

Reading for meaning: the importance of oral language skills



Do not miss this insightful and enlightening article by **Kate Cain** for an abundance of well-researched and essential guidance which will be indispensable to teaching reading comprehension. Part Two will follow in our summer magazine.

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In today's world, the ability to read is a valued and vital skill. In all economies (developed, emerging, and developing), literacy skills are associated with an individual's academic success, employment and health outcomes, and with broader societal impacts such as business productivity and wealth creation, crime rates and welfare dependency. The advent of digital technology has resulted in an increase in reading and writing in the social sphere: emails, text messaging and social media platforms are rapidly expanding sources of information, messages, and communications. Thus, more than ever, successful reading skills are essential for full engagement in today's society. In this two-part review, I focus on the development of reading for meaning and the language skills that foster this critical aspect of literacy. Questions that I will address in Part

One include: What skills are involved in successful reading comprehension? and What does the beginner reader bring to formal literacy instruction?

Good Reading Comprehension: What's Involved?

An independent and successful reader must develop both adequate word reading and reading comprehension skills. For the beginner reader, learning to read the printed word is the critical challenge and word reading must be taught directly. For English, which is an alphabetic writing system, this requires learning how the sounds of our spoken language are coded in print. Slow, inaccurate, and effortful word reading means that, in the early stages of learning to read, children direct their attention to decoding the words on the page, rather than extracting meaning from text. Thus, for beginner readers, reading

comprehension is limited by how easily and accurately they can read words.

To become a successful reading comprehender, children need to do more than acquire good word reading skills. For us, as adult readers, it can be difficult to reflect on the processes involved in reading for meaning, because reading is something that we do each and every day and which typically requires little effort. To illustrate some of the core knowledge and skills involved in extracting meaning from text, read the passage in Table 1 (below), and ask yourself the following questions: Where was Ruby? What was ruined? Why did Ruby start to cry?

Table 1. Text to illustrate knowledge, skills and processes involved in successful reading comprehension

Ruby's Day Out

Ruby was busy with her bucket and spade. The sandcastle was nearly complete. Then a huge wave crashed onto the shore. On seeing that her day's work had been ruined, Ruby started to cry.

Where was Ruby? What was ruined? Why did Ruby start to cry?

To understand this short text, readers must retrieve the sense of the individual key words, such as 'bucket', 'spade', 'sandcastle', 'wave', 'shore', 'ruined' and 'cry'; these are necessary to extract the meaning of the text as a whole. It has been shown that replacing just 1 in 5 words with 'nonsense' words (to ensure that their meanings are not known) is sufficient to significantly disrupt comprehension, and very few readers achieve adequate comprehension when just 1 in 20 words are not known. Vocabulary knowledge is not all or none: many words have multiple meanings, and vocabulary knowledge extends beyond individual words to knowledge of the associations between different words. Familiarity with just the most frequently used meaning of 'wave' (moving one's hand in greeting) does not help the reader to understand the critical event in this story.



The associations between 'bucket and spade', 'sandcastle', and 'wave', invite the inference that the most likely setting of the text was the seaside (not the shore of a lake).

As we read the words on the page, we organize them into meaningful units: noun phrases, clauses, and sentences. These units are a foundation to understanding paragraphs and passages. Most languages allow flexibility in *how* speakers and writers convey meaning, so knowledge of word meanings or attention to word order alone is not always sufficient for accurate sentence comprehension. A good example of this is an event expressed in the passive voice as in '*The tiger was chased by the bear*'. Children typically understand and produce simpler sentence constructions such as the active (*The bear chased the tiger*) earlier than more complex constructions such as the passive, with improvements in passive sentence comprehension evident between 6 to 9 years of age.

Other sentences are longer than a single clause, as in the final sentence in *Ruby's Day Out*. Here, the nature of the relation between the events in each clause is explicitly signalled: Ruby started to cry at a specific time in the sequence of events and for a reason – it was on seeing that her work had been ruined. This is true of many sentences linked by conjunctions, which can aid readers' and listeners' understanding of how events are related in time or nature, e.g., '*She started to cry, after seeing the wrecked sandcastle.*' and '*She started to cry, because her sandcastle was wrecked.*' For English schoolchildren, understanding and use of conjunctions is still developing during the primary school years.

Successful comprehenders do not understand and remember each sentence in isolation: they integrate their meanings and draw on general knowledge outside of the text to make full sense of events, characters' actions, and their motivations. In doing so, they construct a memory-based representation of the situation or state of affairs described in the text, referred to as a mental model.

When extracting meaning from text, readers strive for coherence in the mental model that they construct. Several language processes and features of text support this. The pronoun 'her' in the final sentence refers back to Ruby in sentence 1 and 'her day's work' refers back to 'the sandcastle'. By determining these instances of co-reference, readers can integrate the meanings of the individual

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sentences and determine that Ruby had spent the day building a sandcastle that was now ruined.

In these examples, integration of sentence meanings is cued by cohesive devices, such as pronouns, but not all inferences are signalled in this way. For example, we must draw on our general knowledge, information that is external to the text, to infer that it was the action of the waves on the beach that ruined the sandcastle. The ‘signal’ to the reader is a lack of awareness of the setting or other core information that typically features in narrative text. The text does not explicitly state that Ruby was making the sandcastle. Again, we draw on our general knowledge about the typical activities that take place on a beach and which involve a bucket and spade to link the activity in sentence 2 with the character introduced in sentence 1; otherwise, these two sentences stand unrelated and the reader’s mental model lacks coherence.

Another key skill for good comprehension is comprehension monitoring. Skilled readers typically evaluate the adequacy of their comprehension as they are reading, checking for coherence. If we replaced the final phrase ‘*Ruby started to cry*’ with ‘*Ruby breathed a sigh of relief*’ we would struggle to understand its meaning in relation to the rest of the text; Ruby’s response would seem anomalous and we could not be able to integrate this information with the mental model of the text that we had constructed up to this point. Finally, skilled readers are guided by their knowledge of text structure; stories typically have a clear temporal and causal sequence, and motivations for character’s actions and responses, which supports the inference that Ruby’s tears are a response to the action of the wave. Such knowledge can guide readers by providing a framework

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for a text and, especially for narratives, expectations about the elements that will be included.

This analysis of what appears to be a very simple text illustrates the complexity of reading: it is an activity that draws on a range of knowledge and language skills. To skilled readers, reading for meaning may often appear effortless, but that is not the case when we, as adults, read challenging or inconsiderate (poorly written) texts; nor is it the case for the beginner reader. However, the beginner reader brings a wealth of language

knowledge and experience to the task of reading. These skills also support their listening comprehension – understanding of texts read aloud to them. To understand the early stages of reading for meaning, and how to develop successful reading comprehenders, we need to understand the role of the language skills that support reading comprehension, and their development.



The Language Bases of Reading Comprehension

The language skills that contribute to successful reading and listening comprehension, and enable us to understand the events that unfold during Ruby’s day at the beach, develop before formal literacy instruction. Infants and preschool children are surrounded by complex language in the form of fictional and personal narratives from storybooks, watching television and films, and talking about past events with family and others. Through these activities, vocabulary is learned, grammatical constructs are acquired, and the inference and integrative skills, monitoring ability, and knowledge of text structures (particularly narrative) that are important for understanding beyond the word or sentence level develop. These language skills support reading comprehension from the earliest stages of reading acquisition.

Vocabulary knowledge

Individual word meanings can be considered the ‘building blocks’ of sentence and passage comprehension. As illustrated by the example of ‘wave’ in *Ruby’s Day Out*, the type of vocabulary knowledge needed to become a good reading comprehender includes not only knowledge of individual word meanings, but also knowledge of the multiple meanings of a word. In addition, comprehension is enriched by access to a lexicon of rich semantic networks with links between words related by topic (collocations, such as sandcastle and beach), shared features (cry, sob, wail) and related, but distinct, meanings (to wave hello, a wave in the ocean, a soundwave). Good vocabulary knowledge is

associated with growth in reading comprehension over time: children who know the meanings of more words when they start school have better reading comprehension and, over time, their reading comprehension improves more than that of children who know fewer words.

Good readers need to have vocabulary knowledge that is robust, precise, and which can be used flexibly across different contexts to understand each individual sentence accurately

Most children produce their first word between 9 and 14 months, although there is then significant variation in the subsequent rate of vocabulary growth. Vocabulary is an unconstrained skill: there is an infinite number of words, and many shades of meaning for some words that can be acquired, and word learning continues across the lifespan. Studies have shown that both vocabulary breadth (how many words you know) and vocabulary depth (what you know about those words) each make important contributions to reading comprehension in general, and to inference making (such as inferring the setting of the story in our example) in particular. Good readers need to have vocabulary knowledge that is robust, precise, and which can be used flexibly across different contexts to understand each individual sentence accurately and to be able to integrate their meanings to construct a coherent mental model of the text's meaning.

Sentence Comprehension and Grammar

Understanding sentences is a foundation to understanding connected prose. By the time of their second birthday, most children are producing multiword utterances, for example 'mummy shoe' and 'many cars', showing an appreciation of grammar (Karmiloff-Smith & Karmiloff-Smith, 2002). As noted above for passive sentences and the knowledge of conjunctions, acquisition and understanding of some complex grammatical structures develops during the primary school years.

Although knowledge of grammar is critical to understand the meanings of some sentences, studies of typically developing children find that it is only a modest predictor of reading comprehension of connected prose when compared with the contribution made by vocabulary. These research findings do not rule out a critical role for grammar in children's ability to read for meaning. Grammar extends from morphology (word structure) through to comprehension of complex multiclausal sentences. When the assessment of grammar taps children's appreciation of both derivational and inflectional morphology, as well as a range of syntactic constructions, grammatical knowledge predicts children's reading comprehension scores across the ability range in primary school-aged children and has a

unique influence on children's reading comprehension scores even after taking into account the influence of vocabulary, word reading, and other language skills. Also, grammatical knowledge may also be a stronger predictor of text comprehension in older than in younger readers, when reading material includes more complex extended texts that include a range of syntactic constructions. Indeed, for adolescent readers, grammatical knowledge has been found to directly influence how well students understand text.

Beyond Words and Sentences: Inference and Integration, Comprehension Monitoring, and Text Structure

Most reading material is longer than a single word or sentence. Our examination of *Ruby's Day Out* highlighted the language skills beyond vocabulary and grammar that are involved in successful reading comprehension: inference and integration, comprehension monitoring, and knowledge and use of text structure. Skilled readers engage in integrative and inferential processing to make links between the meanings of sentences in a text, they monitor their comprehension as they are reading, which can help them to identify unknown words or the need for an inference to make sense of an event or character's response, and they use their knowledge of text structure to support temporal and causal sequencing of events. In doing so, these language skills support the extraction of meaning and the construction of a coherent mental model of the text's meaning.

Collectively, these three skills are referred to as higher-level or discourse-level language skills (to contrast with vocabulary and grammar as foundational skills). The use of higher-level language skills is evident before 3 years of age, with children inferring speaker intent to learn new word items and showing surprise if the order of events in a known story is transformed. These language skills are important components of comprehension of connected prose from the earliest stages of reading development. They predict scores in measures of listening comprehension in 6-year-olds and in reading comprehension in children between 7 to 11 years even after controlling for children's word reading, vocabulary, and grammar knowledge.

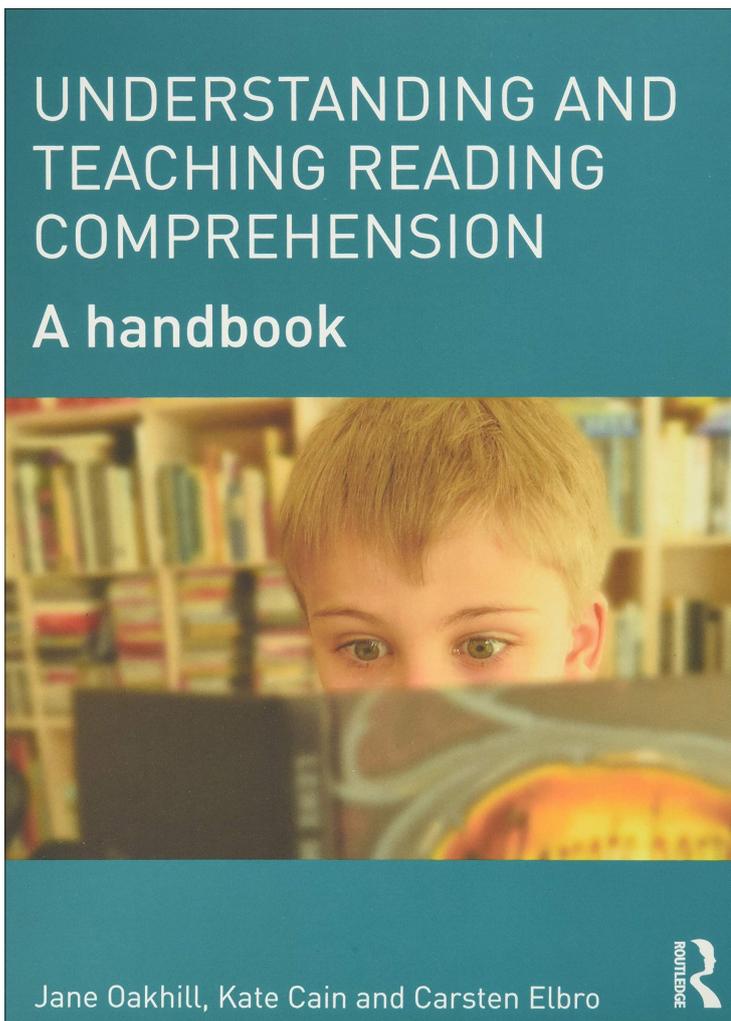


Summary and Recommendations for the Classroom

A range of language skills and knowledge support reading for meaning. Research has shown that the type of questions we ask children during or after reading or listening to text can support deeper processing for meaning and the higher-level skills of inference and integration, comprehension monitoring, and use of text structure. In particular, questions that require going beyond the literal detail of the text and encourage inferential processing have been shown to boost both vocabulary understanding and general text comprehension. These include questions that involve: Predicting future events in a story (based on story content and knowledge of story knowledge); Filling in the gaps (e.g. critical details about settings, characters, etc. that will support the construction of a full and accurate mental model of a text's meaning); and focusing on character intentions and feelings to understand responses and consequences. A technique called Questioning the Author, developed by Beck, McKeown and colleagues, involves stopping at pre-determined points in a text to ask open-ended questions.

The stopping points are chosen to encourage children to evaluate their understanding at critical points, for example, when a key character is introduced or an important event has occurred. The teacher supports a discussion with the individual or group to encourage them to use the text to answer the question. These techniques can be included in individual and group shared reading to model and scaffold active engagement in reading for meaning.

Kate Cain, DPhil, is Head of the Department of Psychology at Lancaster University. Her respected research concerns the different cognitive and language-related skills that underpin the development of reading and listening comprehension, both in atypical and typical populations. Dr Cain's many publications and articles report on her investigations into the relations that exist between children's reading comprehension and their inference-making skill, knowledge of narrative structure, interpretation of figurative language, vocabulary-learning mechanisms, and memory processes.



Many of these ideas are discussed in more detail in this book, aimed at teachers of reading:

Oakhill, J., Cain, K., & Elbro, C. (2015).

Understanding and teaching reading comprehension: A handbook. Routledge.

Work on supporting vocabulary learning is described in:

Beck, I. L., McKeown, M. G., & Kucan, L.

(2013). *Bringing words to life: Robust vocabulary instruction*. Guilford Press.