Science of Reading
Building Knowledge: Comprehending Informational Texts

What Is Informational Text Comprehension?

The capability to understand informational texts is an essential ability for school-aged students to have in a world awash with information (Reutzel et al., 2016; Duke et al., 2021). Nearly 44 million adults in the US have difficulty extracting meaningful information from informational texts in their careers, in college, or in their personal lives (Duke, 2002). Duke (2000) also defined informational texts as having many or all of the following features: 1) a function to communicate information about the natural or social world; 2) is typically from one presumed to be more knowledgeable on the subject to one presumed to be less so; 3) durable, strong, stable factual content; 4) use of technical vocabulary; 5) organized with classificatory, categorical, and definitional material; 6) frequent repetition of the topic(s), and graphical elements such as diagrams, indices, photos, text bubbles, captions, graphs, page numbers, and maps. A problematic issue arises when nonfiction texts are factual and do use story structure such as autobiographies or biographies. Even personal narratives can on occasion have the primary purpose of providing true, factual information about the writer.

A variety of genres are to be found in the general category of informational texts (Mann, 2017). These include by way of example the following: encyclopedias, logs, how-to books, content topic books, textbooks, scientific journals, reports, travel guides, atlases, minutes, syllabi, magazine articles, almanacs, recipes, catalogues, schedules, blogs, editorials, directions, instructions, etc.

Authors of informational texts use several text structures to organize information, including descriptive, compare/contrast, problem/solution, question/answer, cause/effect, and sequential or procedural. Readers' abilities to identify the text structure(s) used by the author help them pay attention to, store, and retrieve text information more efficiently and recall content knowledge and ideas with increased accuracy and completeness (Jones et al., 2016; Meyer et al., 1980; Meyer & Poon, 2001; Richgels et al., 1987).

Other features unique to informational texts that need to be specifically taught include graphic, typographic, and other added text features (Duke et al., 2013; Roberts et al., 2013). Graphic features include such features as captions, diagrams, flowcharts, graphs, tables, insets, maps, timelines, etc. Typographic features include italicization, parentheticals, blocks, bolding, hyperlinking, underlining, etc. Text features found in informational texts include a table of contents, headings, subheadings, signal words, glossaries, indexes, etc.

What Does Research Say about Teaching Reading Comprehension in Informational Texts?

There is significant new research support for the importance of building students' content knowledge related to informational text reading comprehension (Cabell & Hwang, 2020; Cervetti et al., 2016). We now know, for instance, that when students are helped to build broad and deep content knowledge across many disciplinary or content fields, this content knowledge helps students comprehend informational text more successfully (Willingham, 2006). Knowing this has at least two implications for practice. First, students are advantaged when they have access to a strong, coherent, core knowledge-based curriculum with the reading of complex and knowledge-rich texts, both narrative and informational (Grissmer et al., 2024b). Second, teachers need to pay particular attention to the "B," "C," and "D" parts of the ABCDs of background knowledge—activate, **build**, **correct**, and **develop**—to access the knowledge and learning afforded in informational texts (Grissmer et al., 2024a; Smith et al., 2021).

Shanahan et al. (2010) strongly recommended that students in Grades K–3 receive text structure instruction to improve their comprehension of informational texts. Past findings indicate that teaching young children text structures to improve their informational text comprehension has been quite successful (Shanahan et al., 2010; Duke et al., 2011). A substantial body of research has identified significant benefits for expert, novice, and striving readers who recognize and use informational text structure to assist their comprehension of informational texts (Armbruster et al., 1989; Gersten et al., 2001; Kintsch, 2013; Mayer, 1984; Taylor, 1992). Primary-grade students and those students who need support with comprehension of informational texts often require explicit instruction to recognize and use text structures and features to improve their comprehension of informational texts (Dickson et al., 1998; Pearson & Duke, 2002; Pearson & Fielding, 1991; Ruddell, 2006; Williams, 2005; 2007; Williams et al., 2004; 2007; 2009). Teaching young students how to read and write informational texts begins with using model texts that "provide clear, easy-to recognize examples" of known organizational or text structures found in informational text (NGAC & CCSSO, 2010; Jones et al., 2016; Shanahan et al., 2010; Williams et al., 2007). Students are also helped greatly when they use—and eventually produce their own—graphic organizers to represent the text structure, capture information, and store and retrieve knowledge gained from comprehending informational texts (Pyle et al., 2017).

Roberts et al. (2013) and Fingeret (2012) have also argued for the need to help younger readers acquire graphical concepts necessary for comprehending informational texts. Also, teachers of young children need to point out typographical and text features in informational text. Typographical features in informational text work differently than those in narrative text. For example, bolded print in narrative text tells the reader to increase volume and stress—say it loud with expression. On the other hand, bolded print in informational text is used to highlight a new or potentially unfamiliar vocabulary term hyperlinked to a definition online or in a glossary at the end of the book. Additional text features found in informational texts such as tables of contents, headings, subheadings, glossaries, and indexes need specific instructional attention as well.

Finally, teachers need to work from a research-supported framework for teaching reading comprehension of informational texts—repeated close readings of these texts to deepen and enrich learning and knowledge acquisition. The best research-supported framework currently available to guide teachers' reading comprehension instruction of informational texts is Construction Integration, or CI, Theory (Kintsch & Kintsch, 2005).

Teaching Informational Text Reading Comprehension: A Framework for Guiding Instruction

Evidence-based teaching of reading comprehension involves three major activities (Pressley, 2000; Reutzel et al., 2016; Shanahan et al., 2010): 1) building, correcting, or developing broad and deep content knowledge; 2) explicitly instructing text structures using proven and relevant reading comprehension strategies, such as graphic organizers (NICHHD, 2000; Pyle et al., 2017); 3) employing multiple close text readings (Adler, 1940) and discussions to deepen students' understanding of informational texts to know what the text says, know how the text works, and determine what the text means, based on Kintsch and Kintsch's (2005) CI Theory.

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