

Reading Science Books for Pleasure Will Help You in Science Class: Chen, Chang, & Yang (2017)

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Study discussed:

[Chen, S.Y., Chang, H.Y, and Yang, S. \(2017\). Content-Based Recreational Book Reading and Taiwanese Adolescents' Academic Achievement. Journal of Education and Learning, 6\(1\). \(Open Access\)](#)

One of the current fixations of the reading field is teaching “academic language,” especially academic vocabulary, via direct instruction. Most of these efforts have produced very meager results, as I have pointed out [here](#) and [here](#).

Krashen (2012) suggested that the way to improve struggling readers’ academic language proficiency is (a) encourage them to become pleasure readers, and then (b) allow them to read on academic topics that interest them. Chen, Chang, and Yang (2017) provide some interesting evidence that this is indeed an effective path.

The researchers analyzed the impact of self-selected “content-based” reading on tests of academic achievement for a large group of students (N = 4,730) at an all-girls Taiwanese senior high school (data from four cohorts were collected). The school had a “Reading for Pleasure” program that included an online tracking system for some of the students’ out-of-school reading. Students were invited to look at a website that contained lists of recommended books in a variety of genres, both fiction and nonfiction. After reading a book from the lists, students had the option of taking a “certification” test on the book. Prizes were available for “avid readers” each semester.*

The researchers grouped the recommended texts read by the girls into three categories: literature, social sciences, and science (p. 209). They then compared the number and genres of the books read to the students’ performance on the Chinese literature, science, and social sciences subtests of the Taiwanese college entrance exam (GSAT), taken in January of the students’ senior year.

Wang et al. were careful to control for achievement in these subjects before the students entered senior high by entering their subject matter scores from a previous exam (a senior high entrance exam) first into their regression analysis.

This allowed them to see how much the scores on the content area tests of the GSAT might be associated with the content-area pleasure reading.

Scores were analyzed by the student's chosen specialization in high school, either Humanities/Social Sciences or Science. Here are the genre of texts that were significant predictors of content area test scores for the Humanities students:

- Literature/Social Sciences books → Literature scores
- Social Sciences/Science books → Social Science scores
- Literature/Social Sciences/Science books → Science scores

Humanities students who read more social sciences and literature books did better on the social sciences test than those who read fewer such books, controlling for the achievement in that subject matter prior to senior high. The same was true for the science scores: the more books about science students read, along with both social sciences and literature books, the higher their science test scores.

The results for the Science students were slightly different:

- Social Science books → Literature scores
- Social Sciences, Science books → Social Sciences scores
- Science books → Science scores

Again, more content area reading was associated with higher scores for both the social sciences and science test, but not for literature, where only the reading of social science books was significantly related to subject matter scores.

As the researchers themselves noted (p. 209-210), the Reading for Pleasure data almost certainly underestimated the total amount of out-of-school reading students engaged in. It did not include any books not on the "certification" list, and of course did not count magazines or Internet reading of any kind. The average student read only 6.5 books as part of the "certification" testing program over a three-year period. Wang et al. suggested that the data from the program acted as a proxy for the total volume and type of pleasure reading students engaged in outside of school.

Unfortunately, the researchers did not present a single analysis that included the impact of all three genres combined on test scores. A more comprehensive measure of reading or "print exposure" would probably have found an even stronger impact. Still, the fact that even a rough measure of content-area pleasure reading had an impact on content achievement scores is impressive. It suggests

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that the road to academic language is the same as that for all types of literacy development: free voluntary reading.

* Neither reading incentives (McQuillan, 1997) nor frequent testing (Krashen, 2003) has been found to increase students' reading motivation or proficiency, but regular readers of this blog probably knew that already.

Dr. McQuillan runs <https://www.eslpod.com/>, a podcast for English language learners.



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