

Words Matter: Learning Support for the Vocabulary of Struggling Readers

Introduction

This article highlights the importance of vocabulary development and instruction for pupils with reading and learning difficulties throughout the primary school years. Instructional approaches to vocabulary building and strategies to encourage word awareness that may be applied across a range of school settings are outlined and discussed.

The Importance of Vocabulary

It has been argued that in the crowded modern curriculum, the focus of literacy is often on decoding skills (Biemiller, 2001), with phonics programmes dominating the time spent on literacy instruction, and language skills such as vocabulary building pushed down the list of priorities. But the importance of vocabulary cannot be overstated. Our ability to live and work with success in a complex modern world is largely influenced by our language skills and word knowledge (Pikulski & Templeton 2004). There are substantial differences in the vocabulary of children as early as preschool and these differences widen as the children progress through school. In fact by second class, the lowest 25% of English-speaking children with the lowest vocabulary are on average already two years behind their peers who have average vocabulary and four years behind the 25% of children who have the largest vocabulary (Biemiller, 2011). These differences are occurring *before* the child can really be influenced by their own reading ability or volume of reading as the majority of children have not yet become ‘unglued from print’ (Chall, 1983). The largest source of these differences in vocabulary can be attributed to the language that is used around and with the child in the home environment (Hart & Risley, 1995). So an emphasis on oral language and vocabulary instruction and support from the early school years is vital.

There is also a strong relationship between vocabulary and reading ability. Vocabulary is an important component of effective reading comprehension (Anderson & Freebody, 1981; Nation & Snowling, 2004). In fact vocabulary knowledge supports the comprehension of a variety of texts which, in turn, aids vocabulary growth (Thompson, 1999). In addition, vocabulary is very predictive of high levels of reading ability, and the NRP (2000) go so far as to state that growth in reading ability relies on growth in word knowledge. Students with reading difficulties have been found to have difficulties inferring the meaning of new words from context (Bryant, Goodwin, Bryant, & Higgins, 2003) which further discourages these students from engaging with the reading process. Given the enduring link between vocabulary and reading comprehension, and the importance of reading comprehension to future success, it is imperative that children are given the instruction that helps them develop effective word-learning strategies. Research suggests that vocabulary is developed through wide, independent reading (Nagy & Anderson, 1984), but many students with reading difficulties find this process laborious and difficult with the result that they do not read, and therefore miss vital opportunities for vocabulary growth. In addition, it has been shown that in order to retain a new word, several encounters with that word are needed. These students experience limited word repetitions because of their limited reading, and so miss vital opportunities for vocabulary building. These limitations result in what has been termed 'Matthew effects' (Stanovich, 1986), whereby avid readers develop broader and richer vocabularies, while struggling readers fall further behind, creating a cycle of disadvantage. This destructive cycle is of concern to teachers and parents alike as inadequate vocabulary knowledge exacerbates the learning difficulties of those who are already disadvantaged as they progress through the education system (Manzo, Manzo, & Thomas, 2006). As vocabulary is an unconstrained skill, unlike phonological awareness, it is more difficult for children with reading difficulties to acquire (Paris, 2005) and so opportunities for practice

throughout their school years is essential. Children with impoverished vocabulary knowledge do not catch up with their peers under normal classroom instruction unless a strong vocabulary emphasis is added (Vadasy & Nelson, 2012). While there is no quick solution to these problems, an increase in time spent on quality vocabulary instruction each week seems like a worthy start. Stahl and Fairbanks (1986) conducted a review of studies of vocabulary instruction of children at various reading levels, and discovered that there was a statistically significant correlation between the increase in time spent teaching vocabulary (in minutes) and improvements in reading comprehension. This further validates the need for comprehensive vocabulary instruction in our schools.

Which Words to Teach?

With limits on vocabulary instruction time, it is essential that the words chosen for teaching and learning are decided upon in a principled way. How should words be selected for teaching and why? Should usefulness, importance, or familiarity be the principle used to select words to teach? Are the words selected for writing or speaking? Should words be chosen because they appear in a wide variety of other texts? One useful lens for viewing words for instruction is the idea of tiers or levels of vocabulary (Beck, McKeown, & Kucan (2002). Beck and her colleagues developed the notion that words have three different tiers of utility. In this classification,

Tier 1 consists of the most basic words in English such as *house, car, walk, live, funny, paper*. These words are used in everyday talk and rarely need instruction.

Tier 3 words consist of low frequency words which usually belong to specific content areas. These words are necessary for understanding the concepts of that particular area. Words in maths and science such as *nucleus, electron, cosmos, hypothesis, habitat, and photosynthesis* belong to this tier.

Tier 2 words occur across a variety of texts and contexts but are not likely to be used in everyday contexts. Tier 2 words are of high utility to the student and they are richer and more complex in meaning than Tier 1 or Tier 3 words. Tier Two words include words such as *product, intersection, society, maintain, merchant, robust, and absurd*. Consider the word *robust* for instance, which is similar to the more familiar word *strong* but goes further to incorporate meanings such as *vigorous, powerful, potent* and *sturdy*, depending on the context in which it is used. Tier Two and Tier Three words are obvious targets for rich vocabulary instruction.

There are no word lists available for any of the three Tiers. Additionally, Tier 1 and 3 words are easier to recognize than Tier 2 words. It is vital therefore for teachers to become familiar with Tier 2 words in class texts and stories. It is also important to point out that some textbooks and activity books used in primary schools as part of literacy identify important words for teaching (by underlining them for instance) in their stories or extracts, or in their workbook activities. While the problem of the teacher being directed by a textbook as to what words to consider for instruction is a discussion that is beyond the scope of this article, an important aspect of this is the awareness by the teacher of the type of words that are included in these textbooks, which Tier they belong to, and whether they are useful and important for vocabulary instruction. There can be various reasons why attention is drawn to certain words in textbooks. For instance words may be chosen because they are compound words, verbs, and adjectives, synonyms and antonyms, or words that contain useful letter strings. All of these words may be important for teaching but are they important for vocabulary development? Words for vocabulary instruction including the important Tier 2 words need to be identified by the teacher in the texts being utilized.

Choosing Tier 2 Words for Teaching

A useful guide for choosing Tier 2 words for vocabulary development is to consider if the pupils already have ways to express the concepts represented by the word (Biemiller, 2005). Are the pupils able to explain the word by using words that are already in their vocabulary? If the answer is yes, then this word would be a useful addition to their vocabulary and will offer a more precise or mature alternative to the known word and idea. Another consideration is the ability of a word to help the pupils describe a situation or person with greater specificity. These words should be more than merely synonyms for the known word, but they should add richness or complexity to the known word. A further consideration in choosing Tier 2 words is the usefulness of the word in supporting pupils' understanding of the text, extract, story, or concept being taught.

The number of words chosen for teaching in a lesson is really dependent on the ability of the pupils to process, manage, and retain these words (Biemiller, 2011), but because children with reading difficulties have particular difficulties in these areas, the number of words taught at one time should be small. Teaching should be organized into manageable chunks, and opportunities to revisit and discuss the new words should be provided regularly because children with reading difficulties may have difficulty generalizing these words to new contexts (Graves & Silverman, 2011).

There are many opportunities here for the class teacher and learning support teacher to work together on vocabulary instruction for pupils with learning difficulties. As students with learning and reading difficulties require more intensive and varied opportunities to interact with words and new vocabulary these learners will benefit from more individualized teaching and opportunities to work in small groups (Vadasy & Nelson, 2012). If certain words are being chosen in class for teaching, the learning support teacher can use these words to provide the deeper learning opportunities required by these learners (Bryant, Goodwin, Bryant, & Higgins, 2003). The learning support teacher can also source Tier 2 words for

teaching. Some texts, however, may contain only Tier 1 words. If so, alternative Tier 2 words to the simple words, which are similar in meaning, may be chosen for teaching (Biemiller, 2005). For example if the word *sleepy* is in the text, the word *drowsy* may be chosen as an alternative for instruction. Likewise with words such as silly, *absurd* may be taught, or with the word *same*, *identical* may be chosen for teaching.

Encouraging Rich Verbal Learning Environments and Word Consciousness

Stahl (2005) maintains that traditional vocabulary instruction such as writing and learning definitions of words, does not teach children important word learning strategies and the appreciation of words. Nagy (2005) argues that the traditional method of definition-based vocabulary learning in certain teaching contexts is not a particularly effective approach to teaching vocabulary and improving comprehension. Furthermore, it has been found that attention to learning word meanings in our classrooms tends to be superficial and brief (Blachowicz, Fisher, Ogle, & Watts-Taffe, 2006). Research by Cunningham and Stanovich (1998) found that the oral language produced in everyday communication between adults for instance, and on popular T.V. programmes, contain less challenging vocabulary than that found in many children's books. So it is important that vocabulary development should be nurtured at every opportunity in our classroom so that high quality verbal learning is encouraged and promoted (Kucan, 2012). Verbal discussion may be the primary vocabulary-learning method for many struggling readers. Students need to hear and speak the intended target vocabulary through oral language activities such as discussion groups and verbal interactions between teacher and pupils. Sousa (2005) emphasizes that these types of activities encourage retention of vocabulary more effectively than listening passively. Beck et al. (2002) recommend that teachers integrate academic and sophisticated vocabulary into their everyday conversations with pupils. Greater depth of vocabulary knowledge for pupils with learning and reading difficulties results from interactive instruction that is repeated and

varied. This type of class environment supports what is termed *word consciousness* and word awareness (Beck et al., 2002; Nagy, 2005).

Teaching Word Roots and Morpheme Analysis

The majority of words in the English language are combinations of morphemes such as base or root words, prefixes, and suffixes. A morpheme is the smallest unit of meaning in a language. Free morphemes can stand alone (*help*) and are often called root or base words, while bound morphemes (*-ful*, *-ed*) (affixes) need to be attached to another morpheme (*helpful*, *helped*). Two free morphemes can combine to form a compound word (*bedtime*).

Encouraging pupils to examine words in this way, to recognize and analyse word parts such as roots, prefixes, and suffixes (morphemic analysis) can support pupils in expanding their knowledge and understanding of known and unknown words (Baumann, Edwards, Font, Tereshinski, Kame'enui, & Olejnik, 2002) because it allows pupils to make connections between semantically-related words and word families (Nagy, 2005). It is also an effective way to teach content vocabulary (Tier 3), which consists of many words of Greek and Latin origin. For example *micro* is a root which means *small*. Other words can be derived from this root word such as *microbe*, and *microchip*. Some other root words belonging to content-area vocabulary are: *poly-* (many), *agri-* (field), *aqua-* (water in Latin), *hydro-* (water in Greek), *photo-* (light). Through teacher modelling, pupils gradually learn to use this type of word examination independently to build and expand their vocabularies (Anderson & Freebody, 1981). Although not all words can be broken down into root, prefix and suffix, a conservative estimate of over half of all English words are derived from Latin and Greek roots (Padak, Newton, Rasinski, & Newton, 2008). There is an obvious connection also between morphemic analysis and spelling, and research suggests that proficient readers and spellers use morphological knowledge when they read and spell, whereas struggling readers lack specific knowledge of base words and affixes (Carlisle, 1987). Arnbak and Elbro (2000)

found that morphemic analysis training with a group of fourth and fifth class pupils with dyslexia increased their comprehension and spelling of morphologically complex words, and Abbott and Berninger (1999) concluded that older struggling readers benefitted from the study of syllable structure and morphemic analysis.

Manzo and Manzo (2008) recommend that teachers watch out for unfamiliar words that may have known word parts in class textbooks and use Incidental Morphemic Analysis to teach these new words. This procedure involves:

- a) Presenting the word and highlighting the word parts.
- b) Pupils discuss these morphemes and attempt to deduce the word meaning. If correctly predicted, do not tell the pupils yet.
- c) Teacher writes other 'level 1' clues under the word (easier words) and asks for predicted meanings.
- d) Teacher writes extra 'level 2' clues (word part meanings) underneath the level 1 clues and asks for further predicted meanings.

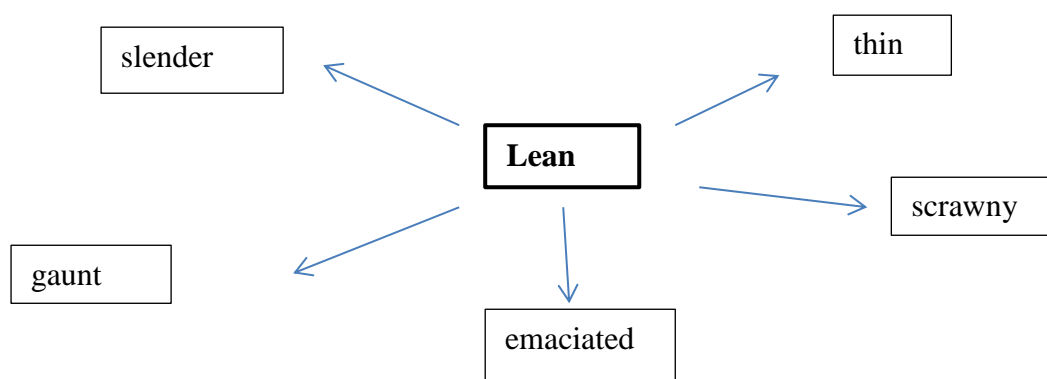
Blachowicz & Fisher (2006) recommend this method for use in remedial settings. Manzo & Manzo (2008) also identify this method as particularly appropriate for pupils who have not yet acquired a vocabulary-learning strategy. However pupils will need to have some formal teaching of popular affixes *before* teachers use this strategy. Popular prefixes, suffixes, and words accumulated by using this procedure may be put on posters, on Power Points or on the whiteboard and revisited on other occasions. Padek et al. (2008) compiled graded lists of the most useful roots and affixes and their meanings for teaching vocabulary at primary level and beyond. Level 1 consists of familiar vocabulary roots and affixes (*pre-*, *sub-*, *un-*, *-able*, *-less* etc.), level 2 consists of content-area words (*pro-*, *ad-*, *con-*, *multi-*, *mis-* etc.) and level 3 roots and affixes can be used for expanding word flexibility (*auto-*, *tele-*, *omni-*, *-phobe*, *-ologist*, etc.). Level 3 roots may be useful at post-primary level also. These lists may be a

useful guide for teachers regarding which specific words and word parts to include in their vocabulary instruction.

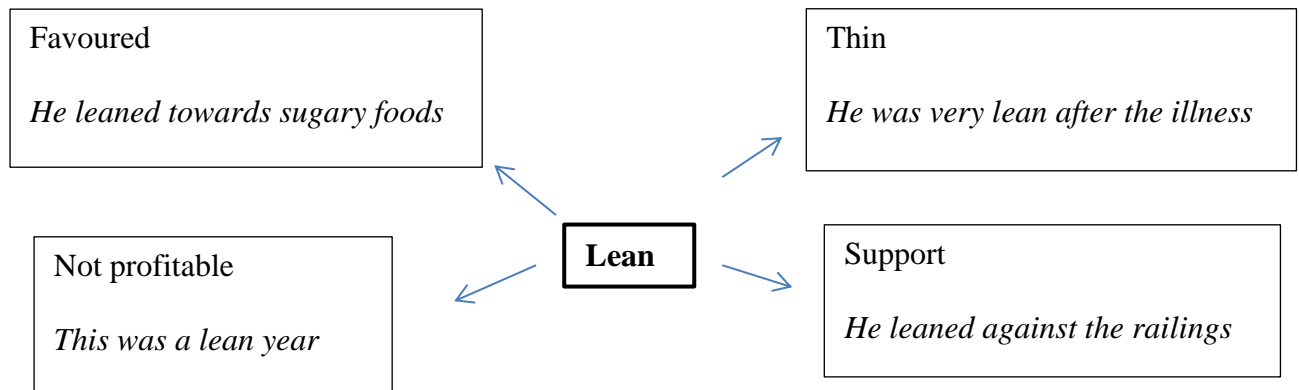
Some Useful Visual Methods for Teaching Vocabulary and Word Relationships

Semantic techniques such as semantic mapping are particularly useful for building depth of knowledge of word meanings and word concepts (Blachowicz & Fisher, 2006). They are very suitable for teaching more abstract words and ideas such as *equality* and *democracy* because these words cannot be described using one word. Semantic techniques can also be used to teach topic area words. Semantic mapping is a useful way to introduce the notion of *polysemy* (multiple word meanings) to pupils. Carlo et al. (2004) in their vocabulary intervention included instruction and discussion of multiple meanings which proved very effective not only for English speaking children but English language learners as well. Brainstorming and discussion as well as the use of a thesaurus are helpful in developing these word webs. Two examples of semantic mapping of the word *lean* are given below.

1. A Synonym Web



2. A Multiple Meanings Web



General Guidelines for Vocabulary Instruction

One of the most powerful approaches to vocabulary instruction is *Robust Vocabulary*

Instruction (Beck et al. 2002). The basics of the approach are encompassed in the following sequence for teaching a new word:

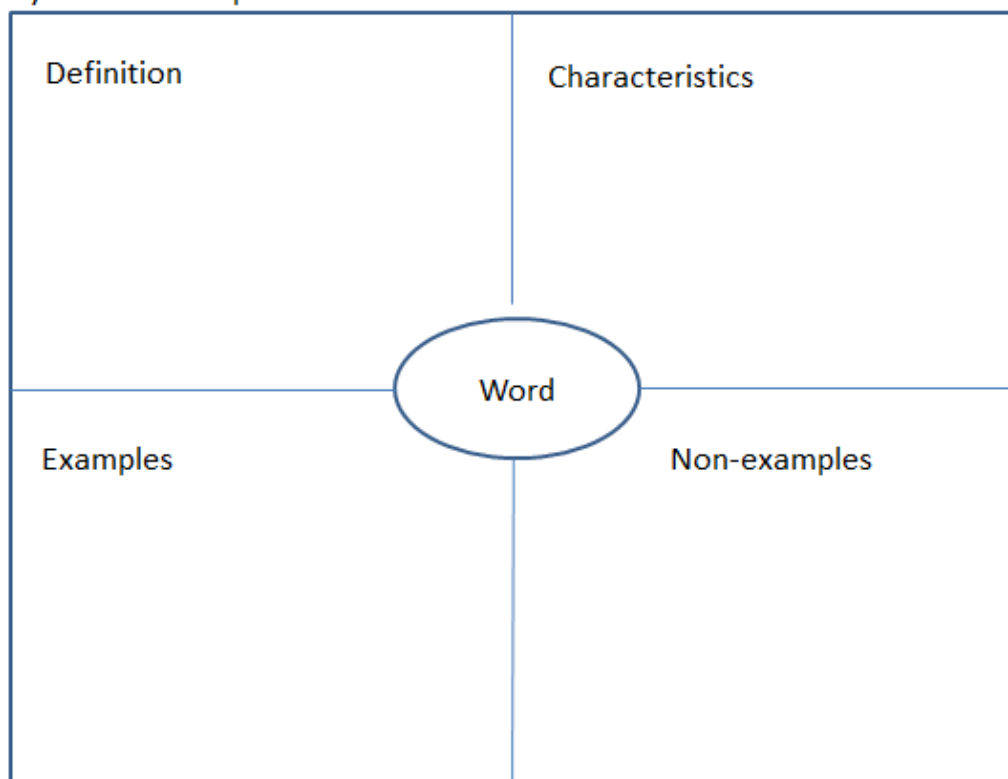
- a) Introduce a pupil-friendly definition of the word.
- b) Two or more teaching encounters of the word are essential.
- c) Provide evidence of the word in a few contexts (not necessarily at the same time)
- d) Engage pupils in activities in which they can explore the meanings of the word and relationships with other words.
- e) Have pupils create uses for the word.
- f) Encourage use of the word outside class.

Another approach is the *Frayer Method* (Fraye, Frederick, & Klausmeier, 1969). Although this is an older method and a time-consuming one, it is nevertheless a powerful method to teach difficult words and concepts (Graves, 2008). The teaching includes the following steps:

- a) Define the attributions of the word or concept (illustrations are useful)
- b) Contrast with similar concepts or meanings which it may be mistaken for.

- c) Give examples of the concept and explain why they are examples.
- d) Give non-examples of the concept.
- e) Present both examples and non-examples to the pupils and ask them to distinguish between the two.
- f) Have the pupils present examples and non-examples of the concept and allow them explain why they are examples or non-examples. Give some feedback after this activity. Students can fill in a template for their new words like the one below.

The Frayer Model Template



Conclusion

Teaching vocabulary to pupils with reading and learning difficulties is not very different to teaching pupils without learning difficulties. Moreover, vocabulary instruction that is effective for English speakers is also effective for children who may not yet be proficient in the English language (Carlo et al. 2004).

Teachers need to be proactive and include a specific focus on relevant vocabulary rather than treating poor vocabulary as evidence of a particular disability (Biemiller, 2011). Some general principles for vocabulary instruction include (a) fostering active pupil discussion and engagement with words, (b) teaching word-learning strategies, (c) provide explicit and incidental teaching and learning of words, (d) providing repeated exposure to learned words and access to new words in different contexts (Blachowicz & Fisher, 2006), (e) selecting high-utility words for instruction using the Tier classification provided by Beck et al. (2002) as a guide.

In the context of the diverse group of learners teachers are very often faced with in their classrooms, consistent attention and investment in vocabulary instruction through a variety of approaches from the early years should be a priority for literacy development.

References

- Abbott, S. & Berninger, V. (1999). It's never too late to remediate: A developmental approach to teaching word recognition. *Annals of Dyslexia*, 49, 223-250.
- Anderson, R. C., & Freebody, P. (1981). Vocabulary knowledge. In J. Guthrie (Eds.), *Comprehension and teaching: Research reviews*, 77-117. Newark, D.E: International Reading Association.
- Arnbak, E. & Elbro, C. (2000). The effects of morphological awareness training on the reading and spelling skills of of young dyslexics. *Scandinavian Journal of Educational Research*, 44(3), 229-251.
- Baumann, J.F., Edwards, E. C., Font, G., Tereshinski, C., Kame'enui, E.J., & Olejnik, S. (2002). Teaching morphemic and contextual analysis to fifth grade students. *Reading Research Quarterly*, 37, 150-173.

- Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing Words to Life: Robust Vocabulary Instruction*. New York: Guildford Press.
- Biemiller, A. (2001). Teaching vocabulary: Early, direct, and sequential. *American Educator*, 25(1), 24-28.
- Biemiller, A. (2011). Vocabulary development and implications for reading problems. In A. McGill-Franzen & R.L. Allington (Eds.), *Handbook of reading disability research*. New York: Routledge.
- Biemiller, A. (2005). Size and sequence in vocabulary development: Implications for choosing words for primary grade vocabulary instruction. In E.H. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp.224-243). Mahwah, NJ: Erlbaum.
- Blachowicz, C.L.Z., Fisher, P.J.L. (2006). *Teaching vocabulary in all classrooms* (3rd ed). Upper Saddle River, N.J: Prentice Hall.
- Blachowicz, C.L.Z., Fisher, P.J.L., Ogle, D., & Watts-Taffe, S.M. (2006). Vocabulary: Questions from the classroom. *Reading Research Quarterly*, 41, 524-539.
- Bryant, D.P., Goodwin, M., Bryant, B.R., & Higgins, K. (2003). Vocabulary instruction for students with learning disabilities: A review of the research. *Learning Disability Quarterly*, 26(2), 117-128.
- Carlisle, J.F. (1987). The use of morphological knowledge in spelling derived forms by learning-disabled and normal students. *Annals of Dyslexia*, 37, 90-108.
- Carlo, M. S., August, D., McLaughlin, B., Snow, C., Dressler, C., Lippman, D., Lively, T. J., & White, C. E. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly*, 39, 188-215.
- Chall, J. (1983). *Stages of reading development*. New York: McGraw Hill.

- Cunningham, A. E. & Stanovich, K.E. (1998). What reading does for the mind. *American Educator*, 22, 8-15.
- Freyer, D.A., Frederick, W.D., & Klausmeier, H.J. (1969). *A schema for testing the level of concept mastery*. Madison: Wisconsin Research and Development Centre for Cognitive Learning.
- Graves, M. F. (2008). Instruction on individual words: One size does not fit all. In E.H. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp.56-79). Mahwah, NJ: Erlbaum.
- Graves, M.F., & Silverman, R. (2011). Interventions to enhance vocabulary development. In A. McGill-Franzen & R.L. Allington (Eds.), *Handbook of reading disability research*. New York: Routledge.
- Hart, B. & Risley, T. (1995). *Meaningful differences in the everyday experiences of young American children*. Baltimore, MD: Brookes Publishing.
- Kucan, L. (2012). What is most important to know about vocabulary? *The Reading Teacher*, 65(6), 360-366.
- Manzo, U.C., & Manzo, A.V. (2008). Teaching vocabulary-learning strategies: Word consciousness, word connection, and word prediction. In A.E. Fairstrup & S.J. Samuels (Eds.), *What research has to say about vocabulary instruction* (pp. 80-05). Newark, DE: International Reading Association.
- Manzo, A.V., Manzo, U. C., T Thomas, M.T. (2005). *Content-area literacy: Strategic teaching for strategic learning*. Hoboken, NJ: Wiley/Jossey-Bass.
- Nagy, W.E. (2005). Why vocabulary instruction needs to be long-term and comprehensive. In E.H. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp.27-44). Mahwah, NJ: Erlbaum.

- Nagy, W.E., & Anderson, R.C. (1984). How many words are there in printed school English? *Reading Research Quarterly*, 19, 304-330.
- Nation, K., & Snowling, M.J. (2004). Beyond phonological skills: Broader language skills contribute to the development of reading. *Journal of Research on Reading*, 27, 342-356.
- National Reading Panel (2000). *Report of the National Reading Panel: Teaching children to read*. Washington, D.C.: National Institute of Child Health and Development.
- Padak, N., Newton, N., Rasinski, T., & Newton, R. (2008). Getting to the root of word study: Teaching Latin and Greek roots in elementary and middle grades. In A.E. Fairstrup & S.J. Samuels (Eds.), *What research has to say about vocabulary instruction* (pp. 6-31). Newark, DE: International Reading Association.
- Paris, S. (2005). Reinterpreting the development of reading skills. *Reading Research Quarterly*, 40(2), 184-202.
- Pikulski, J.J., & Templeton, S. (2004). *Teaching and developing vocabulary: Key to long-term reading success*. Boston, MA: Houghton Mifflin Company.
- Scott, J. A. & Nagy, W.E (2004). Developing word consciousness. In J.F. Baumann & E.J. Kame'enui (Eds.), *Vocabulary instruction: Research to practice* (pp. 201-217). New York: Guilford.
- Sousa, D.A. (2005). *How the brain learns to read*. Thousand Oaks, CA: Corwin Press.
- Stahl, S.A. (2005). Four problems with teaching word meanings (and what to do to make vocabulary an integral part of instruction. In E.H. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp.95-114). Mahwah, NJ: Erlbaum.
- Stahl, S. A., & Farbanks, M.M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, 56, 72-110.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-407.

Thompson, R.A. (1999). Balancing vocabulary instruction with teacher-directed and student-centred activities. In S. Blair-Larson & K. Williams (Eds.), *The balanced reading program* (pp. 24-36). Newark, DE: International Reading Association.

Vadasy, P.F., & Nelson, J.R. (2012). *Vocabulary instruction for struggling readers*. New York: Guildford Press.

Ellen Reynor is a lecturer in the Special Education Department in St. Patrick's College of Education, Drumcondra. She has taught in both mainstream and special school settings. She also taught for many years in a reading school in Dublin.