Prior Knowledge, Higher-order Thinking Skills and Reading Comprehension

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Introduction
Reading comprehension, which is the ability to engage with, understand and extract meaning from text, is dependent on the reader’s prior knowledge i.e. their conceptual knowledge, previous reading and personal experience. It is an interactive strategic activity, which combines reading with thinking and reasoning. To read and explore a piece of text in a meaningful way requires higher-order thinking skills. The more complex the language and the structure of the text the more the reader needs to think. Good readers make sense out of what they read by thinking about how it fits with what they already know. Therefore, students need a rich accumulation of prior knowledge if they are to make sense of a wide variety of complex reading material (Kozminsky and Kozminsku, 2001). This means that the acquisition of general and subject-specific content knowledge is critical if students are to become stronger readers.

This article examines the relationship between prior knowledge, higher order thinking skills and reading comprehension. It is part of the Making Literacy Meaningful project, funded by the European Union under the ERASMUS+ Programme, which is developing practically-oriented knowledge in the area of language and literacy development, with a specific focus on addressing the needs, challenges and opportunities resulting from multilingual and multicultural classrooms. More information is provided in our MOOCs http://literacymooc.eu/courses/teaching-in-multilingual-classrooms/; http://literacymooc.eu/lessons/reading-comprehension/ and website http://euliteracy.eu/.

Higher order thinking skills and reading comprehension
Higher order thinking is complex thinking that goes beyond basic recall of facts. Bloom’s Taxonomy (Bloom et al, 1956) is a hierarchical ordering of cognitive skills that classifies learning along a continuum from simple to complex and concrete to abstract. It consists of six major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The categories after knowledge are considered “skills and abilities,” with knowledge the necessary precondition for putting these skills and abilities into practice.
The purpose of reading is to think your way through the text, and respond to it in some way. When children pick up a book, magazine or look at text on a screen, they need to use their thinking skills, if they are to understand and comprehend the text fully. Not only do they need to know how to read the words, but they need to read between and beyond the words. This involves connecting the words and information in the text to what they already know; anticipating what is coming next and determining which elements of the text are most important. They need to employ the full range of thinking skills, including remembering, understanding, applying, analysing and evaluating the text as well as moving beyond the text to creating some new or original meaning.

When a piece of text is read, a complex interaction takes place between what the reader already knows and what is presented in the text. What the reader learns from a text will depend on what the reader already knows; what the reader expects the text to say; and how actively the reader thinks about the text before, during, and after reading it.

General Knowledge and Reading Comprehension
General knowledge is valued information regarding the social interests of a society, culture, civilization, community, or nation gathered from a range of various media platforms and written materials. This knowledge is about every aspect of human life – current affairs, fashion, family, health, and the arts and sciences.

Children’s general knowledge develops from birth. It entails a rich accumulation of ideas, experiences and vocabulary, which support children to understand a variety of eclectic topics. The more general knowledge children acquire from an early age, the more their oral language and comprehension skills will develop, which in turn supports the development of their reading skills.

Reading comprehension is a process in which readers construct meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text and the stance the reader takes in relationship to the text (Pardo, 2004). Good readers constantly try to make sense out of what they read by seeing how it links in with their prior knowledge. Having good general knowledge allows the reader to more easily comprehend more varied and extensive reading material (Kozminsky and Kozminsky, 2001). The more general knowledge readers have about the topic the better they can comprehend the text. Prior knowledge about the topic is actually more important to reading comprehension than the length and complexity of the words and sentences in the article.

When students know something about a topic, they are better able to read a text in which that topic is discussed, even when the sentence structure is complex or the words are unfamiliar. However, if a student knows nothing about the subject matter of the text, s/he will not be able to comprehend its meaning even if s/he can decode every single word. Students who know a lot about a particular topic can read and comprehend almost any text about it, no matter its reading level. Conversely, students who know very little about a topic will struggle with even the simplest text on the topic. However, under certain conditions, general knowledge may also impede understanding of new information. If a student’s
general knowledge includes fragmentary knowledge; mistaken terms or concepts, it can prevent reading comprehension or cause the reader to misunderstand the meaning.

**Supporting general knowledge and reading comprehension**

The process of comprehending text begins at birth, when parents talk, read and play with their children. Research has shown that vast differences exist in children’s knowledge when they begin school (Northwestern University, 2007). Unfortunately, those who are among the least advanced of their class never catch up and often give up. Reading to children on a daily basis encourages their interest in books and motivates them to learn how to read. They listen to the words, see the illustrations, and begin to associate the words on the page with the words they are hearing and the ideas they represent. Conversations, discussions and unpacking text by modelling for children how to interrogate the text are an important element of the ritual of reading to children. It improves children’s language, comprehension and higher-order thinking skills. Children who start school without this prior knowledge of books and reading are at a disadvantaged and are likely remain so throughout their life (Hart and Risley, 1995)

While the ability to recognise words when reading is important, knowing what the words mean in the context in which they are being used is vital. If the language is not familiar to the reader, s/he will find it difficult to understand what s/he is reading. While a reader may be able to ‘read’ i.e. pronounce a word they have never met before, s/he may not be able to comprehend its meaning, especially if there are no other clues in the text.

Therefore, the acquisition of subject-specific content knowledge combined with oral pre-reading activities, where the topic and vocabulary of the text are discussed, are important. Challenging students with unfamiliar complicated vocabulary, concepts and language orally will improve the students’ ability to comprehend them when they meet them in a piece of text. However, reading a text ‘cold’, i.e. where the students are unfamiliar with both the topic and associated vocabulary makes it much more difficult for them to comprehend what they are reading and may demotivate them.

Providing children with a variety of text in different media and genre at home and in school will increase their general knowledge. The following suggestions are the most accessible.

1. Have a class and school library from which children can borrow books to take home regularly. Encourage each family to join their local library and use it regularly.

2. Encourage games to improve general knowledge such as Trivial Pursuits; Who wants to be a Millionaire

3. Television and the internet are the most widely used sources to gain general knowledge. As well as being great sources of local, regional, national, and worldly news, they also offer information on politics, sports, fashion, food, and a diversity of other interests.
Artem Zavyalov (2015) argues that even in the age of Google, general knowledge still matters and provides a list of websites to help expand general knowledge from Art and History to Science and Philosophy.

However, passively reading a text or watching a television programme does not promote higher-order thinking skills. Teachers need to support their students to continuously question and analyse the text (PDST, 2018). Questioning the text enables students to

1. Think about the purpose of reading (Why am I reading this?)
2. Focus on what they are to learn (What information am I looking for?)
3. Check their understanding of what they read (What did I learn?).

This helps students to think actively as they read, monitor their comprehension and relate the content and what they have learned to what they already know. Teachers need to support students to understand the different types of information that can be gleaned from the text, whether textually explicit information (information that was directly stated in the text), textually implicit information (information that was implied in the text), or information entirely from the student’s own background knowledge. Teachers also need to enable students to ask themselves questions that combine information from different segments of text and their own knowledge.

**Conclusion**
Reading comprehension depends heavily on students’ background knowledge about the world — knowledge that comes largely from their culture, experiences and learning about current events, arts, history, geography, maths, science and other topics. When students know something about a topic, they are better able to read a text in which that topic is discussed, even when the sentence structure is complex or the words are unfamiliar. Developing students’ general knowledge through reading also ensures that they are well-rounded human beings capable of holding interesting conversations on multiple topics with anyone they meet. It also provides them with lots of interesting topics to read further on and write about. The more knowledge students acquire, the more they’ll be able to learn.

**References**


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