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Vocabulary Matters

It is to state the obvious to say that vocabulary knowledge plays a central role in reading comprehension; a student's ability to make sense of a text largely depends on their ability to understand the language used.

As a student progresses through school, they need to be adding at least 3,000 new words to their vocabulary per year (Beck, McKeown & Kucan, 2002; Nagy, 1980 & 1986) if they are to keep up with the increasingly challenging requirements of academic texts. If a student's vocabulary is growing at a slower rate, they will find understanding school textbooks, academic resources and exam texts more and more difficult as they progress through school.

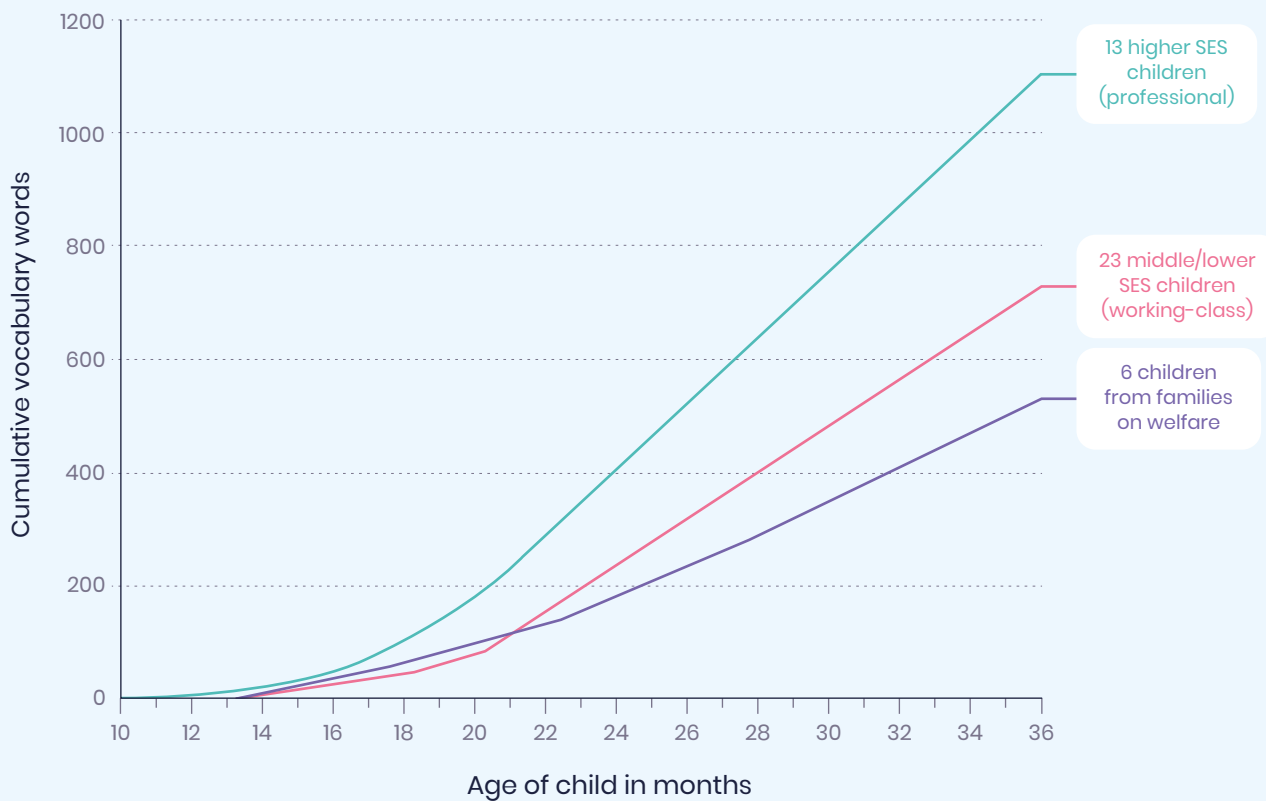
Many studies outline how we learn new vocabulary. Incidental learning is the process of acquiring knowledge or a skill without having the intention of doing so. Much of our vocabulary acquisition happens incidentally; through oral interactions, through being read to and through independent reading. In an ideal and equal world, every child would benefit from these situations in much the same way as any other and consequently, vocabulary acquisition would follow predictable trends for every child. We know that this is not the case.



The Early Catastrophe

Throughout the 1990s, two American researchers, Todd Hart and Betty Risley, conducted extensive research into how socio-economic background can impact language acquisition. They compared the language acquisition of different groups of children. The first group was from an area of Kansas City with high poverty rates, the second group were from families of middle socio-economic status and the third group was formed of children of professors of the local university.

Children's Vocabulary Differs Greatly Across Income Groups



Their findings were dramatic. They ascertained that by the age of 3, a child from a 'welfare' background would be exposed to around 30 million fewer words than a child from a 'professional' background. Further, between 86 and 98% of words in a child's vocabulary are also found in their parents' vocabulary.

Similarly, in the U.K, The Millennium Cohort Study found that by age five, children from low-income households were over a year behind in vocabulary compared with children from high-income households.

Both studies highlight the enormity of the effort required if we wish to equalise the effect of background on a child's vocabulary.

The impact

The Oxford Language Report (2018) demonstrates the impact of weak vocabulary on educational attainment and more global concerns. Out of the secondary teachers surveyed, 75% believed the word gap made it difficult for children to work independently, 77% believed children with a weak vocabulary would have problems following what was going on in class and 79% believed it would result in worse results in National Tests. The impact of a weaker vocabulary was not thought to be limited to the classroom, however. Both primary (86%)

and secondary (80%) teachers thought low levels of vocabulary would result in lower self-esteem and that it would have a negative impact on their behaviour (56% of primary teachers and 65% of secondary teachers.) The impact is felt beyond school even, with research from the Early Intervention Foundation showing that children with language difficulties at age 5 were more likely to have reading difficulties in adulthood, three times as likely to have mental health problems and twice as likely to be unemployed when they reached adulthood.

The Matthew Effect

As E.D. Hirsch writes (2003), "In vocabulary acquisition, a small early advantage grows into a much bigger one unless we intervene very intelligently to help the disadvantaged student learn words at an accelerated rate." Hart and Risley (2003) demonstrated the vast lexical disparity amongst school starters. It is important to note though, that the gap widens as learners progress through education. The Matthew effect for reading (Stanovich, 1986) suggests that students who are lexically advantaged are stronger readers and therefore read more, whereas the lexically disadvantaged find reading harder and therefore read less.

Research suggests that to understand any written text, we have to know the meaning of 90 – 95% of the words used. Stronger readers, who understand around 95% of the language used, will rely on the strength of their existing vocabulary in order to make an educated guess at the meaning of the unknown 5%. Therefore, the strength of their existing vocabulary enables them to continue developing their lexicon.

However, if a student has a weaker vocabulary, they are limited on 2 fronts. Firstly, they struggle to understand the text because they do not know 90-95% of the language. Consequently, they are less likely to successfully guess the meaning of the unknown words and their ability to pick up new vocabulary inferentially is limited.

The language poor get poorer, whilst the language rich get richer.



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E.D. Hirsch

It has been estimated that students acquire around 3000 to 5000 new words each academic year. Nagy (1980, 1986) asserts that the vast majority of these words is learned incidentally, through wider reading and verbal interactions. Beck, McKeown & McCaslin (1983) rightly argue however, that “children most in need of vocabulary development, less

skilled readers who are unlikely to add to their vocabulary from outside sources, will receive little benefit from such indirect opportunities.” And there are many obstacles that could prevent a student from developing enough vocabulary through incidental learning to be successful at schools. Joan Sedita (2005) highlights several of these barriers:



Reticent readers

A keen and successful reader who reads for 20 minutes a day will encounter approximately 2 million words a year. A reticent reader who reads for less than a minute a day will encounter just 8000. Their limited vocabulary will continue to hinder their comprehension and reading ability will continue to be affected.



Students who enter school with limited vocabulary

Hart and Risley established the size of the language gap that can exist between children of different socio-economic backgrounds by the time they start school. This gap becomes increasingly significant throughout schooling, as the factors that prevented language acquisition in the first place continue to have an impact.



Additional reading or learning needs

Weakness in phonemic awareness, phonics and lack of fluency make reading more difficult and picking up language incidentally much less likely. The gap that already exists between strong readers and weaker readers continues to grow.



EAL learners

Whilst new or recent learners of English may have developed functional spoken skills, the language they need to navigate the academic texts they read is far more challenging. These students need extra support to bridge the gap.

If schools rely solely on incidental vocabulary acquisition, these 4 groups of students are particularly at risk of falling further behind their peers.

As the National Literacy Trust (2008) writes, “although many children acquire vocabulary naturally through activities at school, this cannot be left to chance in the case of children with low vocabularies.” Teachers should aim to teach students the sort of language that would not be part of their everyday experience. This form of intentional vocabulary acquisition would seek to level the playing field and ensure that all students were exposed to the type of language that they need to understand in order to succeed at school.

Biemiller supports this assertion, suggesting that “if we are serious about ‘increasing standards’ and bringing a greater proportion of school children to high levels of academic accomplishments, we cannot continue to leave vocabulary development

to parents, chance and highly motivated reading.” It is important therefore to consider what schools are doing to take responsibility for their students’ vocabulary acquisition and in turn, limit the damaging consequences of an ever widening language gap.



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A. Biemiller



What works?

In 2000, the National Reading Panel in the U.S. published their findings about how students learn to read. They found that there are 6 critical components to this process: phonemic awareness; phonics; fluency; guided oral reading; teaching vocabulary and reading comprehension strategies.

Within their studies of how best to teach vocabulary, they stated that research had suggested the following approaches were key:

- 1 There is a need for direct instruction of vocabulary items required for a specific text.
- 2 Repetition and multiple exposure to vocabulary items are important.
- 3 Learning in rich contexts is valuable for vocabulary learning. Vocabulary words should be those that the learner will find useful in many contexts.
- 4 Vocabulary tasks should be restructured as necessary...restructuring seems to be most effective for low achieving or at-risk students.
- 5 Vocabulary learning is most effective when it entails active engagement in learning tasks.
- 6 Computer technology will have to be learned in the course of doing things other than explicit vocabulary learning.
- 7 Vocabulary can be acquired through incidental learning. Much of a student's vocabulary will have to be learned in the course of doing things other than explicit vocabulary learning.
- 8 Dependence on a single vocabulary instruction method will not result in optimal learning. A variety of methods was used effectively with emphasis on multimedia aspects of learning, richness of contexts in which words are to be learned and the number of exposures to words that learners receive.

The Education Endowment Foundation (2018), in their guidance on improving literacy at Key Stage 2 write, 'Extend pupils' vocabulary by explicitly teaching new words, providing repeated exposure to new words and providing opportunities for pupils to use new words.' One key way of achieving this is by foregrounding oracy in the classroom, ensuring there are plentiful opportunities for learners to practice -

to develop their thinking and use of language. To improve literacy at KS3, one of the key recommendations from the EEF is to 'provide targeted vocabulary instruction in every subject,' using approaches such as breaking down the etymology and morphology of new words and explicitly teaching 'Tier 2 and 3 vocabulary, which learners are unlikely to encounter in every day speech.'

Multiple exposures

According to Stahl (2005), students probably have to see a word more than once to place it firmly in their long-term memories. “This does not mean mere repetition or drill of the word,” but seeing the word in different and multiple contexts. In other words, it is important that vocabulary instruction provide students with opportunities to encounter words repeatedly and in more than one context.

Laufer and Nation (2012: 167) consider the number to be higher: ‘researchers seem to agree that with ten exposures, there is some chance of recognizing the meaning of a new word later on’.

But how are novel vocabulary items best learned? In their early studies, Beck and McKeown established that learning definitions of new vocabulary does not have a positive impact on reading comprehension. They hypothesised that, because comprehension was such a complex process, the understanding of a word needed to be rich; understanding needed to move beyond definitional accuracy. They then conducted a study in which students worked on learning 8–10 words per week, during which time they were exposed to this new language in different contexts and in activities that required students to think in a range of different ways about the words. They found that this approach led not only to knowledge of new words, but also to better comprehension of texts that included the new vocabulary.

Valentini, Ricketts, Pye and Houston-Price (2018) explored the impact on word learning of listening while reading. Children were exposed to a story in the written, oral or combined modality i.e. listening and reading at the same time. They concluded

that learning of new word meanings benefitted from the combined condition and that listening while reading promoted vocabulary acquisition.

Timing is also important. Donovan and Radosevich’s (1999) research confirms long-held assumptions that spacing exposure to new language over time is more effective than bunching learning together in the space of a single session. As Castel et al (2012) assert, “Memory performance benefits from the repeated presentation of items, and long-term retention benefits when these items are spaced apart in time, rather than massed.” This is supported by the work of Bjork and Bjork, who explore the concept of ‘desirable difficulties.’ Such difficulties include spaced practice, varying practice and retrieval practice and leverage the idea that partial forgetting is a crucial step in securing novel items in long term memory. New vocabulary therefore, should be revisited throughout an academic year, to improve long term retention of meaning.



Researchers seem to agree that with ten exposures, there is some chance of recognizing the meaning of a new word later on.

Laufer and Nation

Context is King

To deepen students' knowledge of word meanings, specific word instruction should be robust (Beck et al., 2002). Seeing vocabulary in rich contexts provided by authentic texts, rather than in isolated vocabulary drills, produces robust vocabulary learning (National Reading Panel, 2000). Rich and robust vocabulary instruction goes beyond definitional knowledge; it gets students actively engaged in using and thinking about word meanings and in creating relationships among words.

Context is everything when learning new language. As Biemiller asserts, when recalling newly learnt vocabulary, students are "often aware of the specific context in which word meanings were first learnt." (Biemiller 1999) This is also true when students encounter new language in stories or expository texts. When explaining new words, students refer to experiences with these texts in much the same way that they would refer to real life experiences. Thus, the context in which these students come across new language is vital.



Vocabulary Curriculum

Vocabulary teaching is most effective when it is planned and follows a coherent strategy. This allows for an appropriate amount of time to be allocated and careful consideration of how the new language will be taught. Coyne, Kame'enui & Carnine (2007) found that direct instruction of target words is more effective when it adheres to validated principles of instructional and curricular design.

Baker et al (1998) also assert that for the students, vocabulary instruction needs to be 'conspicuous,' consisting of carefully designed and delivered

actions. Vocabulary instruction should also provide students with regular opportunities to review and practice new learning so that they can firmly incorporate the new vocabulary into their lexicons. Predictable routines have also been shown to have a positive impact on student behaviour and learning. When students know exactly what will be asked of them, they are more likely to engage positively. (Kern & Clemens, 2007.) Ensuring that a school has a well-planned, consistent strategy for teaching vocabulary is therefore likely to be an effective approach.

Conclusions

“We cannot continue to leave vocabulary development to parents, chance and highly motivated reading.” (Biemiller 2003.)

Whilst incidental learning will account for a proportion of vocabulary acquisition, schools need a more pro-active and coherent strategy for ensuring **all** students are learning the vocabulary they need to succeed.

Contextualised learning & multiple exposures are key

Because of the complex nature of comprehension, learning new language must move beyond definitions. It is key that new words are embedded in rich and meaningful texts and that students come across new language in a range of different contexts.

Schools need a vocabulary curriculum to ensure that learning is consistent, relevant and well delivered.

The way that students learn vocabulary needs to be conspicuous and for many students, predictable routines and methods improve motivation.

Take action

Time is precious and teachers are already being pulled in many directions. Studies (Beck & McKeown, 2002) prove that children who receive ‘frequent, rich and extended’ vocabulary instruction outperform students who do not receive instruction, in both vocabulary and comprehension measures. Teaching vocabulary effectively will impact student achievement across the curriculum, but just as importantly, beyond the school gates.



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