

Why Closing the Word Gap Matters: Oxford Language Report



Contents

| | |
|---|----|
| Foreword by Jane Harley | 2 |
| The word gap: what does the research tell us? | 3 |
| The word gap in secondary schools by Lionel Bolton | 8 |
| Mind the (word) gap by Geoff Barton | 9 |
| Case study: Handsworth Grange Community Sports College | 10 |
| The impact of the word gap in primary schools by Andrea Quincey | 11 |
| Vocabulary – caught or taught? by Jean Gross CBE | 12 |
| Case study: Ideas for developing vocabulary by Janine Wooldridge | 13 |
| The importance of developing a rich vocabulary by David Reedy | 14 |
| The importance of learning language in the context of use by Professor Teresa Cremin | 15 |
| Reading and language acquisition by James Clements | 16 |
| Vocabulary development and reading comprehension: a reciprocal relationship by Professor Kate Cain and Professor Jane V. Oakhill | 17 |
| Aspects of vocabulary development by Professor Jane V. Oakhill and Professor Kate Cain | 18 |
| Edging across a crocodile's back by Joseph Coelho | 19 |
| Why reading for pleasure is a social justice issue by Dr Ian Thompson and Nicole Dingwall | 20 |
| The <i>Oxford Children's Corpus</i> by Vineeta Gupta | 21 |
| How are schools reducing the word gap? | 22 |



Foreword



Jane Harley

Language opens doors. It unlocks the world of reading and the imagination, the excitement of writing, the capacity to explore new subjects and releases our potential to learn and grow as an individual. In schools, it underpins progress, impacts on attainment throughout primary and secondary years, affects self-esteem and behaviour and plays a huge role in a child's future life chances. Without enough language – a word gap – a child is seriously limited in their enjoyment of school and success beyond.

Oxford University Press (OUP) monitors children's language in an ongoing way through the *Oxford Children's Corpus* – the biggest living database of children's reading and writing in English. We track the development of new vocabulary, the fascinating and often creative uses of words, and the power of children's ability to distil new ideas and express them in novel and exciting ways. We also conduct research in schools to better understand the needs of pupils of all abilities and the challenges facing teachers.

For our *Oxford Language Report* we carried out market research with more than 1,000 teachers. Over half of those surveyed reported that at least 40% of their pupils lacked the vocabulary to access their learning. 69% of primary school teachers and over 60% of secondary school teachers believe the word gap is increasing¹. While certain pupil groups may be more likely to have a limited vocabulary, for example those with special educational needs (SEND) or children learning English as an additional language (EAL), in reality the word gap is an issue that affects all pupils². We know from other research³ that the size of a child's vocabulary is the best predictor of success on future tests and children with a poor vocabulary at five are four times more likely to struggle with reading in adulthood and three times more likely to have mental health issues. There is a government focus to do something about this in the Early Years, but what of the primary and secondary school children who are falling ever further behind as they progress through school? How can they best be helped?

Language is at the heart of education. We believe that more needs to be done to address the word gap throughout school and give teachers the support to make a difference to these children's lives. We invited academics and practitioners to offer their thoughts in this report. There is evidence of great practice in many of the schools we contacted and in the suggestions from our experts; how can this be shared to help all children have access to the best quality conversations, books and ideas? We are calling on policy makers and all those involved in education to find ways to close the word gap. Too much is at stake for us to ignore this complex issue.

Jane Harley is Strategy Director, UK Education, Oxford University Press

Over half the teachers surveyed reported that at least 40% of their pupils lacked the vocabulary to access their learning.



69% of primary teachers
60% of secondary teachers
believe the word gap is increasing

¹Oxford University Press (2018). *Oxford Language Thought Leadership Report*. (Available on request)

²Oxford University Press (2018) op cit.: 44% of primary school teachers in the survey (of 473 primary teachers who took part) and 43% of secondary school teachers in the survey (of 840 secondary teachers who took part) reported that this is a general problem not specific to any one group of students.

³Law, J., Charlton, J., Asmussen, K. (2017). *Language as a Child Wellbeing Indicator*. Early Intervention Foundation/Newcastle University.

The word gap: what does the research tell us?

Background to the OUP research into the word gap

The term “word gap” is typically used to refer to children in Early Years’ settings or pupils entering primary school with a vocabulary far below age-related expectations. However we know that this issue affects a wider range of children, and not just those starting school. This word gap can be present throughout a child’s education and beyond. To better understand this complex issue we conducted an online survey with teachers.

Our objective was to answer the following questions:

1

What proportion of children are affected by the word gap in UK primary and secondary schools?

2

What are the root causes of the word gap?

3

How does the word gap impact on pupils’ academic achievement, as well as their wider life chances?

4

What successful strategies have schools put in place to close the word gap?

By answering these important questions OUP hopes to be able to better support schools to narrow and ultimately close the word gap.

Participants in the OUP research

The survey was met with an enthusiastic response. We received over 1,300 completed surveys from teachers across the UK, including responses from 840 secondary school teachers and 473 primary school teachers. We collected a diverse range of teacher perspectives as participants had a range of job titles, taught various subjects and were from different education phases. The survey was live between December 2017 and January 2018.

Over 1,300 primary and secondary school teachers took part in the OUP research



What is the proportion of children affected by the word gap?

Our research found that the word gap represents a significant and widespread challenge to both primary and secondary schools.



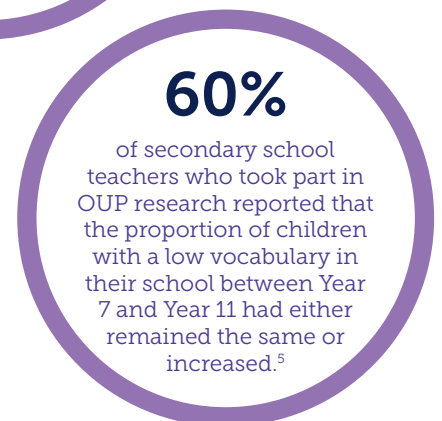
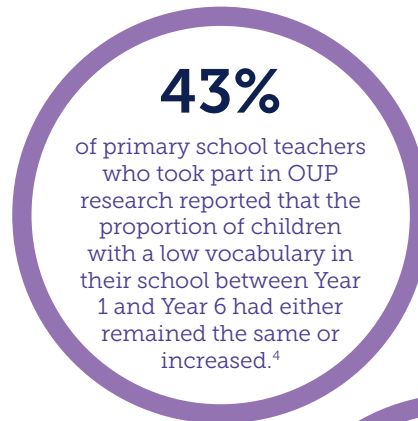
On average, primary school teachers who took part in the survey reported that 49% of Year 1 pupils have a limited vocabulary to the extent that it affects their learning.

On average, secondary school teachers who took part in the survey reported that 43% of Year 7 pupils have a limited vocabulary to the extent that it affects their learning.



The word gap persists across age groups.

Teachers reported that despite implementing a wide range of programmes, the proportion of pupils with a limited vocabulary remains stubbornly high across all age groups.



The number of pupils who have a limited vocabulary is increasing.

Although the word gap is already large, both primary and secondary school teachers report that they feel the word gap is increasing.

69% of the primary school teachers who took part in the survey said that they think the number of pupils with limited vocabulary is either increasing or significantly increasing in their schools compared to a few years ago. A similarly high proportion of secondary school teachers believe the word gap has increased in recent years (60%).⁶

⁴Oxford University Press (2018) op cit.: 24% of primary teachers surveyed (of 400 who took part) saw no change to the proportion of pupils with a limited vocabulary to the extent it affects their learning in their time at school between Year 1 and Year 6. 19% of primary teachers surveyed have seen an increase in the proportion of pupils with limited vocabulary in their school between Year 1 and Year 6 in their school.

⁵Oxford University Press (2018) op cit.: 27% of secondary teachers surveyed (of 703 who took part) saw no change to the proportion of pupils with a limited vocabulary to the extent it affects their learning in their time at school between Year 7 and Year 11. 33% of secondary teachers surveyed have seen an increase in the proportion of pupils with limited vocabulary between Year 7 and Year 11 in their school.

⁶Oxford University Press (2018) op cit.: 50% of primary teachers surveyed (of 473 who took part) felt the proportion of pupils with a limited vocabulary is increasing. 19% felt it is significantly increasing. 48% of secondary teachers (of 840 who took part) felt the number of pupils with a limited vocabulary is increasing. 12% felt it is significantly increasing.

What are the root causes of the word gap?

Language variation in children is a complex issue and it is therefore impossible to attribute it to one specific cause.

Numerous studies have been conducted to better understand the root cause of the word gap, and corroborate what teachers have told us in this study. There is abundant evidence that the rate at which children develop language is sensitive to the amount of input that they receive from parents and primary carers. A strong correlation can be made between the number of words a child comes in contact with on a daily basis and the breadth of their vocabulary. Hart and Risley best demonstrated this in their ground-breaking study in the 1990s.⁷

Alongside quantity, the quality of parent-child interactions is also an important factor. High quality interactions include talking about the child's focus of interest, varying vocabulary, and using words in different contexts.

These interactions give children a stronger grasp of language by the time they start school, an advantage which stays with them throughout their education. If it is not dealt with in the early years, the word gap is shown to widen as the child gets older. While quantity and quality of parent-child communication interactions are vital, research indicates that there are underlying variables that have a role in language development. One such study is Hart and Risley's research into the importance of socio-economic factors in this context.⁸



“Language variation in children is complex and difficult to attribute to a single cause. Regardless of the causes, low levels of vocabulary set limits on literacy, understanding, learning the curriculum and can create a downward spiral of poor language which begins to affect all aspects of life. The prospects for children entering school with low levels of vocabulary are a compelling reason for us to work to understand the way children learn in order to try and find solutions.”

Kate Nation, Professor of Experimental Psychology,
University of Oxford



⁷Hart, B. and Risley, T. (2003) 'The Early Catastrophe – The 30 Million Word Gap by Age 3'. American Educator. 27, pp.4-9.

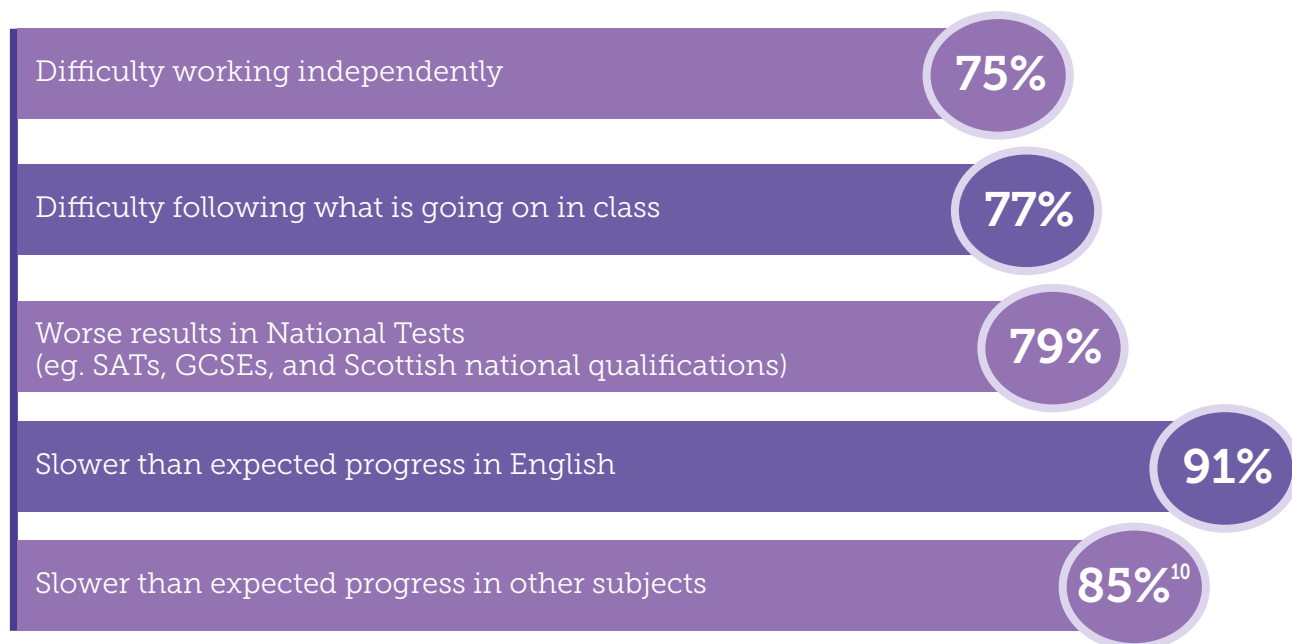
⁸Hart, B. and Risley, T. (2003) op cit.

What does the word gap mean for a child's academic achievement and wider life chances?

The word gap has a significant impact on a child's academic potential.

Almost all primary school teachers surveyed by OUP felt that the word gap resulted in weaker comprehension skills and slower than expected progress in reading and writing. Secondary school teachers overwhelmingly stated that a low vocabulary affects a child's progress through secondary school across a wide range of subjects. The vast majority of those surveyed (86% of primary teachers and 80% of secondary teachers) responded that they thought it was very or extremely challenging for pupils with a limited vocabulary to read national test papers. Consequently, 82% primary teachers and 79% of secondary teachers noted that these pupils are likely to get worse results in national tests.

The diagram below illustrates the proportion of secondary teachers surveyed who believe the word gap is impacting on pupils' academic achievement in the following ways⁹.



Language is the foundation of education and is vital for social and emotional development. Children with poor oral language are at high risk of poor literacy and hence, educational failure. They can also experience difficulty in communicating to make friends, to join in activities and to express their feelings. While there is no 'quick fix', there is robust evidence that interventions which target oral language skills do have significant potential for improving educational outcomes by strengthening children's understanding, speaking and reading comprehension skills.

Professor Maggie Snowling CBE,
President of St John's College, Oxford

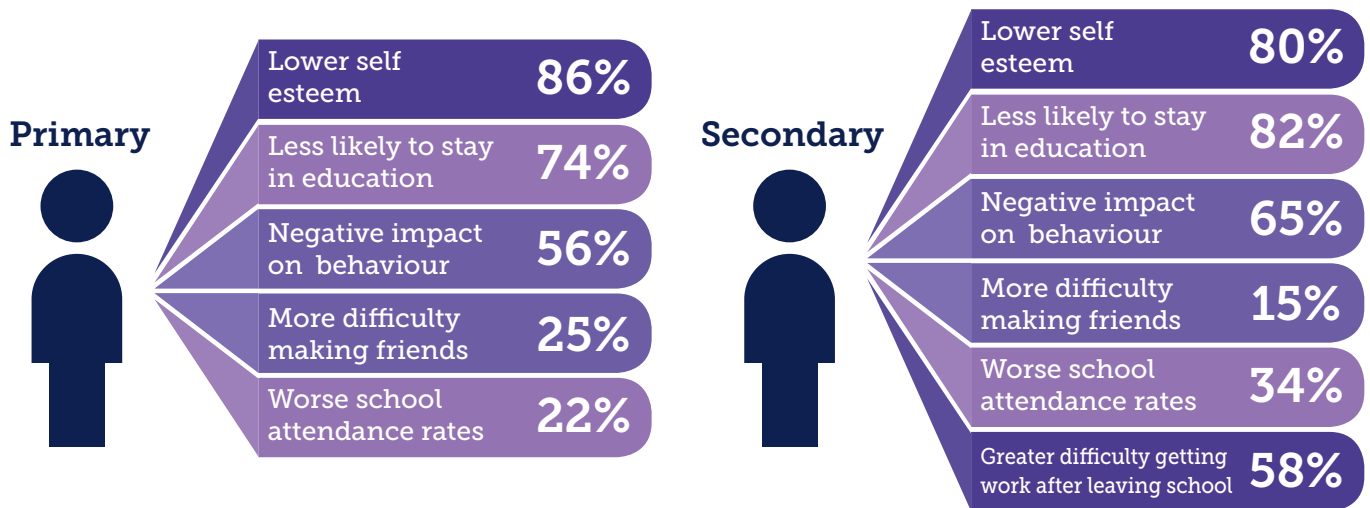


⁹Oxford University Press (2018) op cit.: 840 secondary teachers were asked, "In what ways does vocabulary deficiency impact on a pupil's academic achievement?"

¹⁰Oxford University Press (2018) op cit.: 85% is an aggregated figure; teachers reported slower than expected progress in Geography (86%), History (90%), and Religious Studies (78%).

Besides the effect on academic work, both primary and secondary teachers observed that low levels of vocabulary also impede pupils' wider life chances and mental health.

Self esteem, behaviour and a child's ability to make friends were all felt to be negatively affected by low levels of vocabulary. The diagram below illustrates the proportion of teachers surveyed who believe the word gap is impacting on pupils in the following ways¹¹.



Leading academics have made similarly stark conclusions about the impact the word gap has on a child's academic performance and wider life chances.



¹¹Oxford University Press (2018) op cit.: 473 primary teachers and 840 secondary teachers were asked, "Do you think vocabulary deficiency has any impact on a child's wider life chances with regards to the following?"

¹²Department for Education, 2017 <https://www.gov.uk/government/speeches/justine-greening-our-ambition-is-to-leave-no-community-behind>

¹³Law, J., Charlton, J., Asmussen, K. (2017) op cit.

¹⁴Law, J., Charlton, J., Asmussen, K. (2017) op cit.

¹⁵Law, J., Charlton, J., Dockrell, J., Gascoigne, M., McKean, C., and Theakston, A. (2017) *Early Language Development: Needs, provision and intervention for preschool children from socioeconomically disadvantage backgrounds*. Education Endowment Foundation

The word gap in secondary schools



Lionel Bolton

“The limits of my language means the limits of my world,” wrote Ludwig Wittgenstein in 1921. Nearly 100 years later not only does this appear to ring true for many secondary school-age children, but secondary school teachers are telling us that the word gap is getting wider¹⁶ with worryingly significant consequences¹⁷.

Whether a child is 11 years old and in Year 7, or 16 years old and in Year 11, if there are words in a task that they do not understand, they will struggle to complete the task. The 11 year old is likely to be able to ask for help or access a dictionary; a 16 year old in their GCSE exam cannot. And if they do understand all the words in the task, if their vocabulary is lower than their age, their written response may be less articulate, less effective, and ultimately achieve a lower mark.

This of course is not new – it has ever been thus. But with the changes that have been brought in by the new GCSE exams – increased rigour, removal of controlled assessment, and tiering in most subjects – the vocabulary challenges posed are even more pronounced. The wider consequences are also significant, with teachers reporting lower self-esteem amongst their students affecting their studies, their well-being, and their engagement with education¹⁸. Despite these consequences, 38% of secondary school teachers surveyed said that they were unable to provide specific vocabulary support. Most cited insufficient time and not enough additional teaching support as the main challenges¹⁹.

Without the necessary vocabulary, the word gap will always be a major barrier for students striving to make progress and achieve their best. All of us who work in education are acutely aware of the importance of words, the power they contain and the worlds they unlock. So whether the support is through teaching, educational resources or encouragement at home, our duty is to ensure that all students are equipped with all the words they need for a lifetime of opportunities.



Lionel Bolton is the Head of Secondary English and Languages at Oxford University Press

“Our duty is to ensure that all students are equipped with all the words they need for a lifetime of opportunities.”

¹⁶Oxford University Press (2018) op cit.: 60% of secondary teachers surveyed (of 840 secondary teachers who took part) reported that the number of students who have a limited vocabulary is either increasing or significantly increasing.

¹⁷Oxford University Press (2018) op cit.: 80% of secondary teachers surveyed reported that students who have a limited vocabulary find reading national test papers very or extremely challenging and 79% felt that they achieved worse results in national tests.

¹⁸Oxford University Press (2018) op cit.: 80% of secondary teachers surveyed reported that the word gap leads to lower self-esteem, 65% report that this has a negative impact on behaviour, and 82% report that students are less likely to stay on in education.

¹⁹Oxford University Press (2018) op cit.: 75% of secondary teachers surveyed cited insufficient time to dedicate to teaching of vocabulary as a main challenge when trying to improve the vocabulary breadth of pupils. 59% cited not enough additional staff support (e.g. TAs)

Mind the (word) gap



Geoff Barton

Let's start with what we know: language matters. There. That's it.

Vocabulary is a huge predictor of how far children from any background will succeed at school and beyond. The words they know will help them to read, understand, gain new perspectives, and change or confirm their world view. The words they use will give them precision, clarity, nuance, as well as being used to judge them in exams, in life.

We – the word-rich – know this.

Thus the Year 10 pupil who says, "At the start of the play Macbeth is a hero but at the end he is a villain," will be judged as less intelligent than the one who writes, "Although he begins the play a hero, Macbeth ends as a villain."

Yet this isn't a matter of intelligence. It's about vocabulary.

And that's why I think we should welcome an emphasis on closing the word gap. In reality the word gap will depend upon your circumstances rather than your choices – your home, your family, the richness of language and relationships, the presence of books and conversations, the habits you form as you grow up. These are things largely beyond our control.

And the problem with all of this for secondary teachers in particular is that such a context can render us vaguely helpless. Because if so much of the word gap is established so early, what does that leave for us to do, in our classrooms, across our subjects, with classes hurtling towards make-or-break examinations?

That's why I continue to believe that whole-school literacy remains the final frontier in our schools. Instead of feeling on the collective back foot, there are things we can each do to empower children and young people.

“Vocabulary is a huge predictor of how far children from any background will succeed at school and beyond.”

First – headteachers and principals need to act as leaders of learning. Whatever the other distractions, learning must be our core business. We set the tone for it. We make it happen in our schools. Thus we all need to know why literacy matters, and to ensure that someone in our leadership team relentlessly moves the literacy agenda forward, translating good intentions into action.

Second – middle and senior leaders need to frame literacy in their schools as not really being a matter of literacy. It's about teaching and learning. That means a teacher of Design Technology (DT) should see that his or her responsibility includes helping pupils to speak, read and write like a designer.

Which brings us to our third ingredient – for every teacher to know the key vocabulary of their subject. For example, in DT, "construct", "proximity", and "alignment", and the key vocabulary beyond their subject ("despite", "imply", "however").

This collective mission around vocabulary really isn't so difficult. And the rewards are significant. Because when we talk of closing the word gap, we actually mean something much bigger than that unassuming phrase implies.

We mean welcoming a child into a world of new ideas, insights and emotions, into a world that we, the word-rich, take for granted, and which we will routinely guarantee for our own children. That empowerment that comes through vocabulary should be the birthright of every child, whatever their background.

Geoff Barton is General Secretary of the Association of School and College Leaders. He was an English teacher for 32 years.

Case study: Handsworth Grange Community Sports College

Handsworth Grange Community Sports College is a secondary school (for ages 11–16) with 1,012 pupils on roll. 38% of pupils are entitled to the Pupil Premium and 42% speak English as additional language (EAL). In October 2017, Ofsted found the school to be outstanding in all areas.

The word gap at Handsworth Grange

The word gap poses a significant challenge for staff at Handsworth Grange. A large proportion of pupils start Year 7 with vocabulary that is limited to an extent that it could potentially affect academic achievement. Low levels of vocabulary can also impact on pupils' confidence resulting in some becoming disengaged.

Closing the word gap

In light of the increased demands of the reformed GCSEs in English Language and Literature, the English Department implemented a targeted programme. For one hour per week, all Year 7 pupils participate in an additional English lesson, focusing on:

- an increased exposure to a range of unseen texts
- exploring thinking about texts
- building language for discussion of texts.

Whole-school strategies

Concerns about low levels of vocabulary raised by the English Department were shared by the school as a whole. As a result, in September 2017, Handsworth Grange implemented a whole-school programme focusing on vocabulary, reading and comprehension.

- Vocabulary is explicitly taught in all subjects. New words are introduced and revisited a number of times in a lesson, ideally in different ways.
- Pupils are encouraged to read aloud across all subject areas. Staff use brief comprehension questions to determine what pupils have and have not understood.
- Staff develop pupils' oral language by:
 - expecting answers in full sentences
 - scaffolding pupils' answers
 - allowing pupils time to rehearse their thoughts
 - encouraging pupils to think about their use of fillers, such as "innit"
 - repeating pupils' answers using synonyms, especially more academic ones.

Focus on reading

Negative attitudes to reading can be a barrier to overcoming the word gap. As such, staff recognise the importance of fostering an enjoyment of reading throughout the school.

Pupils are read to twice a week in tutor time. Hearing an adult who understands the text reading aloud can help to build vocabulary. Through these tutor group sessions, pupils encounter around 15 additional texts by Year 11.

Signs of progress

It is not yet possible for staff at Handsworth Grange to undertake a detailed analysis of the impact of strategies designed to close the word gap. However, teachers have already observed a number of improvements.

- An increase in reading ages, especially among pupils eligible for the Pupil Premium.
- An improvement in the quality and fluency of written work.
- Increased confidence and engagement.

"Literacy is developed extremely well across the curriculum. The teachers' consistent approach is clearly focused on improving pupils' vocabulary, comprehension and reading skills. Consequently, teachers actively increase the range of language that pupils can use, including subject-specific terms. As a result of this effective practice, pupils gain confidence, understand more complex texts and respond more fully to examination questions."

Ofsted Report, October 2017

The impact of the word gap in primary schools



.....

Andrea Quincey

It has been evident to me for many years that one of the key challenges facing primary teachers is the growing number of children coming into our schools with a limited vocabulary and poor communication skills. Talk to anyone involved in primary education and most will tell you this is the “number one issue”. The reasons for this are many and complex but one thing is clear: this word gap affects **EVERYTHING**.

.....

| A child without words will often ... | Let's just think about what that means for the child ... |
|---|---|
| Struggle to understand and follow verbal – never mind written – instructions | Is this child disobedient? Badly behaved? Or just confused? How might such a child feel when faced with a task or a test? |
| Struggle to articulate their own needs and feelings including things they don't understand | How does this child get help? Does he or she slip into silence or find other ways of getting the teacher's attention? |
| Only ever learn the “mechanical” process of reading – decoding words without finding meaning and never really getting to the “pleasure” bit of reading at all | That's right – this poor child may never choose to do the one thing guaranteed to increase the breadth and depth of their vocabulary. (The word you're looking for isn't irony, it's TRAGEDY!) |
| Lack ideas and imagination for talk and creative play with their peers | We all know that the playground can be a harsh and lonely environment for the child that has trouble joining in. |
| Struggle with both verbal communication and writing beyond the basic or functional | Never mind the fronted adverbials, what on earth is this child going to write about? |
| Suffer from a lack of self-esteem, confidence and motivation | Children are smart – even if they are struggling – and will quickly identify themselves as weak learners, falling behind their peers. Some might decide to try harder; most will resign themselves to failure and stop trying. |

It is relatively easy to assume a link between the word gap and the rise of the EAL population, with parents who themselves had poor educational outcomes, with economic disadvantage or perhaps even with gender differences. The research carried out by OUP highlights that, sadly, this is a much wider problem.

It is therefore more important than ever that primary teachers – in all year groups – are given time across the curriculum to close the word gap so that our young children can succeed in primary school and beyond, both academically and socially.

Andrea Quincey is the Head of English, Primary, at Oxford University Press



Vocabulary – caught or taught?



Jean Gross CBE

Most teachers, research²⁰ tells us, develop children's vocabulary by explaining a new word once. For some that is enough, but not for all.

A "football net" analogy helps explain why. Luckier children have lots of words in their heads, all connected in a web of phonological, semantic and grammatical associations. When we explain a new word, this tight football net can catch and hold it. Other children have many fewer words in their net, not well connected to each other. Their football net has holes in it. So when a new word is introduced, it goes straight through the holes and is forgotten. For these children a quick explanation won't do the trick. Words will need to be explicitly taught and repeatedly practised.

Andrew Biemiller²¹ estimates that if a child is in the lowest 20% in vocabulary knowledge at age five, and you want them to move to an average level within three years, they would have to learn 20 new words a day, every day. Might this suggest to government, perhaps, that some of the time we currently devote to punctuation and grammar in the primary years might usefully be diverted to vocabulary learning? And that secondary schools might want to develop a strategy for teaching a core corpus of useful vocabulary across the curriculum? After all, vocabulary skills at age 13 strongly predict both Maths and English Literature GCSE results more strongly than socio-economic background²².

We should never assume that children know the meaning of even simple words. As an educational psychologist I assessed children of all ages and abilities using a test that asked them to say what "on purpose" meant. Very few could do this, despite often hearing "You did that on purpose" at home and in school. Similarly, work with young offenders has shown that they often don't understand very basic words like "victim", "punishment", and "appointment". So always check for understanding.

There is no shortage of ideas on how to choose the right words, then teach them. I've collected hundreds in my book *Time to Talk*, like having a shared set of "What it sounds like/means/links to" mindmap slides on the school's network. There are also many fantastic small-group intervention programmes available. But what I've also learned is the importance of providing children with a language-rich environment – the "caught" as well as the "taught". Whether this is a topic-related role play area in key stage 2, drama in a secondary setting, or simply plenty of opportunities for purposeful talk in everyday lessons, it's vital for every school.

Jean Gross CBE was formerly the government's Communication Champion for children and young people. She is the author of numerous articles and best-selling books on children's issues, including *Beating Bureaucracy in Special Educational Needs* (2013, David Fulton) and *Time to Talk* (2017, Routledge).

Vocabulary skills at age 13 strongly predict both Maths and English Literature GCSE results more strongly than socio-economic background²³.



²⁰Scott, J., Jamieson-Noel, D. and Asselin, M. (2003) Vocabulary instruction throughout the day in 23 Canadian upper-elementary classrooms. *Elementary School Journal*, 103: 269–286.

²¹Biemiller, A. (2011) Vocabulary: what words should we teach? *Better: Evidence Based Education*, Winter: 10-11.

²²Spencer, S., Clegg, J., Stackhouse, J. and Robert Rush, R. (2017) Contribution of spoken language and socio-economic background to adolescents' educational achievement at age 16 years. *International Journal of Language and Communication Disorders*, 52:2

²³Spencer, S., Clegg, J., Stackhouse, J. and Robert Rush, R. (2017) op cit.

Case study: Ideas for developing vocabulary

Janine Wooldridge spent 13 years as a classroom teacher in Manchester, London and Liverpool, teaching from Reception to Year 5, before moving into one-to-one teaching. She currently teaches at the Unicorn School in Abingdon, a school for children with dyslexia and other language difficulties. Below she shares some practical ideas to help children build their vocabulary.

.....

Tier 1 words are basic words used often in everyday conversation, e.g. go, play.

Tier 2 words are complex words that are more likely to occur in academic settings, e.g. compare, neutral.

Tier 3 words are highly specialised, subject-specific words, e.g. isosceles.

24

Tier 2 vocabulary activities

- Discover and explore words in the context of books, stories, and common or current events in pupils' lives, rather than in isolation. Involve pupils in working out the meaning of a word from the context or in developing a definition.
- Poorer readers will only have access to more advanced vocabulary if they are exposed to good quality texts above their reading age. So, plan for plenty of shared reading with the class. Specially explore vocabulary a few times a week.
- When sharing a book with a pupil or the class, select words they may be unfamiliar with. Talk about them, display them, sort them (is it a noun or an adjective?), act them out, discuss synonyms and antonyms. Use the words in vocabulary games for pairs or groups of children.
- Show video clips or pictures to illustrate words or phrases that occur in the book you're reading, for example: The dog snarled viciously.
- Provide a cardboard bookmark for each pupil to record unfamiliar words as they read independently. Share frequently to discuss meanings and consider how to use them.
- Build a depth of knowledge of new words by revisiting them often, in different ways, and in different contexts, for example, for bitterly cold: watch a video of a snowstorm, handle some ice cubes, act out being "bitterly cold", draw a picture of people on a bitterly cold day (What are they wearing? How can we show the wind?).

- Create an excitement about discovering new words. Talk about how everyone continues to learn new words throughout life from reading, television, conversations. It is OK not to know what a word means – we can find out. Sometimes we have heard a word but we are not sure how to use it.
- Synonyms can rarely be used in exactly the same way. Explore shades of meaning and the most suitable word for a particular context. Discuss precise meaning and differences, for example, staggered, walked, wandered.

Tier 3 vocabulary activities

- When planning a science or history topic, make a list of vocabulary that pupils will need to know. Display, refer to, and revisit this list often. Share pictures for as many of the words as possible.
- Send the list of words home. Ask pupils to carry out an orientation project before the topic starts. They should produce a video, photos, a picture or a performance, to illustrate a few of the words. Pupils can then present their project to the class.
- Provide opportunities for pupils to act out, draw and watch videos of the focus vocabulary.
- Try to share attention with the class that links with the science or history topics, drawing attention to subject-specific vocabulary.

.....

²⁴Beck, I.L., & McKeown, M. G. (1985). 'Teaching vocabulary: Making the instruction the goal'. *Educational Perspectives*, 23(1), 11-15.

The importance of developing a rich vocabulary

David Reedy

Many teachers report that increasing numbers of children enter educational settings with limited development of their spoken language, particularly vocabulary. Research identifies this word gap as a key strand in the range of areas identified as being the components of speech and language development: expressive and receptive language, rather than “the phonological, articulatory, or pragmatic facets”²⁵.

In my view, more limited vocabulary development is a product of less experience of rich conversations within engaging shared activity. Therefore such children could be termed “less experienced language users” rather than having complex or clinical language and communication difficulties. This limited vocabulary means that these children will be at a disadvantage in areas of the school curriculum, particularly reading.

However, the good news is that research and practice have identified effective classroom strategies that can help children to develop a wider vocabulary and close the gap with their peers.

A good place to start is the research synthesis on vocabulary instruction by the US National Reading Technical Assistance Center²⁶. It focuses on the relationship between vocabulary and reading development, and provides a range of specific practical strategies that teachers and Early Years professionals can use for vocabulary instruction. It found that children will most effectively learn to see the relationship between vocabulary and the “real” or “fictional” world when that vocabulary is introduced in practical contexts and conversations. But the adults must be constantly conscious of the vocabulary they are using.

Two starting points to consider when reflecting on the vocabulary in Early Years settings:

1. Plan to use practical, meaningful contexts such as everyday classroom routines to expand vocabulary. For example, say “Could you help me to distribute the fruit?” rather than “Give out the fruit”. In Barking and Dagenham, a small scale unpublished piece of research looked at the language adults used in Early Years settings when they were talking with children.

Research found frequent use of pronouns and the same very common words in the adults. For example, “Pick that up and bring it to me from over there,” rather than richer language, “Walk slowly to the home corner and pick up the red triangle carefully and return it to me”. Richer vocabulary was introduced in these everyday contexts and the quality of observed language use in the children increased dramatically. When children are deeply engaged in tasks with us, we should challenge ourselves to use rich vocabulary.

2. Introduce children to lots of vocabulary through reading aloud. Again, challenge yourselves: are your teachers, and your Early Years educators, reading to every child every day?

Although teachers can influence home vocabulary and language use through working with parents, it is much more within the control of schools to use the practical methods outlined above and in the research summaries to introduce children to more extensive vocabulary. Educators should always reflect on the quality of the language and conversations they have with children, focusing this effort on engaging contexts which will enable those children to develop a richer vocabulary.

David Reedy is General Secretary and Immediate Past President of the United Kingdom Literacy Association and was Co-Director of the Cambridge Primary Review Trust (2013–17). Until 2014 he was Principal Adviser for primary schools in the London Borough of Barking and Dagenham.

²⁵Department of Education Northern Ireland (2017). Speech, Language and Communication Difficulties is an excellent summary <https://www.education-ni.gov.uk/sites/default/files/publications/de/speech-language-and-communication-difficulties.pdf>

²⁶National Reading Technical Assistance Center, RMC Research Corporation (2010)

A Research Synthesis: A review of the current research on vocabulary instruction. <https://www2.ed.gov/programs/reading-rst/support/rmc-na1.pdf>

The importance of learning language in the context of use



Professor Teresa Cremin

Language plays a central role in children's social, emotional and cognitive development and whilst the vast majority learn to communicate verbally with ease, others do not. If children begin school with limited language skills this impacts upon their later confidence, motivation, enjoyment and success in schooling. All children need a rich, robust and ever-widening vocabulary to succeed in school.

In our efforts to enrich children's expressive language use and their capacity to comprehend we need to be wary of seeking out vocabulary intervention programmes or activities which simply define words and meanings as if words can be learned out of context. They cannot – there is scant evidence of transfer into later use.

Language is most effectively learned in the context of use, through interaction and through hearing words spoken and read in affectively engaging situations that prompt a desire to understand and to use it for one's own purposes. Explicit attention to vocabulary and to developing children's ears for language can be woven into such situations, which should be myriad in the early and primary years. This is essential for closing the word gap. For example:

- **Reading aloud**
Hearing stories exposes children to a wider vocabulary and range of grammatical structures than they would typically experience in everyday conversation. Rich literary language draws attention to itself, so the texts read aloud need to be stretching, with occasional pauses for informal discussions and explorations of word meanings.
- **Shared-book reading**
Sharing quality books with accompanying actions and refrains enables young children to revisit these at leisure, re-reading them to themselves and becoming familiar with the vocabulary in context.
- **Performing poetry**
Poetry is language at its most opaque, and opportunities to hear, read, chant, and participate in poetry performances offer the chance to embed words and their meanings through repeated playful use.

“Language is most effectively learned in the context of use, through interaction and through hearing words spoken and read in affectively engaging situations that prompt a desire to understand and to use it for one's own purposes.”

- **Oral storytelling**
Drawing on traditional tales from across the world, teacher-storytellers and visiting tale-tellers offer rich literary language in an accessible form as each tale is responsively recreated in the moment. Children too can retell tales, developing their expressive language use and borrowing from the tale as told or read.
- **Audiobook readings**
Offering access to audiobooks, whether commercial or created by staff for the school website, can enrich opportunities for hearing fiction, non-fiction or poetry at school and at home. Copies of the book support such reading, but are not essential.

In sum, helping children hear, notice and experience language emotionally, aesthetically and artistically enables them to try on others' voices and in the process enrich their own.

Professor Teresa Cremin works at The Open University. An ex-teacher and teacher-educator, Teresa undertakes literacy research and consultancy and is a FASS, FRSA and FEA. She has published over 30 books and numerous academic papers and recently launched a website on [reading for pleasure](#).

Reading and language acquisition



James Clements

Perhaps not surprisingly, language acquisition and reading are closely linked. The better a child's language knowledge and the richer their vocabulary, the more likely they are to understand the texts they read. Likewise, the more widely and often they read, the greater the number of words and different language structures and patterns they will encounter. Reading fuels language development, which in turn supports reading, forming a virtuous circle.

There are many ways we can help to strengthen the link between language and reading, including:

- **Encouraging children to read widely**
The best way is also the simplest: give children the time and space to read books they love. At home and at school, it is through reading often and widely that children access new words and new ideas, encountering the same words in different contexts and slowly building a sophisticated model of their meaning.
- **Reading aloud to children**
Both at home and at school, listening to books being read aloud introduces children to words and language that perhaps they wouldn't be able to or choose to read independently yet. It also helps them to hear what fluent reading sounds like and to hear the pronunciation of unfamiliar words.
- **Letting children talk about books and language**
Reading the words on the page is a great start, but combining this with an opportunity to talk about the ideas and language from a book is where children can develop their spoken communication. Good quality book talk needs to sit at the heart of English teaching.
- **Allowing children to play with language and sometimes get it wrong**
Like everyone, children can worry about getting the words they use wrong. Whether that is pronouncing a word that they've learned from a book incorrectly, or using the wrong word when writing. This can lead children to be fearful about taking a chance on a more adventurous word choice. Children need to be encouraged to play with language and sometimes get it wrong. This, along with support to address any misconceptions, will help to develop their control of language.

“Good quality book talk needs to sit at the heart of English teaching.”

These ideas are true when children are in the early stages of developing language, but they continue to be just as important as children move through the rest of their education. Spoken language and written language are often very different and it is through encountering a wide range written texts that children will learn to employ the often sophisticated language patterns that exist in different types of written language.

Reading and listening to a wide range of different texts gives children a reservoir of language that they can draw on when they wish to communicate their own ideas.

Ultimately, reading gives children a voice of their own.

James Clements is an education writer specialising in the teaching of primary English. He is a former primary school teacher and school leader. James is the author of Teaching English by the Book (2017, Routledge).





Vocabulary development and reading comprehension: a reciprocal relationship

.....

Professor Kate Cain and Professor Jane V. Oakhill

It is obvious that the reader needs to know the meanings of (most of) the words in a text to understand the text as a whole. So, we can think about individual word meanings as the “building blocks” of sentence and passage comprehension; they are necessary to extract the meaning of the text as a whole. Good vocabulary knowledge is also related to growth in reading comprehension over time: children with better vocabulary have better reading comprehension, and their comprehension improves more over time.²⁷

.....

So what drives vocabulary growth? Vocabulary is an unconstrained skill: we learn the meanings of new words throughout our lifetime, and an important source of new word learning is written text. This is because written texts are a much richer source of new words than spoken language; they have less common vocabulary than does everyday spoken language, so they afford more opportunities for learning new vocabulary.²⁸ Think about the last time you came across a word you did not know: it was almost certainly in a book, not in a conversation.

An important skill for learning new vocabulary is inference: we work out the meanings of new and unfamiliar words through inference from clues in the surrounding context.²⁹ Children who are better at inferring the meanings of new words from context will acquire the meanings of more words, through reading; and better vocabulary knowledge will support better reading comprehension. In sum, vocabulary knowledge and reading comprehension are interdependent: children will develop their vocabulary knowledge through their reading, by inferring new word meanings from context, and they will then be able to use their new-found vocabulary to support their comprehension.³⁰

What are the implications for helping children develop and use their vocabulary for reading comprehension?

- Children need reading texts that have an appropriate level of vocabulary so that they are not overwhelmed by a plethora of unknown words, but they also need to be challenged to learn (or refine) the meaning of words in the text.
- Children should be encouraged to try to work out the meaning of unknown words in a text by using the context to develop and test hypotheses about a word’s meaning. A rich discussion about different children’s hypotheses and justifications for these word meanings could ensue.
- Children also need to learn that a word might have different meanings – sometimes subtle, sometimes not. They can be encouraged to identify any words that they find surprising in a text, and to consider whether that might be because they thought the word meant something different, or whether their representation of its meaning needs to be refined in some way.

Kate Cain is Professor of Language and Literacy in the Department of Psychology at Lancaster University. Her research focuses on how language skills and cognitive resources influence reading and listening comprehension development.

Jane V. Oakhill is Professor of Experimental Psychology at the University of Sussex. Her research focuses on children’s reading comprehension (in particular, individual differences).

.....

²⁷Quinn, J. M., Wagner, R. K., Petscher, Y., & Lopez, D. (2015). ‘Developmental relations between vocabulary knowledge and reading comprehension: A latent change score modeling study’. *Child Development*, 86, 159-175. doi:10.1111/cdev.12292

²⁸Cunningham, A. E., & Stanovich, K. E. (1998). ‘What reading does for the mind’. *American Educator*, 22, 8-15.

²⁹Nagy, W. E., & Scott, J. A. (2000). ‘Vocabulary processes’ In M. L. Kamil, P. Mosenthal, P. P. D., & R. Barr (Eds.), *Handbook of reading research* (Vol. 3). Mahwah, NJ: Erlbaum.

³⁰Oakhill, J., Cain, K., & Elbro, C. (2014). *Understanding and teaching reading comprehension: A handbook*. London: Routledge.

Aspects of vocabulary knowledge



Professor Jane V. Oakhill and Professor Kate Cain

It goes without saying that vocabulary knowledge is strongly related to reading comprehension skill throughout a child's development. A child who can decode but does not understand the meaning of the words in a text will not be able to understand the meaning of the text overall. Indeed, there is a strong relation between vocabulary knowledge and reading comprehension throughout development³¹.

But, what does it mean to know a word? An important distinction is between *breadth* of knowledge and *depth* of knowledge³². Roughly, breadth refers to the number of words that are familiar to a child (and is typically measured by picture-selection tasks). In contrast, depth of vocabulary is used to refer to what a child knows about a word, including subtleties of meaning which might be appropriate in different contexts, and also the words to which that word associates (the semantic field). So, for instance, if you hear the word "cat," you would not only know how that word refers to an animal that is familiar to you, but several other concepts related to the term "cat" might come to mind (for example mouse, furry, dog, pet, lion). Thus, a child might experience a word gap in one or both these aspects of vocabulary knowledge.

It is impossible to have good depth of knowledge of a word without understanding the basic meaning of the word, but the reverse pattern can occur. We have found that many children who have adequate or good breadth of vocabulary still have problems with text comprehension and depth of vocabulary knowledge. We are currently exploring how depth of vocabulary might support specific aspects of text understanding. For instance, associations between words can be very helpful in providing the "glue" that makes a text cohere. If you were to read a text containing the words: *aisle, trolley, tins, bag, till*, you would have no problem in inferring the setting of the text. However, you could not do that from one or two words alone – an aisle might be in a church – you need to make the links between the words³³.

Children can be helped to increase their vocabularies in various ways, for instance:

- Encouraging them to read (or listen to texts), because vocabulary is learned primarily via reading.
- Encouraging them to think about alternative meanings of words and to make associations from word meanings to other related meanings (i.e. to activate the semantic network around a word).

Jane V. Oakhill is Professor of Experimental Psychology at the University of Sussex. Her research focuses on children's reading comprehension (in particular, individual differences).

Kate Cain is Professor of Language and Literacy in the Department of Psychology at Lancaster University. Her research focuses on how language skills and cognitive resources influence reading and listening comprehension development.

“Breadth refers to the number of words that are familiar to a child ... depth of vocabulary is used to refer to what a child knows about a word.”

³¹Carroll, J.B. (1993). *Human cognitive abilities: A survey of factor-analytic studies*. New York: Cambridge University Press.

³²Ouellette, G. P. (2006). 'What's meaning got to do with it: The role of vocabulary in word reading and reading comprehension'. *Journal of Educational Psychology*, 98, 554-566. doi:10.1037/0022-0663.98.3.554; Tannenbaum, K. R., Torgesen, J. K., & Wagner, R. K. (2006). 'Relationships between word knowledge and reading comprehension in third-grade children'. *Scientific Studies of Reading*, 10, 381-398. doi:10.1207/s1532799xssr1004_3

³³Oakhill, J., Cain, K., & Elbro, C. (2014). op cit.

Edging across a crocodile's back



.....

Joseph Coelho

Over the years, I've noticed that a deficiency in language is often accompanied by a difficulty to imagine.

.....

As part of my author visits I often run creative writing sessions that take the students outside the classroom using their bodies to climb and jump and then translating these activities into spoken sentences and eventually into written poems. One such activity involves the children playing on their playground jungle gym and using their imagination to describe what they are doing. Instead of saying, "I'm sliding down a slide", I challenge the children to imagine what the slide could be if they were on a jungle adventure. Could it be a snake or a giant's tongue! Most children immediately get the "game" and are suddenly hopping over lava (hula hoops), climbing a mountain (a gym horse) or edging across a crocodile's back (a balance beam). The child that struggles will say, "I'm balancing on some wood" for the balance beam or even, "I'm sliding down a slide" for the slide.

I have noticed that these children are often avid computer game players. So rather than have them shut down I ask them, "Do you play computer games?" and a light switches on. I've given them a frame of reference. However, despite this new angle, the imaginative play that comes so easily to the other children just isn't there. The struggling child will now gleefully repeat a few key words from their favourite computer game. If their game of choice is *Minecraft* then the word "blocks" will be used as a filler for the imagined thing. I'm not laying the blame on computer games. This is simply an anecdotal observation. It seems fair to assume, though, that a child who plays computer games for hours every evening is not being spoken to, read to, or questioned and their language skills are most probably not being developed.

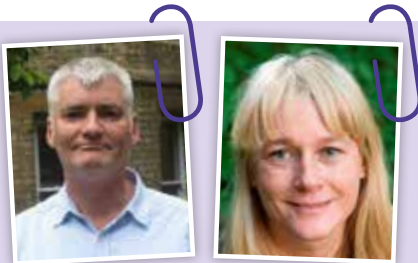
A child who struggles with language will soon switch off, feeling threatened rather than challenged when asked to read or write. But all is not lost, we can engage them by speaking their language. If a computer game gets them excited then we need to find reviews in magazines for that game or associated books. We need to mine that game for language and vocabulary and build that list by finding associations. In the activity I mentioned above I label the jungle gym with familiar verbs like: *run, slide, jump* and a few unfamiliar like: *traverse* and *edge across*. I sneak new language into the game and by the end of the session the children are speaking and writing new words.

I've always believed that if a child is excited they will want to learn, they will want to increase their vocabulary and to ask questions. All we have to do is find that thing that makes them tick.

Children's author and poet Joseph Coelho has been long-listed for the 2018 Carnegie Medal with his poetry collection Overheard In A Tower Block (Otter-Barry Books). His debut poetry collection Werewolf Club Rules (Frances Lincoln) was the winner of the 2015 CLiPPA Poetry Award.

“A child who struggles with language will soon switch off, feeling threatened rather than challenged when asked to read or write. But all is not lost, we can engage them by speaking their language.”





Why reading for pleasure is a social justice issue

.....
Dr Ian Thompson and Nicole Dingwall

Many pupils from disadvantaged social backgrounds, with SEND, or newly arrived in the UK from asylum seeking or refugee backgrounds face difficulties accessing the school curriculum because of weaknesses in literacy skills or a variety of language difficulties or challenges. The acquisition and use of English vocabulary, both expressive and academic, is a major factor in the academic and social success of learners in the UK.

.....

The word gap constitutes a considerable barrier to learning. Frustration caused by difficulties in understanding the particular language requirements of different subjects can lead to disaffection with school, poor social skills, and low self-esteem. Learning to communicate is also a social process, and emotional problems can hamper social integration in school. Poor literacy skills are common amongst pupils permanently excluded from school.

Reading comprehension not only increases the range of vocabulary available to learners, it also expands their academic vocabulary. But getting many young people to read for pleasure is a worldwide problem. The OECD PISA 2009 report found that 37% of 15 year olds never choose to read for enjoyment.³⁴ There is a broad consensus, underpinned by research evidence, that reading requires both decoding and comprehension skills.³⁵ Phonics is a proven method in teaching children to decode but readers must also draw on strategies such as using context clues to infer and develop meaning.

Pupils who do well in school generally read a lot both in and out of school. They were almost certainly read to as a young child and exposed to a wide variety of texts that helped them to increase the advanced vocabulary demanded by texts at secondary school level. These same pupils also have the opportunity to communicate in social groups both in and out of school. Children who are socially disadvantaged are far less likely to have these opportunities. This is normally not because these children’s parents or carers do not care or have low aspirations, but rather that they simply do not have the time, money, or resources available to support their children’s language acquisition.

“Pupils who do well in school generally read a lot both in and out of school. They were almost certainly read to as a young child and exposed to a choice of a wide variety of texts that helped them to increase the advanced vocabulary demanded by texts at secondary school level.”

Research has shown that children are more likely to read texts that are meaningful and enjoyable. Schools therefore can play a major role in these children’s lives in developing both a love of reading and by making available a wide range of interesting and accessible texts. This means putting significant resources into school libraries and using pupils to support each other to recommend authors and titles. Reading for pleasure is an issue of social justice and one that society cannot afford to ignore.

Dr Ian Thompson is an Associate Professor of English Education and PGCE Course Director at the University of Oxford. He previously taught English for 16 years in state secondary schools. Ian’s research focuses on English pedagogy, teacher education, and social justice in education.

Nicole Dingwall is a Curriculum Tutor on the PGCE English course at the University of Oxford. Previously Nicole taught English in secondary schools in Australia and the UK. She is currently conducting research on the cultures of secondary school English departments.

.....
³⁴(2010), *PISA 2009 Results: Executive Summary*
³⁵Education Endowment Foundation (2017). *Improving Literacy in Key Stage 2*. London: Education Endowment Foundation

The Oxford Children's Corpus



Vineeta Gupta

To compile the most appropriate dictionaries and language reference for children, OUP analyses all aspects of children's reading, writing, and curriculum materials. We are uniquely positioned to do this well, because we have built a very large language database called the *Oxford Children's Corpus*.

The *Oxford Children's Corpus* is the largest known children's English language database in the world and growing. It holds vocabulary and contexts that children come across in their reading, words they use in their own writing, and the language they need to learn at school. It contains everyday vocabulary, new and recently coined words, subject specific language, and instructional, academic language.

The *Oxford Children's Corpus* gives us all the evidence needed to put together an accurate picture of children's language use. Our lexicographers and linguists track language change, and understand the needs of children whatever their age. Through deep error analysis into spelling, grammar, and punctuation, combined with academic research at Oxford University into comprehension, we can understand the strengths and weaknesses of children aged 5, 9, or 13. Our data and search engine tools can identify precisely where the language gaps are. We now need to involve teachers and educational bodies to take our corpus findings forward and incorporate them into their own thinking and planning.

The ultimate aim of language experts and practitioners is to lift children out of language poverty. Going forward, the most reliable methods for achieving this aim will need to be backed by real evidence. Any evidence or research findings can only be as good as the data they are based on. I believe that the *Oxford Children's Corpus* is the most robust and neutral evidence available today and can help steer teachers, publishers and researchers to develop the best tools and resources needed to close the word gap.

At OUP we know what children are saying, and to quote Ignacio Estrada, "If a child can't learn in the way we teach, maybe we should teach the way they learn."

Vineeta Gupta is Head of Children's Dictionaries at Oxford University Press

Insights into children's language from the *Oxford Children's Corpus*

The words children use for...

Things that are
LOUD
rumble
roar
resound
deafening
booming

Things that are
SOFT
whining
whispering
mumbling
hushed
muffled

Over 800,000
pieces of
children's
writing

**Oxford
Corpus**

400 million
words and
growing

Vocabulary and
context from
fiction, non-fiction,
school textbooks

How are schools reducing the word gap?

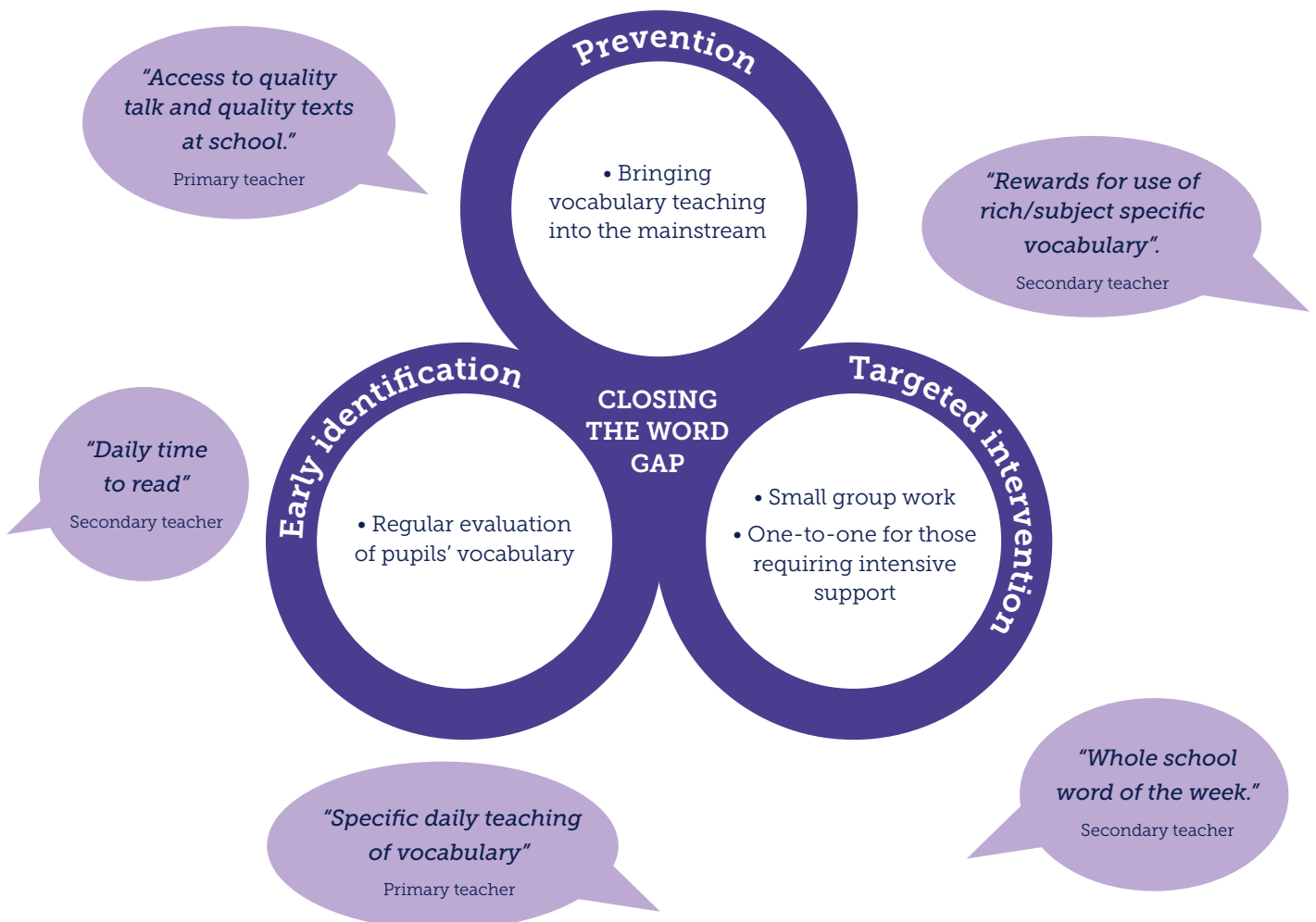
The OUP research revealed that schools are employing a wide range of techniques to help their pupils overcome the word gap.

Despite the importance placed on improving vocabulary, only a minority of schools surveyed have in place a school-wide programme to identify and support pupils with a limited vocabulary. 27% of primary school teachers and 29% of secondary school teachers said that they have such a programme in their school. Those polled identified a number of challenges to overcome, notably finding the necessary time in which to design and conduct an effective programme.

Teachers working in schools where a school-wide vocabulary programme exists mention a wide range of techniques. These can be broadly categorised into three core areas, illustrated in the diagram below.

67% of primary school teachers said that broadening pupils' vocabulary is a high priority

80% of secondary school teachers said that improving vocabulary is at least a medium priority for their school³⁶



³⁶Oxford University Press (2018) op cit.: 44% of secondary teachers surveyed (of 840 who took part) reported that improving pupils' vocabulary is a medium priority for their school. 36% stated it was a high priority.

For further information

Visit our website:

oxford.ly/wordgap

Follow us on social media:

 @OUPPrimary @OxfordEdEnglish #wordgap

 [YouTube.com/OxfordEducation](https://www.youtube.com/OxfordEducation)

 [Facebook.com/OxfordEducationUK](https://www.facebook.com/OxfordEducationUK)



Report produced on behalf of Oxford University Press by Oriel Square:
Publishing and Strategy. Find out more at <http://www.orielsquare.co.uk/>.

Photo acknowledgements: page 2 Monkey Business Images/Shutterstock.com; page 3 SpeedKingz/Shutterstock.com; page 4 DGLimages/Shutterstock.com; page 5 Tiffany Bryant/Shutterstock.com; page 6 Monkey Business Images/Shutterstock.com; page 8 Monkey Business Images/Shutterstock.com; page 13 Monkey Business Images/Shutterstock.com; page 16 Monkey Business Images/Shutterstock.com; page 19 Monkey Business Images/Shutterstock.com. Contributor photos reproduced by kind permission of contributors.

How to get in touch
Web oxford.ly/wordgap

Email harriet.bayly@oup.com
Tel. +44 (0)1865 354579

OXFORD
UNIVERSITY PRESS