

Improving Academic Success: Guiding Questions in Advancing Reading Comprehension

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Background:

Text comprehension is a primary factor in both student learning and subsequent academic performance. Laboratory research has uncovered individual differences in cognitive skills that are related to reading proficiency. Some areas of influence include working memory capacity (Miyake et al., 1994), domain knowledge (McNamara & O'Reilly, 2002), and ability to differentiate between relevant and irrelevant information (Conway & Engle, 1994). Less-skilled readers are disadvantaged insofar as they take more time to suppress irrelevant information (Stiegler-Balfour & Wells, 2011) and are constrained by their difficulties to integrate relevant text information (Stiegler & O'Brien, 2009).

In this project, we assessed students' reading proficiency using a standard reading skills test. We speculated that augmenting a reading assignment with a set of guiding questions might help less-skilled students identify, and thus focus on, relevant information. If they do, will there be a positive effect on their performance on essay exam questions?

Predictions:

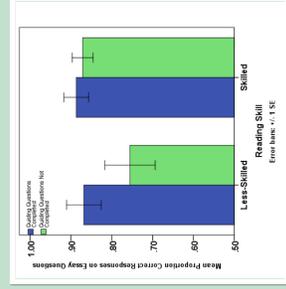
- We predicted that
- > adding guiding questions to a reading assignment will benefit the less-skilled readers as demonstrated by improved exam scores on items related to the readings
 - > skilled readers will perform equally well on exam items independent of whether they answered guiding questions

Method:

Participants:

Participants were 17 undergraduate students enrolled in an upper-level psychology of consciousness course.

Essay Exams



Procedure:

At the beginning of the semester, all students completed the comprehension section of the Gates-MacGinitie Reading test to assess their reading comprehension skill. Students who scored at or below the 46th percentile were designated less-skilled readers, and those who scored above the 69th percentile were designated as skilled readers. The mean SAT-Verbal score for the less-skilled and skilled readers was 508 and 614, respectively.

Students were randomly assigned into one of two groups. Every other week, on an alternating basis, each group completed a set of guiding questions related to the assigned readings.

Guiding questions consisted of five to ten questions based on the assigned weekly readings. Students submitted written responses prior to the class session in which readings were covered.

We assessed students' scores on essay questions over three course examinations. We evaluated their performance as a function of whether or not they completed guiding questions relative to an essay item.

Results and Discussion:

- > As predicted for less-skilled readers, students performed over 12 percentage points better on essay questions for which they answered guiding questions. For skilled readers, mean essay exam scores were virtually the same.
- > For the less-skilled readers, performance on questions for which they received guiding questions improved scores to the level of the skilled readers.

Supplementary Results

- > Students were required to answer guiding questions for assigned readings on an alternating basis (mostly, every other week). However, nothing prevented students from working on the questions on their "off" weeks. Students responded to a question at the end of the course about the extent to which they completed guiding questions on weeks when they were not required for their group (1 to 5 scale, never to always, respectively). The mean ratings for the less-skilled and skilled reading groups were 2.63 and 2.25, respectively (nonsignificant difference, $p < .60$). When students were eliminated from the analysis if they gave a score of 3 or greater on the question, the pattern of results was exactly the same as in the figure.

The results of this project show that completing guiding questions was helpful to less-skilled readers, perhaps due to the deep processing of material that the activity generated.

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