a stronger predictor of their early language skills than socioeconomic background is particularly important. **This suggests that language is not determined by children's family deprivation, but rather is also shaped by their home learning and communication environment.** Importantly, interventions to support this communication environment may therefore be a means of boosting children's early language skills, and their subsequent school readiness.

# 4. What is the evidence for early interventions to improve children's language abilities, and subsequent school readiness?

The key messages of the evidence reviewed so far are:

- School readiness is important for children to subsequently progress at school.
- Children from deprived backgrounds are more likely to arrive at school with poor school readiness, and are subsequently more likely to fall behind.
- Children's early language skills may be an important factor in school readiness.
- Children's early language skills are tied to *both* their communication environment and their socioeconomic background.

Taken together, these lines of evidence suggest that early language interventions offered to children from deprived backgrounds may be a valuable means of improving their school readiness. This section will evaluate the evidence for such interventions and review their effectiveness.

## 4.1. A review of early language interventions

A vast body of research has been dedicated to identifying effective early interventions to boost children's language skills. These interventions have approaches that include ways to extend children's spoken vocabulary, the use of structured questions to develop children's communication and comprehension skills, and targeted reading aloud to support early language and reading development in school-age children. Law et al. (2017)[27] did a systematic review of these interventions and identified 45 studies focusing on early language interventions in the preschool years (see Law et al., 2017, for full details of inclusion criteria).

They grouped interventions as falling into two broad categories: 'programmes' and 'practices'. Programmes are published plans for delivering particular interventions, which are often accompanied by assessment and delivery materials, such as the Nuffield Early Language Intervention (NELI)[28]. Practices are specific activities used to support language development, such as encouraging children's talking, but are not necessarily part of a full packaged programme. Practices are often delivered by parents, teachers, and childcare professionals, and as such are incorporated into day-to-day practice.

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[27] Law et al., (2017). *Early Language Development: Needs, provision and intervention for preschool children from socioeconomically disadvantaged backgrounds.* A report for the Education Endowment Foundation.

[28] Other programmes in the review included Read, Play, Learn; Reading First; Talking Time; Lexicon Pirate; World of Words; My Sentence Builder; Talk Boost; The Instructional Phoneme Awareness Programme. Some programmes were not stand-alone programmes, but were incorporated into school curriculums. These included Language Focused Curriculum; Let's Begin; Doors to Discovery; and the Hanen Centre programmes. Detailed information about each of these programmes can be found on their websites, and at the Education Endowment Foundation website (included in the reference section of this report).

Importantly, the interventions were all designed in line with knowledge about child language development. Interventions therefore tried to boost early speaking skills, children's understanding of language, and vocabulary, as these are all cornerstones of child language development.

Below are the key points from the Law et al. (2017) review on early language interventions.

- **Who delivers the interventions?** A range of individuals delivered the interventions. In 25 studies a teacher (i.e. in Reception or Year 1 classes) or teaching assistant delivered the intervention. In 7 studies, parent-focused training was used to support children's language development, and this training was often delivered to parents by speech and language therapists or psychologists. In 13 studies a specialist professional delivered the intervention, such as a speech and language therapists. There was no comparison of whether certain types of interventions were more effective when delivered by certain individuals. **In practice, who delivers an intervention likely depends on whether it is offered to a group or individual children, how such children are identified, and the severity of their need**.

- **Where are interventions delivered?** Interventions were generally delivered within schools (30 studies), early years centres (9 studies), or in children's homes (6 studies). **The place of delivery often depended on the type of intervention being used.** For example, interventions aimed at improving the quality of parent-child interaction were often delivered in the home, whereas programmes focused on improving specific aspects of a child's spoken language ability were often delivered in schools or preschools. There was no comparison of whether certain interventions were more effective when delivered in certain settings.

- **What type of interventions are used?** Interventions included training parent-child interaction, supporting book-reading, developing children's discussion skills, teaching vocabulary, or a range of these approaches to improve children's spoken language abilities. **The nature of interventions varied considerably**, and often a single intervention 'programme' would include many of these components.

- **What was the intensity and duration of these interventions?** The intensity and duration of interventions varied: some interventions involved 20-30 minute sessions 2-3 times a week for up to 10 weeks, whilst others involved fewer sessions over a longer duration of up to 24 weeks. A trend the authors noted was that many interventions delivered in classrooms were for 15-20 minutes a day, either for several weeks or for a whole school year. This suggested that interventions delivered within children's daily setting allowed for more frequent and sustained delivery, as they became part of children's daily routine.

- **How were the outcomes of interventions measured?** Interventions were focused around children's language development, and as such **measured whether certain features of children's language improved following the intervention.** These

features included children's spoken vocabulary size (expressive vocabulary), how many words children understood (receptive vocabulary), their use of short sentences, and the amount and complexity of the language they used (such as in explaining a story). Vocabulary size was one of the most commonly evaluated measures, as it was a relatively straightforward measure and vocabulary is one of the critical building blocks of children's language skills.

- **What was the effect of these interventions?** Many of these interventions had positive effects, in terms of improving language skills described above. **However, no single intervention stood out as the most robust one.** Importantly, the authors noted that the training of staff appeared to be key to implementing interventions effectively.

- **How consistent are the effects of the interventions?** The *effect size* of interventions – a measure of how large and consistent an improvement in children's language skills was following an intervention – **varied considerably.** For example, children's improvement in vocabulary size ranged from an effect size of 2.76 (indicating a large improvement in vocabulary which was consistent across children) to 0.2 (indicating a very weak improvement in vocabulary). Reasons for this variation in the effectiveness of interventions may include differences in how interventions are delivered, the content used, and the intensity and duration of the intervention required for it to have an effect. **Very little is known about the precise features of an intervention that are required for it to be consistently effective (in terms of content, intensity, duration, and type of delivery).** The authors noted that an important next step is to test whether some specialist interventions, such as those designed to be delivered by speech and language therapists, can be transferred effectively to larger community settings such as children's centres.

- **What do we know about the long-term effects of early language interventions?** The current evidence is severely limited by a **lack of long-term follow-ups to intervention studies.** The effectiveness of interventions was often measured a few weeks or months after delivery, rather than on a time-scale of one or more years to demonstrate long-term improvements. However, a recent study by McGillion et al (2017)[29] did test for longer-term effects of an intervention. Parents were trained on responsive talking to their children at 11 months, and children had larger vocabulary sizes at 15 and 18 months (compared to children whose parents took part in a non-language intervention). However, when children were followed up at 24 months there was no longer an effect of this intervention on children's vocabulary and language use. **This demonstrates that the effect of interventions may not necessarily be sustained over time, and emphasises the importance of longer-term follow-ups to understand whether interventions have sustained benefits over time.**

[29] McGillion et al. (2017).

- **How do we know which interventions are best to use for children from deprived backgrounds in particular, or at particular points in their development?** There is currently not enough evidence to ascertain whether certain interventions are particularly beneficial for children from deprived backgrounds. Similarly, there is no evidence to indicate whether interventions are more effective when children are younger (e.g. before 2 years of age, compared to preschool and Reception age); this is largely due to the absence of long-term follow-up studies. **As such, it is not clear which interventions work best for particular children at different points in their development.** Whilst this is a more nuanced question than simply whether an intervention works, it is important in knowing how and when to direct limited resources – for example, whether it is more cost effective to train professionals in early years centres or Reception teachers. It is also important to recognise that because many studies were large-scale interventions that did multiple things at once. This means that knowing what the critical components of an intervention are – the 'active ingredients' – is challenging.

The take-home message from this evidence review is that whilst **early language interventions tend to have consistently positive effects on children's language skills, relatively little is known about the specific features that are necessary for interventions to be effective.** These features include the content of the intervention, the time when it is delivered in children's development, who delivers it, and its intensity and duration. In practice, the combination of these features that make an effective intervention are likely to depend strongly on the children involved and the delivery setting (i.e. whether at home, children's centres/ preschools, or at school entry).

## 4.2. The cost effectiveness of language interventions

The Education Endowment Foundation (EEF) reviewed the evidence for language interventions[30] and found them to overall show relatively consistent positive effects on children's language skills, in agreement with the Law et al. (2017) review outlined above. They noted that interventions were particularly beneficial in younger children and those from disadvantaged backgrounds. However, careful implementation was needed for these interventions to be effective, in terms of caregivers and teachers carefully following the intervention programme.

The EEF also reported that the costs for language interventions are in general very low (estimated at under £80 per pupil for children starting primary school, with some estimates as low as £10-£20) due to few direct financial costs. Typically interventions primarily involved changing caregiver and teacher approaches to interaction with children, and occasionally with additional resources such as books being required[31].

[30] Education Endowment Foundation (EEF) Toolkit (link in References).
[31] The Law et al. (2017) Early Intervention Foundation report, pg. 39-40, also provides a useful brief overview of cost-benefit analyses for child language difficulties.

## 4.3. Limitations of early years interventions

There are three key limitations of early years interventions. The first is that whilst interventions *can* have a positive impact, these effects are often not sustained over time. When reviewing the effectiveness of potential interventions, it is thus critical to ask whether long-term follow-ups (i.e. in the range of one or more years later) have been done to check how long-lasting the effect of any intervention might be. Similarly, it is important to be aware that early gains in language or school readiness are unlikely to be sufficient in themselves to offset other challenges children might face from growing up in deprived environments (see Figure 2 in section 2.3). Any initial gains may often require ongoing support to have real long-term effects for children[32].

The second limitation of early interventions is that an individual child's language abilities are highly variable and volatile before they are 4-5 years old[33]. This means that identifying *individual* children who may be in need of intervention prior to school entry is challenging. This ties in closely with the above point in section 3.3 that whilst children's early language skills at 2 years of age are predictive of their performance at school entry, they only explain a small amount of the variation between children.

Third, as reviewed in section 4.1 above, whilst early language interventions tend to have a consistently positive effect on children's language skills, there is substantial variation in the size of this effect.

The importance of children's early language skills on their subsequent development and school readiness is evident, as is the positive effect of most intervention to improve these language skills. However, given the above limitations, it is challenging to identify a single intervention, or set of interventions, that is consistently effective to support language development.

## 4.4. Summary

The evidence reviewed in this section suggests the following three points:

1. In general, interventions to improve children's early language skills tend to consistently show positive effects (in terms of improved language, such as vocabulary and communication), and are relatively inexpensive to implement.
2. However, we know relatively little about the *specific* features of effective interventions, and in particular what the 'active ingredients' of successful interventions are.
3. However, a significant limitation on early years interventions is that we know relatively little about whether their effects are sustained over time. In particular, the existing evidence suggests that most gains may not be sustained over time. This suggests that any support must be ongoing to have sustained benefits for children.

[32] McGillion et al., (2017).
[33] Norbury et al., (2015a).

For these reasons, **it is not possible to recommend a single effective intervention to boost children's early language skills.** It is also crucial to recognise that as the effect of interventions tend to 'fade out' over time[34], **it may be more effective to think in terms of good practices to continuously support early language development, which can be integrated through children's services from birth rather than attempting to target a one-off intervention.** This point is supported by recent reviews[35] which note that for interventions to be effective in the long-term it is likely they need to be sustained over time, to provide children with *ongoing* support. This may be particularly true in the case of children from deprived backgrounds due to the profound effect of deprivation on children's development. However, in parallel with this it is nonetheless important to provide additional support to children who are particularly struggling with their language skills at school entry, given the importance of these language skills for subsequent attainment[36]. As such, **a dual approach to thinking about broader 'early strategies' for children may be beneficial:** 1) **general good practices that are integrated throughout services, and particularly in areas of deprivation**, and 2) an awareness of the importance of early language in children's development, with a view to **identifying and supporting children who are particularly struggling with their language skills at school entry**.

[34] McGillion et al., (2017).

[35] Law et al. (2017), Early Intervention Foundation Report; Law et al. (2017), Education Endowment Foundation Report; McGillion et al., (2017).

[36] Norbury et al., (2015a).

# 5. Supporting children's language development in areas of deprivation

The evidence reviewed in the previous section suggests that one effective approach for 'early intervention' may be to integrate good practices for children's language development throughout all child-based services from birth, to provide ongoing and comprehensive support for at-risk children. A 2014 Ofsted report[37] on good practice in school readiness noted that whilst children growing up in areas of high deprivation often needed the most support, inspection evidence suggested that provision was often weakest in these areas (Ofsted report, 2014, page 4). This section therefore provides a brief review of effective broader strategies to support children's language development in areas of deprivation, support for English as an Additional Language (EAL) children, and a case study of an effective intervention in Cambridgeshire.

## 5.1. Delivery in areas of deprivation

The 2014 Ofsted report notes several useful practices for supporting language and communication skills before school entry, particularly in areas of high deprivation. These recommendations are for use in the context of early years centres, children's centres, preschools, and schools (especially in Reception and Year 1), alongside other specialist services working with children (such as health visitors).

The key points of the 2014 Ofsted report are provided below.

- Particularly effective settings were **aware of the importance of early speaking, listening and communication skills** in children's development. Inspectors noted the **positive impact on children's language development when every member of staff spoke clearly, and understood the importance of promoting opportunities for children to speak** in sentences, initiate questions, and engaged in imaginative role-play. (pg 19).

- Outstanding settings sought to break inter-generational cycles of low achievement by "going out of their way to engage with parents who may themselves have had a bad experience of education", **and helped parents be partners in their children's learning**. (pg 12).

- To help parents and carers understand the importance of their child's language development, one outstanding early years setting provided **play and language workshops**. These provided ideas for parents and carers to **talk and engage with their children** (such as by sharing books, rhymes, and songs). Tracking of children's progress in this centre showed that of the FSM children who attended 12 or more of these sessions, 12% more of these children achieved a good level of development on the EYFSP than children who attended fewer than 12 sessions. (pp 12-13).

[37] Ofsted Report (2014). Report reference number 140074.

- It was **particularly effective when settings completed baseline assessments** in children's vocabulary, phonological awareness (knowledge of the sounds in speech), and expressive language, and then use these assessments to **track children's progress.** (pg 9,18)

- One good means for tracking children's progress was using the **'Every Child a Talker' tracking grid**. This detailed tracking, both in early years centres and in Reception classes, helped better support struggling children. In one school 69% of these children achieved their Early Learning Goals in language and communication by the end of the Reception year. (pg 9).

- **Passing on accurate assessments** between children's early years centres, and between these settings and children's school when they entered Reception, better helped identify and support struggling children. (pg 8-10).

- In settings delivering targeted interventions, these were **especially effective when led by speech and language therapists**; in these cases children made particularly rapid progress in their language and communication skills.

- In terms of using **Pupil Premium funding** to support children from deprived backgrounds, the most effective schools used this funding for teaching assistants with clear and specific roles. In one outstanding school this involved a **teaching assistant delivering an intervention to small groups of children**. In this school children progressed so rapidly that 90% met their Early Learning Goals on the EYFSP at the end of Reception. (pg 25). **This may be particularly pertinent in schools in higher levels of deprivation where more Pupil Premium funding is available.**

## 5.2. Supporting children with English as an Additional Language (EAL)

An additional area of concern flagged in Cambridgeshire is how to support English as an Additional Language (EAL) children, who also show poor 'school readiness' measured by their performance on the EYFSP at the end of Reception. This is shown in Figure 5 below, which shows the percentage of free school meals (FSM) and EAL children achieving at least the 'expected level of development' in the EYFSP across Cambridgeshire and Peterborough compared to England overall.

However, whilst EAL children often perform more poorly than their peers in the preschool and early school years, they often catch up; a 2015 analysis of the National Pupil Database showed that 58.3% of EAL children achieved 5 A*-C GCSEs, compared to 60.9% of all other pupils[38]. There is nonetheless variation in how well EAL children do. Children who start school at age 5 often catch up, but those who arrive at school later are more likely to require

[38] Strand, S., Malmberg, L. & Hall, J. (2015). English as an Additional Language (EAL) and education achievement in England: An analysis of the National Pupil Database.

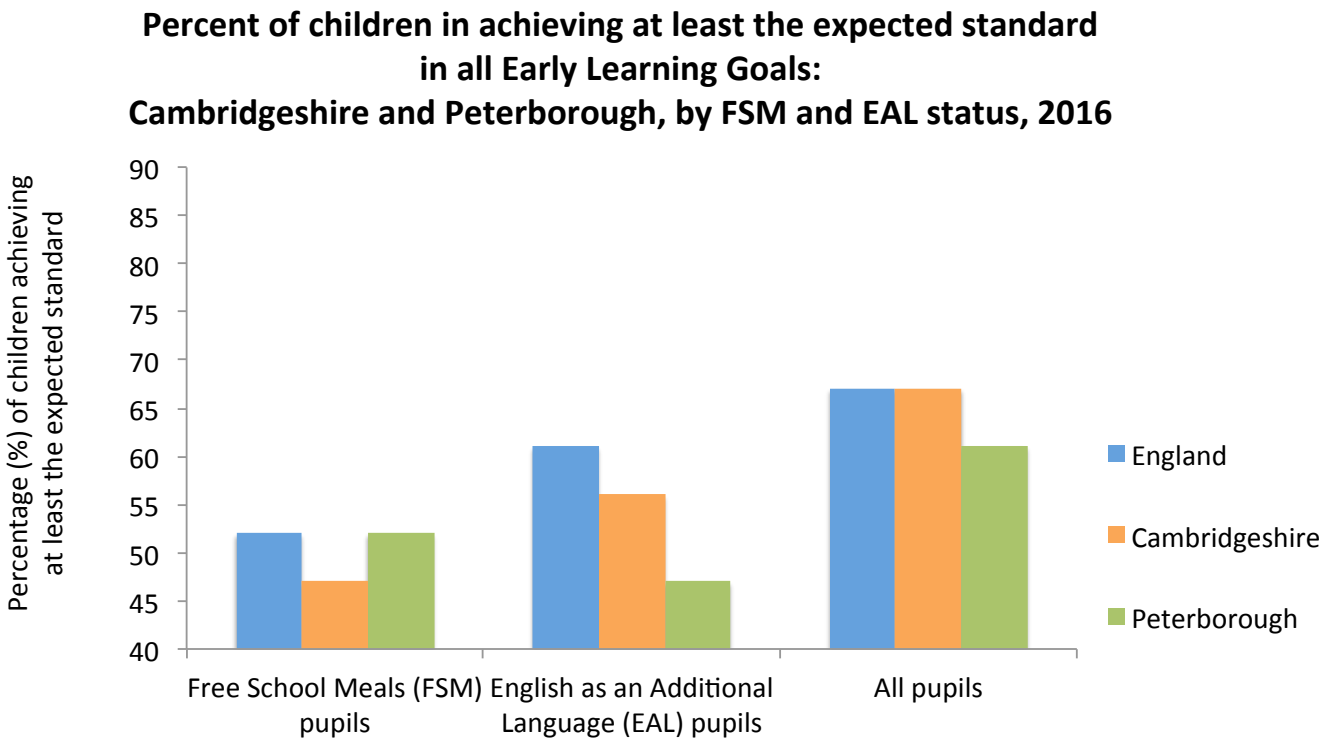


**Figure 5.** The percentage of children achieving at least the 'expected standard of development' on all early learning goals in the EYFSP. Shown by FSM and EAL status, in Cambridgeshire, Peterborough, and England overall. Source: DfE National Statistics, 2016, SFR 50/2016.

additional support[39]. To identify whether EAL children have language difficulties in particular, it is often important to determine if they have language delays in all the languages they speak, not just English[40].

In terms of supporting EAL children, an example of good practice identified by the 2014 Ofsted report[41] was when one school employed a bilingual speech and language therapist to work with these children. This was in a school with a very high proportion of EAL children, however, and may be a less effective use of funding in schools with fewer EAL students.

A comprehensive review of interventions for language and literacy development in EAL children from Murphy et al. (2015), published by the Education Endowment Foundation, reported that there was no robust evidence for interventions to improve language and literacy in EAL children[42]. This was primarily due to a lack of good quality studies having been done to date. However, recent work has suggested that better English language proficiency

[39] McKean, C., Mensah, F. K., Eadie, P., Bavin, E. L., Bretherton, L., Cini, E. and Reilly, S. (2015) 'Levers for language growth: Characteristics and predictors of language trajectories between 4 and 7 years', *PLoS ONE*, 10 (8).

[40] Law et al. (2017), Education Endowment Foundation Report.

[41] Ofsted Report (2014). Report reference number 140074.

[42] Murphy, V., & Unthiah, A. (2015). *A systematic review of intervention research examining English language and literacy development in children with English as an Additional Language (EAL).* EEF Report.

in EAL children in Reception is associated with better social, emotional, and behavioural functioning, as well as academic attainment two years later[43].

### 5.3. A case study in Cambridgeshire: The Waterlees Community Literacy Project

The Waterlees Community Literacy Project was a successful intervention in Cambridgeshire which improved children's school readiness[44]. The project was run in the Waterlees ward of Wisbech from June 2012-14, and was known locally as 'Waterlees Words'. It had the goal of improving adult and child literacy, with a community approach that focused on improving literacy with a broad range of partners outside of formal education settings. It therefore emphasised supporting individuals with low literacy within the local community, and using local skills and resources to do so.

A range of local partners such as Cambridgeshire Libraries, the Orchard Primary School, Oasis Children's Centre, the CP Learning Trust, and Fenland District Council delivered the intervention. The intervention itself included a range of key activities focused on improving language and literacy. Some examples are below:

- Screening and initial assessments of language and literacy skills.
- 'Micro libraries' provided in three locations to provide an informal means for children and adults to develop an interest in books and reading.
- A piloted use of iPads to support literacy learning, communication and translation (for EAL individuals), and a review of literacy support apps.
- A tool (Pip and Posy) for parents to create a 'book' with their child.
- Read and rhyme sessions for 25 families[45].
- Re-establishment of Family Learning provision in the area, via the Children's Centre.
- Literacy awareness training for service providers working in the delivery settings.

The project had a marked impact. In the three years since the project was initiated, there was a 26% increase in the number of children achieving a 'good level of development' on the EYFSP at the end of Reception. It is important to note that other early years programs were also ongoing in the area over the same time period, and included targeted support for individuals in vulnerable schools and settings, a Free School Meal project in Reception classrooms, and the use of the Early Achievement in Literacy for Children program for preschool and nursery staff. As such, the substantial improvement in EYFSP results in the area cannot be attributed solely to the Waterlees Project; however, there are some important points from the project that suggest why it may have been so effective.

Firstly, it is likely that the activities in the Waterlees Project did improve children's language and communication skills, and this may have supported their performance on the EYFSP. As

[43] Whiteside, K. E., Gooch, D., & Norbury, C. (2016). *English Language Proficiency and Early School Attainment Among Children Learning English as an Additional Language.* Child Development.

[44] With special thanks to Gill Harrison for her time in providing detailed information about the Waterlees Project to include in this report.

[45] It is notable that the 2014 Ofsted report found one school in which 25% more children achieved a good level of development in the EYFSP after taking part in a rhyming program with their family. This suggests that rhyming may be a valuable pathway to improving children's early language abilities.

discussed in Chapter 3 above, the evidence suggests that both children's communication environment and their socioeconomic background shapes their performance at school entry. The communication environment includes factors such as the frequency and quality of parent-child interactions, shared book reading, access to libraries, and the range and quality of children's exposure to language. **The activities in the Waterlees Project may have improved many of these features of children's communication environments**, and thus improving their oral language skills at school entry, and better enabling them to learn. This explanation requires testing and evidence to support it, but it is consistent with both our knowledge about child language development and school readiness and the content of the Waterlees Project. Second, a critical factor may also have been **supporting parent engagement in children's early language and literacy skills**, particularly through parents feeling more positive about participating in literacy and language-based activities themselves.

It is important to note that the other early years projects occurring in the area at the time may have also had similarly positive impacts on children's development. In particular, the targeted support and Free School Meal project may have helped support some of the children most likely to struggle. Further, the use of the Early Achievement in Literacy for Children program for preschool and nursery staff may have been beneficial; both the Law report (2017) and the 2014 Ofsted report recognised **the importance of staff being highly trained in children's early language skills for interventions to be effective.**

For taking similar interventions forward in the future**, Key Performance Indicators (KPIs**) of the effect of interventions on children's language skills could include their expressive vocabulary size (in both pre-school and school-age children), and the amount of short sentences they use (in pre-school children), based on the consistent use of these measures in the academic literature. Standardised measures such as the Peabody Picture Vocabulary Test, the WIAT Word Reading assessment, and Woodcock-Johnson Word Reading tasks also provide a measure of how well children are doing relative to other children their age. However, the disadvantage of such standardised measures is that they are not freely available (i.e. they require payment to access materials), and can be time-consuming to use to assess multiple children. Other good practice strategies used by schools, such as the **'Every Child a Talker'** grids (cited in the 2014 Ofsted report), may be able to be adapted to track individual children's progress in a more fine-grained way.

Finally, **it may also be helpful to compare the percentage of children achieving a good level of development on the EYFSP after such an intervention to an area that did not participate in an intervention.** Comparison areas should have a similar demographic and Indices of Multiple Deprivation (IMD) rating to obtain a clear picture of how the intervention may have impacted children's performance on the EYFSP.

## 5.4. Summary

The evidence reviewed in this section suggests the following key points:

1. The 2014 Ofsted report suggested multiple good practices for improving children's early language skills, which may be helpful for provision in areas of high deprivation.

2. These good practices included:
   i) Staff having an awareness of the importance of listening, speaking and communication skills for development, and to actively make opportunities to support these skills.
   ii) Helping parents engage with their child's talking and communication development in the early years.
   iii) Accurately assessing children's abilities on entry to childcare settings, tracking their progress and passing on these assessments (i.e. to their Reception class) to help identify struggling children at school entry.
   iv) Using Pupil Premium funding to support teaching assistants with clear and specific goals.
3. English as an Additional Language (EAL) pupils tend to do more poorly than non-EAL students on the EYFSP, but often catch up by GCSE level. However, this varies; children who start school at age 5 and have sufficient English language exposure are more likely to catch up than children who join school when they are older. There is currently no strong evidence for interventions to support language and literacy development in EAL children, although recent work suggests their English language proficiency at school entry is an important factor.
4. The Waterlees Community Literacy Project was an example of a successful early years project in Cambridgeshire. The success of the project may have been through the activities bolstering children's early language and communication skills, and increased parental positivity and engagement with children's language and literacy development.

# 6. Conclusions and Recommendations

In the 2011 Allen Report on early intervention[46], Graham Allen MP stated, *"I recommend that a small number of localities…. become focal points for innovation in Early Intervention."* This local emphasis gives the Council the opportunity to take a leading role in advancing our understanding, knowledge, and delivery of effective early interventions. To summarise the contribution of this report to understanding early interventions, the below points provide an overview of the key take-home messages and recommendations arising from this report.

## Key messages

1. **There is an important relationship between deprivation, school readiness and early language development.** Children growing up in deprivation are less likely to be 'school ready', and school readiness is important because it is tied to children's ability to learn and progress when they start school. School readiness is associated with children's early language skills, in terms of speaking, understanding and communication. **Children growing up in deprivation often have poorer early language skills than their peers, and this may therefore constrain their school readiness.**

2. **Deprivation-related language gaps are related to both children's socioeconomic background *and* their early communication environment.** Importantly, the communication environment may be a stronger predictor of children's early language abilities than their socioeconomic background. This suggests that addressing the quality of children's early communication and home learning environment may support the development of children's language skills. **Interventions may therefore be a valuable way to improve children's early language skills, and subsequent school readiness, in areas of deprivation.**

3. **However, there is limited evidence for a set of robust intervention programmes which support children's language development**. Whilst early language interventions frequently improve children's language skills in the short-term, and are inexpensive to implement, the evidence for clear set of reliable interventions is limited. This is largely due to i) the variation in how effective early language interventions are, ii) no clear evidence for the most effective combination of the content, frequency, duration or delivery setting of an intervention for it to have a sustained benefit, and iii) a lack of long-term follow-ups to interventions. **It is likely that any interventions may need to be ongoing to have sustained benefits for children growing up in areas of deprivation.**

4. **Instead, a dual approach to thinking about 'early strategies' to support children may be a beneficial policy to take forward.** This dual approach includes 1) good practices for supporting children's communication and language development

[46] The Allen Report (2011).

integrated throughout children's services from birth, particularly in areas of deprivation, and 2) an awareness of the importance of early language in children's development, with measures in place to identify and support children struggling with language when they reach school. **This approach of 'early strategies' rather than early interventions emphasises the importance of *ongoing* and *comprehensive* support to improve outcomes for children growing up in areas of deprivation.**

5. **Children's problems are multifaceted, and early strategies to improve their long-term outcomes must recognise this.** Whilst this report focused on language development as a means to improve school readiness, children growing up in deprivation will be facing complex difficulties and are likely to require support on multiple fronts. It is therefore important to emphasise here that whilst language is a cornerstone of child development, it is not a 'silver bullet' and should be considered as part of a **set of policies endeavouring to improve children's long-term outcomes.**

## Recommendations

### Recommendation 1: Support the role of parents and caregivers in children's early communication and language development

The evidence that children's early language skills are associated with the home communication environment, rather than simply family socioeconomic circumstances, emphasises the importance of parents and caregivers in children's early language development. It may therefore be a beneficial strategy to promote awareness in parents and caregivers of their role in language development, and to support them in developing skills for high-quality communication with their children.

This could include approaches such as play and language workshops in areas of high deprivation, to provide new parents with ideas for talking and engaging with their children (observed in the Ofsted review, in page 22 of this report). These could be either standalone workshops, or incorporated into existing children's provision. A recent study (McGillion et al., 2017; referenced in this report) also found that showing parents a short video on responsive talking when their child was 11 months old was associated with increased parent communication with their child a few months later, and an increase in vocabulary in children from lower socioeconomic backgrounds. Whilst these gains were not sustained over time, it suggests that informative videos on parent-child interaction may be one route to supporting parent awareness and child language development. This could take the form of an informative 'early language and communication' video section on the Council website, for example, with reminders to parents to engage with the videos at regular intervals to help maintain the positive effects.

It is important to also recognise that increasing parents' own education can have cascading benefits onto child language development. This was suggested by the Waterlees Project, where parent literacy may have also helped their engagement in their children's early

language and literacy skills. The Law et al. (2017) Early Intervention Foundation Report (referenced in this report) also found that increasing parent education was associated with improvements in children's receptive and expressive language skills. These improvements are unlikely to be due to parental education level *per se*, but rather the behaviours that are associated with it which improve children's home learning and communication environment.

Finally, increasing family access to enriching resources may also improve the quality of children's early communication environment. For example, shared book reading with parents, access to libraries, families having access to a range of engaging activities, and attendance at preschool have all been found to be important aspects of a child's communication environment (Roulstone et al., 2015). Emphasising provision of these resources in areas of high deprivation may also benefit children's development.

**Recommendation 2: Develop ongoing strategies to support child language development in children's settings from birth onwards, and throughout the school years**

Enriching language and communication provision in settings working with children could be a strong scaffolding for children's language development. Indeed, the importance of high-quality opportunities for language use in childcare settings, especially for children likely to have poorer language exposure at home, was recognised in both Law reports (2017; referenced in this report).

As recognised in the 2014 Ofsted report on school readiness, particularly effective children's settings were ones where all staff members spoke clearly, and were aware of the importance of promoting opportunities for children to speak, ask questions, and engage in language-rich activities such as role play. In sum, actively engaging with children to improve their language skills was a key feature of settings where children made good progress in their communication, social and emotional development.

Implementing these good practices throughout settings working with children may be an inexpensive strategy, as it primarily constitutes raising awareness of the key importance of child language development and how to support it. It is likely that many of the children's settings in Cambridgeshire already have very high quality language provision. However, a priority could be to ensure that settings in areas of high deprivation also have the resources to provide such good quality provision, especially when many children's circumstances may be more challenging. This provision of high-quality practices for children's early language and communication skills could also include Continuous Professional Development (CPD) for practitioners working in early years and pre-school settings.

In school settings, it may also be beneficial to review the use of Pupil Premium funding to support children growing up in deprived areas. The 2014 Ofsted review noted that one outstanding school used Pupil Premium funding for a teaching assistant to work on language development with small groups of children; in this school children progressed so rapidly that 90% met their Early Learning Goals on the Early Years Foundation Stage Profile. A focused use of Pupil Premium funding may therefore be particularly pertinent in schools with higher levels of deprivation, where there may be a larger proportion of children with language difficulties and more Pupil Premium funding available.

**Recommendation 3: Monitor child language development from the early years onwards**

The evidence reviewed in this report suggested that ongoing monitoring of children's language development from the early years (i.e. 2 years of age onwards) is likely to provide a more accurate indicator of children who may be struggling than a one-off screening (Law et al. 2017, Early Invervention Foundation Report; 2014 Ofsted report). This is because children's language skills can be highly volatile and variable before they are 4-5 years of age, and this variability means it is difficult to identify which children may struggle based on a one-off measurement. This ongoing monitoring could again be particularly important in areas of high deprivation, where children are at higher risk of language delay and poorer school progress (see Figure 1, page 7 of this report, and Figure 3, page 11). The Law (2017) Early Intervention Foundation Report provides an excellent summary of how this monitoring could work:

*"For example, local authorities might develop child records within the Healthy Child Programme[47] that include both the specific language scales within the Ages and Stages assessment (ASQ) at 24-30 months and the three scales of the Early Years Foundation Stage Profile that relate to communication and language. School nurses could also use these records to identify and refer children in need of additional support. At the community level, local authorities could include an analysis of these data as part of their joint strategic needs assessment, as well as use it to inform local strategic plans for improving educational attainment and child health and wellbeing more generally."*

*- Law et al. (2017) Early Intervention Foundation Report, pg. 37*

In particular, using such monitoring data in the Joint Strategic Needs Assessment could help the Council map the language needs of local communities in terms of the proportion of individuals with language and communication difficulties, and tie them to other associated outcomes such as behavioural and social development, mental health, and educational progress. The fine-grained monitoring of children's language development also dovetails with Recommendations 1 and 2 above, by helping to more reliably identify children who may be at risk of language difficulties at school entry and provide additional support either through pre-school/Reception class settings or via family support.

**Recommendation 4: Measuring the effect of policies on children's development**

The final recommendation concerns how to measure the impact of early strategies or interventions on children's language development. The evidence reviewed in this report suggests a few helpful ways to think about measuring outcomes.

Firstly, measuring child language development can be done through children's spoken vocabulary size in both the pre-school years and school years, and their use of 2-3 word sentences in the pre-school years. Roulstone et al. (2017) found that children's vocabulary size and number of 2-3 word sentences at age 2 predicted performance on the EYFSP in the Reception year. Whilst these measures only predict a relatively small amount of the

[47] The Healthy Child Programme: https://www.gov.uk/government/publications/healthy-child-programme-pregnancy-and-the-first-5-years-of-life

variation in children's performance at school entry, they may be helpful measures of language development to test whether the use of certain policies or practices improves children's language skills.

Second, for linking children's language skills to target outcomes it is important to select specific outcomes of interest *over time*; for example, the EYFSP at the end of Reception, performance at the end of Year 1, at the end of Key Stage 1, and so on. As discussed in Chapter 4 of this report, there remains very little evidence about the long-term effects of any early interventions on children's outcomes. It is particularly important to build this evidence base for children growing up in deprived areas, where their family socioeconomic background may exert a more profound effect over time than any such intervention (see Figure 2, page 9 in this report). For example, following the Waterlees Project it may be of interest to compare performance in the Waterlees ward to wards with similar characteristics (e.g. demographics, deprivation indices, school provision) to assess whether the literacy and early years interventions may have had any sustained effects on children's outcomes.

Finally, in collecting data from targeted interventions or broader early years strategies it may be important to consider measures that aid understanding of the *mechanism* by which early strategies or interventions improve outcomes for children growing up in areas of deprivation. For example, important factors could include the age of children at the time of an intervention or start of an ongoing policy; whether the intervention or policy focused on improving language and communication through children's settings, schools, parent interaction and home environment, or a combination of these delivery settings; the duration of any intervention or policy; and the content, such as seeking to improve child vocabulary at pre-school, or broader spoken language through interactions with parents or caregivers.

It is likely that these factors may be important in different ways depending on individual children's abilities, and the richness of language exposure in their home communication environment. Collecting data on such measures may build a clearer picture of why certain policies may (or may not) work, and which policies may be effective for areas facing particular challenges. This is also important because of the complex and multifaceted nature of deprivation. The most effective policies may vary between areas of high deprivation, and building evidence capable of addressing this is a worthwhile aim.

## Conclusion

There is clear evidence for a social gradient in children's language abilities and school readiness. Children growing up in deprivation are more likely to have poor early language skills and subsequent attainment when they start school. However, deprivation can be thought of as a *risk factor* for poorer language and school readiness rather than determining it. Deprivation does not cause language difficulties per se; evidence suggests that the early communication environment *associated* with deprivation may influence children's language abilities and performance when they start school. This suggests that gaps between children from areas of high deprivation and their peers could be at least partially addressed by early interventions to support child language development, and subsequent school progress.

However, there is limited evidence for reliable early interventions to improve children's language skills before they start school. Whilst almost all interventions show positive effects on language development, there is substantial variability in the size of this effectiveness. Further, little is known about whether the effects of interventions are sustained over the long-term, and what precise combination of features makes early intervention successful. Because of these constraints it is challenging to recommend a set of effective early interventions, especially for directing limited resources to.

A productive approach may be to instead think in terms of early *strategies* which promote ongoing and sustained support for children, rather than targeted or time-limited early interventions. As such, this report suggests a dual approach to continuously supporting children's language development in areas of deprivation: i) high-quality practices that are integrated through children's settings from birth onwards, and ii) an awareness of the importance of early language in children's development, with a view to identifying and supporting children who are particularly struggling with their language skills at school entry. This approach aligns with recent reviews emphasising that for interventions to be effective in the long-term it is likely that they need to be sustained over time.

To achieve this, this report suggests four key recommendations:
1. Support the role of parents and caregivers in children's early communication and language development.
2. Develop ongoing strategies and practices to support child language development in children's settings from birth onwards, and throughout the school years.
3. Monitor child language development from the early years onwards, to better identify and support children struggling at school entry.
4. Measure the effect of policies on children's development, to understand what best supports children in different areas of high deprivation.

Finally, it is important to strike a balance between the promises and limitations of policies to improve outcomes in areas of deprivation. Children's development is complex; it is shaped by multiple factors, and a deprived environment can have a profound impact on development. Whilst it is crucial to support children's language abilities and school readiness in areas of deprivation, it is nonetheless important to consider these as part of a wider set of policies endeavouring to improve outcomes, which are maintained throughout the course of children's development.

# Further Resources

1. **The Allen Report on Early Interventions: The Next Steps**
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284086/early-intervention-next-steps2.pdf

2. **Early Years Toolkit** from the Education Endowment Foundation -
https://educationendowmentfoundation.org.uk/evidence-summaries/early-years-toolkit
A useful resource which has brief summaries of evidence for each type of intervention approach, its cost and the strength of evidence for it.

3. **The Early Intervention Foundation:** http://www.eif.org.uk/publication/
The EIF also has a range of useful reports on various approaches to early intervention.

4. **The Law et al. (2017) reports:**

i) **Education Endowment Foundation:**
https://educationendowmentfoundation.org.uk/public/files/Law_et_al_Early_Language_Development_final.pdf

ii) **Early Intervention Foundation:** http://www.eif.org.uk/wp-content/uploads/2017/09/language-child-wellbeing-indicator_Sep2017.pdf

Excellent and informative reports about child language development, socioeconomic effects on language, and interventions. The Education Endowment Foundation report also provides a detailed case study of provision for early child language services in Peterborough. In the Early Intervention Foundation report, the Appendices include a wealth of resources on organisations and initiatives which focus on language development.

5. **A guide to engaging in responsive talking with children** to support their language development, for professionals in day care settings:
https://www.sheffield.ac.uk/polopoly_fs/1.731434!/file/NurseryWorld.pdf
An article written for professionals in childcare, or working with children more generally.

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