Title: Writing to learn from multiple-source inquiry activities in history
Authors: Wiley, J., Steffens, B., Britt, M.A. & Griffin, T. D.
Strand of work: Basic Studies

Abstract
When learning about a historical topic, students must be able to work with information from multiple sources. In order to successfully integrate information across sources, students must understand the temporal structure of the events across documents (contextualization) and compare sources for consistent and conflicting information (corroboration). In three experiment students read a set of documents (e.g., excerpts from an autobiography, a treaty, a newspaper article, a map) about a historical controversy. Experiment 1 examined how contextualization could be enhanced through the use of timelines and how corroboration could be enhanced through the use of two different inquiry-based essay prompts for 150 undergraduates. A position-based essay prompt focused on evaluation of a specific cause (i.e., “write an argument about the extent to which U.S. President Theodore Roosevelt and his administration were responsible for bringing about the Panamanian Revolution”) while the contributing-factors essay prompt focused on explanation of the causes (“write an essay explaining the factors that caused the Panamanian Revolution of 1903”). Experiment 1 found that generating a timeline during learning did not improve essay quality compared to a read-only control. Although the position-based essay prompt was especially interesting to undergraduate students, it led to less coverage of concepts in the essays compared to an explanation-based essay prompt. Experiment 2 found a similar pattern of decreased coverage with the position-based prompts for 88 high school students. Experiment 3 added a recognition test to serve as a learning measure, and found that 34 middle school students learned more after generating a timeline during reading compared to a read-only control. Taken together, these findings suggest that timelines may enhance learning, but only for younger students. Furthermore, the results illustrate that different writing tasks affect students’ likelihood of synthesizing information across sources and their learning outcomes.

Implications
Given the increased demands of reading multiple documents, providing students with practice in writing-to-learn activities throughout their middle school and high school years is essential to helping them negotiate the demands of the task. The results suggest that tasks require students to state an opinion on a historical controversy may not tap the type of interest that will lead to the most complete understanding of the texts. The results are encouraging as they offer some evidence that completing a timeline before writing gave younger students a context they could use for integration and understanding. Future studies will explore how these benefits may be enhanced. While we have several leads on potentially beneficial conditions, the results of these studies highlight the need for more research to identify effective and efficient methods of improving students’ development.
of the skills of both contextualization and integration/corroboration.

Acknowledgements
The research reported here and preparation of this manuscript was supported by the Institute of Education Sciences, U.S. Department of Education in part by Grant R305B07460 Improving Metacomprehension and Self-Regulated Learning from Scientific Texts and in part by Grant R305F100007 Reading for Understanding Across Grades 6 through 12: Evidence-based Argumentation for Disciplinary Learning. The authors thank the other members of Project READI for their assistance and contributions. The opinions expressed are those of the authors and do not represent views of the Institute of Education Sciences or the U.S. Department of Education.