Title: Fostering Reading Comprehension in Middle-School Social Studies: A Formative Experiment of Teachers’ Practices and Adaptations for Content-Literacy Instruction

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Abstract Body

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Background

The need to address comprehension skills in conjunction with discipline-specific content knowledge has become particularly salient with the advent of the Common Core State Standards (Common Core State Standards Initiative, 2010). The CCSS call for students to engage with a wide range of complex texts across the disciplines. As such, the CCSS require that content-area teachers support the development of students’ language and literacy skills. The rigorous CCSS expectations are compounded for English Language Learners (ELLs) who need deliberate support to access and participate in the linguistic domains (speaking, reading and writing) required for full participation across the disciplines.

To foster deep text comprehension, students also need to be motivated to engage in the cognitive pursuit of building knowledge from complex texts. One specific source of motivation is self-efficacy, which refers to students’ beliefs about having the means to perform effectively (Bandura, 1997). Such beliefs are essential for students to implement the cognitive strategies that will lead to the sustained, deep reading required by the CCSS.

In particular, the domain of social studies requires both the cognitive skills and motivation to engage with complex texts, and, has received little attention from empirical research. Middle- and high-school social studies instruction relies predominantly on a single textbook with little consideration of other sources or heuristics for teaching reading comprehension (De La Paz, 2005; Nokes et al., 2007). Social studies also presents challenges to ELLs as the content instruction includes decontextualized and abstract vocabulary (Weisman & Hansen, 2007). Therefore, teachers face the challenge of developing curricular innovations that merge literacy and language skills with content while ensuring that students' motivation to read complex texts is also fostered.

In the current study, we focus on a literacy-in-social studies intervention called United States History for Engaged Reading (USHER). USHER is grounded in the reading engagement model (e.g., Guthrie & Wigfield, 2000; Guthrie et al., 2004; Wigfield et al., 2008) which emphasizes student reading engagement via cognitive-strategy use and supports for reading self-efficacy. USHER expands on the original engagement model by including modifications for literacy instruction in middle-school history with specific curricular adaptations to support the comprehension and engagement of ELLs.

Purpose & Research Questions

The purpose of the current study was to increase reading comprehension and motivation in middle school students in social studies classes. A secondary goal was to increase social studies academic vocabulary. Given the iterative nature of the intervention, we used a formative experiment design (Jacob, 1992) which allowed us to examine adaptations made during implementation. Four main research questions guided this study:

1. What is the impact of USHER on students' reading comprehension, motivation and academic vocabulary?
2. As the formative experiment evolved, what instructional practices were implemented or changed to enhance students’ reading comprehension in social studies?
3. As the formative experiment evolved, what instructional practices were implemented or changed to enhance students’ reading motivation in social studies?
4. As the formative experiment evolved, what instructional practices were implemented or changed to enhance students’ social studies academic/specific vocabulary?

Setting
This study was conducted in Grade 6 classrooms in a suburban school district’s only intermediate school (i.e., grades 5 and 6). In this school, social studies is taught every day for 45 minutes throughout the school year, covering United States history from First Americans (i.e., American Indians) through the Civil War.

Participants
Participants included four sixth-grade social studies/language arts teachers and their students [i.e., n=149 students; with 62% of students speaking a language other than English (90% Spanish)]. Three of the teachers taught two classes of grade 6 students and one teacher taught a self-contained special education class. All teachers had experience teaching an iteration of the curriculum in a previous year. See Table 1 for additional sample demographics.

Intervention
USHER proposes that teachers’ implementation of specific practices influence students’ motivation processes and use of reading comprehension strategies that, in turn, result in improved student outcomes on comprehension, academic vocabulary knowledge and reading self-efficacy. The development of USHER was a multiyear initiative. In this study, we focus on data from Year 3 (AY 2012-2013) of the project.

Teacher professional development (PD).
USHER PD consisted of four half-day sessions occurring over a four-month period in fall 2012. Teachers had received extensive PD in the previous two years. The purpose of the PD in Year 3 was for teachers to (a) delve into reading and motivation practices in social studies, (b) become familiar with USHER materials and (c) provide feedback on instructional materials prior to implementation.

USHER implementation.
USHER Year 3 implementation lasted seven weeks in fall 2012 and included five reading comprehension strategies: (a) activating background knowledge via use of text features, (b) generating text-based questions, (c) organizing information graphically, (d) identifying main idea and supporting details, and (e) comprehension monitoring. Teacher supports for reading motivation of history topics were: (a) self-efficacy for reading, (b) relevance, and (c) student collaboration. USHER also used trade books to foster extensive reading in social studies. Implicit and explicit instruction was also provided for academic vocabulary (e.g., word maps).

Research Design
We approached the intervention with a formative experiment (Jacob, 1992) research design. The emphasis of this methodology is on the factors that enhance or inhibit the effectiveness of an intervention in achieving a pedagogical goal (Reinking & Bradley, 2004). Formative experiments often use quantitative and qualitative data to explain modifications to the intervention as the project unfolds (Newman, 1990; Reinking & Bradley, 2004) and are characterized by design elements (i.e., theory-driven elements with the goal of refining teaching practice; Ivey & Broaddus, 2007). Our design elements included: (a) time for independent reading cognitive reading strategy instruction; (b) motivation supports; (c) purposes for reading in history; (d) teacher scaffolds for reading; (e) and history-specific academic vocabulary.
Data Collection and Analysis

Quantitative Pre-, Post-Intervention Data

Student data related to reading comprehension, academic vocabulary, and reading self-efficacy were collected immediately before and after the seven-week intervention period.

Gates-MacGinitie Reading Comprehension Test. This standardized reading assessment, administered as measure of students’ general reading comprehension. Students completed the Level 6 version Form S at pre-intervention ($\alpha = .93$) and Form T at post-intervention ($\alpha = .90$). Students in the self-contained special education class did not complete the Gate-MacGinitie given that it was significantly above their reading level.

History Reading Comprehension. Students read three passages excerpted from tradebooks and responded to eight multiple choice questions per passage targeting vocabulary, text-based understanding and local and global inferencing. History comprehension scores were correlated with scores on the Gates MacGinitie, given at the same time (i.e., pre-intervention: $r=.63$; post-intervention: $r=.74$) and the data were reliable (i.e., pre-intervention: $\alpha = .85$; post-intervention: $\alpha = .85$).

Academic Vocabulary. Students completed a 24-item measure of content-specific and general academic vocabulary words that were explicitly or incidentally taught as part of the intervention instruction. Students’ performance on the academic vocabulary measure was correlated with their performance on a standardized vocabulary assessment, the Peabody Picture Vocabulary Test (i.e., pre-intervention: $r=.59$ $p < .001$; post-intervention: $r=.66$, $p < .001$) and the data from the academic vocabulary test were reliable (pre-intervention: $\alpha = .60$; post-intervention: $\alpha = .68$).

Reading Efficacy Beliefs. We adapted a measure developed by Shell, Colvin, and Bruning (1995) to assess students’ perceptions of their ability to read. Students respond to 19 items related to different reading-related tasks (e.g., “I am confident I can find supporting details for a main idea one a page in a social studies book”) on a scale from 0 (Cannot Do At All) to 100 (Completely Certain I Can Do; pre-intervention: $\alpha = .92$; post-intervention: $\alpha = .92$).

Qualitative During-Intervention Data

During-intervention data included classroom observations, teacher pre- and post-intervention interviews, and during-intervention teacher debriefs. Each teacher was paired with a researcher (i.e., graduate student assistant), who was thoroughly familiar with USHER principles and practices. To aid in data analysis, data were organized into eight data cycles per teacher. A data cycle included two teacher-researcher debriefs and an average of two to six lesson observations. Cycles were defined by a teacher-researcher debrief that included goals or instructional areas in need of support and the ensuing observations. To date, four of eight data cycles have been analyzed per teacher.

Results

Quantitative, Pre-Post Intervention Results

To determine if there were changes in students’ reading comprehension, academic vocabulary, and reading self-efficacy as well as if there were differences based on language status, we conducted a series of repeated measures analyses with time as the within subject variable and language status as the between subject variable. All analyses were conducted separately by teacher and will be detailed in the full paper. As a general summary, all teachers
had a time effect for two or more of the outcome variables (i.e., history comprehension, general reading comprehension, academic vocabulary, and reading self-efficacy; see Table 1). All time effects indicated increases in the outcome variable from pre- to post-intervention. For the significant language status effects, English native speakers outperformed ELLs. Only Teacher B, the male teacher, had significant interaction between time and language status which was attributable to academic vocabulary [i.e., English native speakers significantly increased in their academic vocabulary, $t(13) = 3.775$, $p=.002$, from pre- to post-intervention whereas ELLs did not $t(27) = 1.554$, $p=.132$].

These findings indicate that students increased in their reading comprehension, academic vocabulary, and reading self-efficacy beliefs across most of the teachers. We looked to the qualitative data collected during implementation to understand how each teacher implemented the curriculum as well as the changes and adaptations each teacher made.

**Qualitative, During-Intervention Results**

This is a summary of the data; details for each teacher will be provided in the full paper. In terms of cognitive supports for comprehension, all four teachers implemented lesson practices including the use of materials to facilitate student strategies application (e.g., trade books, strategy posters), some degree of scaffolding during small group reading, and history-specific academic vocabulary instruction through word maps. Teachers, however, differed on the degree of explicitness of the gradual release of responsibility model. For example, teacher A lacked explicit modeling of partner reading and absence of use of discussion prompts to support ELLs’ language. Teacher B provided more time for guided practice but much less explicit modeling of strategy use than suggested in the lessons. Teachers C and D both omitted establishing content purposes for reading and Teacher D was the most explicit on teaching all of the gradual release of responsibility model components. In addition, Teachers A, B and C all struggled with the pacing of the lessons and tended to overextend the use of word maps for vocabulary instruction. In terms of motivation practices, all teachers fostered student collaboration, and in time (i.e., after debriefs with peer researchers), supported students' efficacy for reading through specific feedback and praise. However, teachers A, B and D all struggled with setting relevance either by articulating the purpose of reading strategies or the importance of the history topics studied for students' lives. Some of the rationales teachers indicated for these changes included: misreading the lessons/lack of preparation, concern that the lessons did not include enough spiraling back, difficulty in seeing the integration of content-driven questions as the purpose for students' reading and the need to regroup students' based on reading ability levels.

**Conclusions**

Our quantitative results indicated statistically significant increases in comprehension, academic vocabulary, and reading self-efficacy beliefs from pre- to post-implementation. Our qualitative findings, albeit preliminary, indicate that each teacher had areas of strength in relation to USHER practices, as well as challenges. As we finish our qualitative data analyses we will be able to provide a richer picture of what instructional changes led to strengthening the intervention, which in turn can bolster future instantiations of USHER and contribute to our understanding of effective literacy practices in middle school social studies for both ELLs and native speakers in the context of CCSS.
Appendix A

References


## Appendix B

Table 1
Sample Demographics and Results of Within and Between Subject Analyses of Pre-Post Data

<table>
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<tr>
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<th>Teacher C</th>
<th>Teacher D*</th>
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*Given sample size, language status effects were not tested for Teacher D.