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Content Knowledge Matters for Reading Comprehension

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View from a Literacy Researcher. . .

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The batsmen were merciless against the bowlers. The bowlers placed their men in slips and covers. But to no avail. The batsmen hit one four after another with an occasional six. Not once did a ball look like it would hit their stumps or be caught.

- Tierney and Pearson (1981)

Content Knowledge Matters for Reading Comprehension

Recht and Leslie (1988):

- Students who were either good or poor readers
- Students who were knowledgeable or not about the game of baseball
- Passage describing half an inning of a baseball game
- Students reenacted and described what they read
- Poor readers with a high knowledge of baseball displayed better comprehension than good readers with a low knowledge of baseball

Why Does Content Knowledge Matter for Comprehension?

- Processing vocabulary (e.g., Elleman, Lindo, Morphy, & Compton, 2009)
- Handling new vocabulary (e.g., Kaefer, Neuman, & Pinkham, 2015)
- Inference generation (e.g., Fincher-Kiefer, 1992)
- Creating coherence (e.g., McNamara & Kintsch, 1996)
- Building a situation model (e.g., Kintsch, 2004)

• Cognitive load

Knowledge Even Matters for Decoding

While does eat oats, a wolf does not.

- Adams, 1990

Pole vaulting was the third event of the meet.

After dinner, John event home.

(from Nash-Webber, 1975, 352)

Content Knowledge Matters for Reading Comprehension

- Vocabulary breadth and depth is related to reading comprehension (e.g., Tannenbaum, Torgesen, & Wagner, 2006).
- Comprehension is related to content knowledge in L1 and L2 (e.g., Best, Floyd, & Mcnamara, 2008, Chen & Donin, 1997).

Early Content Knowledge

“We found that the test of general knowledge was by far the strongest predictor of science and reading and also contributed significantly to predicting later math, making the content of this test another important kindergarten readiness indicator.”

- Grissmer, Grimm, Aiyer, Murrah, and Steele (2010), p. 1008

A Content-Rich Context May Increase the Effectiveness of Other Aspects of Literacy Instruction

Gaultney (1995):

- Fourth- and fifth-grade poor readers
- Strong baseball knowledge
- Instruction in asking why- questions with baseball or non-baseball texts
- Those receiving the instruction with baseball texts asked more why- questions in non-baseball texts, which was associated with higher recall.

A Content-Rich Context May Increase the Effectiveness of Other Aspects of Literacy Instruction

Guthrie, Wigfield, Barbosa, Perencevich, Taboada, Davis, Scaffidi, and Tonks (2004), study 2:

- CORI
- Strategy instruction alone
- Control condition
- CORI > strategy instruction > control condition
- Student engagement mediated the effect of condition on comprehension and strategy acquisition (Wigfield, Guthrie, Perencevich, Taboada, Klauda, McRae, & Barbosa, 2008).

Cautions

- Poor quality, disengaging content instruction is arguably no better than no content instruction at all—and may be worse!
- Conceptual coherence is likely to be important (Cervetti, Wright, & Hwang, 2016).
- There are multiple efficacious ways to develop literacy and/in content knowledge.
- Let's not oversimplify: many factors influence reading comprehension and many practices foster reading comprehension.