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EXECUTIVE-LEVEL **THINKING**

Teaching 21st-century skills for effective reading comprehension

By **Kelly B. Cartwright**

education in the 21st-century is about helping students become self-regulated learners who can solve problems and think on their feet. We've heard a lot about 21st-century skills, with emphasis on critical thinking, creativity, communication, and collaboration. In practice, we see these skills in students who are

- **Self-directed planners:** They manage goals, monitor progress, organize, and prioritize.
- **Flexible and adaptable:** They adapt to change, switch flexibly between activities or ideas, and flexibly integrate diverse perspectives into a meaningful whole.
- **Good information managers:** They hold information in mind, make connections to knowledge, adapt and refine knowledge, ask clarification questions, and evaluate evidence and claims.
- **Skilled at understanding others:** They collaborate, shift roles when needed, consider others' perspectives, and integrate multiple viewpoints to solve problems and reach goals.

How do these skills relate to literacy? Readers and writers manage all sorts of information, such as vocabulary, letter/sound information, strategic processes, and authors' and characters' perspectives. Many students manage these things relatively effortlessly. But, when they can't, we notice. Some seem to have all the skills for good reading comprehension, and yet their comprehension still suffers.

New research shows 21st-century thinking skills, called executive skills, are often lower in students who struggle with reading comprehension. Executive skills are higher-order thinking skills that enable students to regulate their thinking, behavior, and emotions. Specific skills associated with reading comprehension are planning, organization, cognitive flexibility, working memory, inhibition, and social understanding. The good news is, these skills can be taught.

Good comprehenders have a plan for understanding text.

We need to teach our students that good comprehenders are good planners. They know why they are reading, whether it's for fun, to find information, to learn something new, or to answer questions. They have a goal, which they keep in mind while reading, and they employ specific strategies to ensure their goal is met. These active, plan-focused strategies are things we may already teach students, such as predicting, previewing texts, attending closely to parts of texts relevant to our goals, connecting to existing knowledge, or asking questions of the text or ourselves to guide reading. But, we may not teach these as part of an overall plan to understand.

Good comprehenders are organized thinkers.

Good comprehenders are aware of ways language, texts, and knowledge are organized, and they use that information to help them understand what they read. We need to support students' syntactic awareness—understanding the order in which words should be arranged so sentences make sense. We should also make sure students know how different kinds

of texts are organized, such as story structures for narrative texts or the various structures used to organize informational texts. Good readers use knowledge of text structures to organize text information in mind while reading. Finally, like good comprehenders, we should help our students understand how new information fits into their existing mental frameworks. Concept maps provide useful “pictures” of that organizational structure.

Good comprehenders manage and remember information while reading.

Working memory is a key executive skill that involves two things: storage of information and processing of information. Good comprehenders build and continually update mental models of text meaning (storage) while continuing to read through text (processing). Students who struggle with reading comprehension may focus on decoding (processing) but may need activities that strengthen and support the storage component of working memory necessary for constructing mental models of texts' meanings. Some teachers achieve this support with visual manipulatives, such as pictures, flannel board characters, puppets, or periodic prompts (verbal or in text) for older readers to summarize the content of a text as they read through it.

Good comprehenders are flexible thinkers.

Reading requires a special kind of mental multitasking that involves juggling multiple kinds of information, switching back and forth between them as needed to support text comprehension. Students who struggle with reading comprehension are notoriously inflexible and seem unable to switch back and forth between decoding and meaning construction. Activities that support flexible thinking require students to process multiple kinds of information, such as sorting words by sound and meaning simultaneously, or playing word guessing games where clues involve both sound and meaning (e.g., “I'm thinking of a food that begins with the ‘P’ sound. What is it?”).

Good comprehenders can resist distractions.

Inhibition involves the ability to stifle a habitual response or ignore distracting information. Students with good reading comprehension resist the impulse to blurt out the first word that comes to mind while reading, and they are able to ignore irrelevant word meanings in text. One way to support inhibition is to talk explicitly about how good readers can wait and look all the way through words before speaking; we can also explicitly teach words with multiple meanings to support students' abilities to focus on appropriate word meanings and resist inappropriate word meanings when reading.

Good comprehenders are good “mind readers.”

Finally, good comprehenders can take others' perspectives and use that information to understand text. This may involve understanding the author's purpose in writing a text. Additionally, this skill permits students to use information about characters' (invisible) thoughts, feelings, or intentions to make inferences about characters' actions. You can teach students to make inferences about characters' perspectives in discussions of wordless picture books; or you can support this skill by having students map stories' structures from two different characters' perspectives.

These 21st-century thinking skills are critical for successful reading comprehension—particularly for struggling students whose reading comprehension lags behind their word reading ability. Fortunately, executive skills can be taught, helping to bridge the gap for all students across the curriculum. ■

ILA 2017

Kelly B. Cartwright will present a Teaching Edge session on executive skills and reading comprehension on Saturday, July 15. For more information, download the ILA 2017 Conference & Exhibits app or visit ilaconference.org/app.