

An Evaluation of the Impact of
*Jamestown Reading Navigator*TM
on High School Completion, School Dropout,
and Related Risk and Support Factors

Executive Summary

Clemson University
National Dropout Prevention Center (NDPC)
Year 2 Annual Report
1 July 2007–30 June 2008

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Glencoe

Introduction

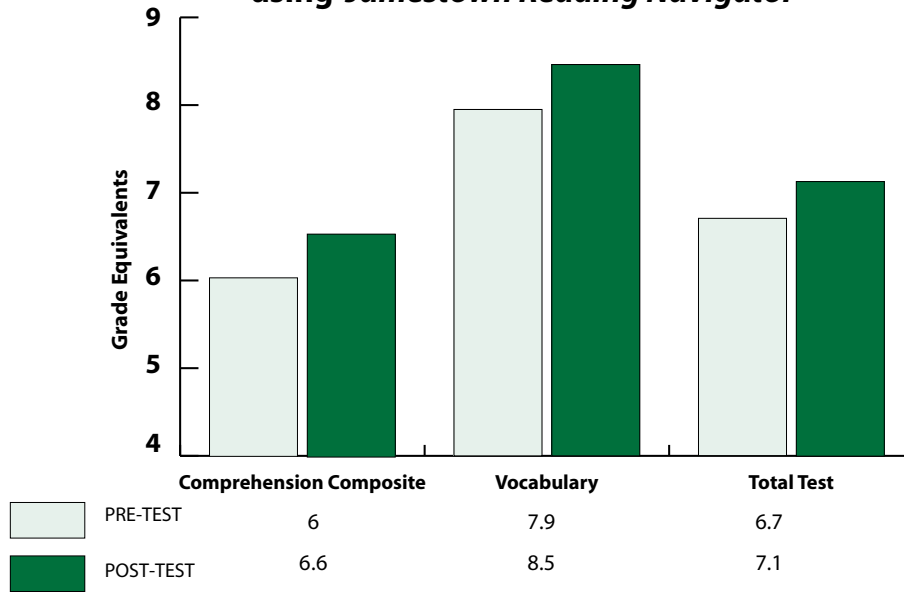
The National Dropout Prevention Center (NDPC) at Clemson University initiated a study of the Glencoe/McGraw-Hill *Jamestown Reading Navigator (JRN)* program in 2006. This study will assess the ability of *JRN* to improve reading performance of middle and high school students reading below grade level in a multi-year, multi-site, quasi-experimental investigation. During the 2007–2008 school year, NDPC began systematic evaluation of the effects of *Jamestown Reading Navigator (JRN)* on student reading improvement and on teachers' and students' perceptions of *JRN* and its effectiveness in the first two research sites to become operational for the study. This annual report presents results of this research project for the first school year of *JRN* implementation in Davenport Community Schools, Davenport, Iowa, and San Juan Unified School District, Carmichael, California.

Short-Term Impact of *JRN* Treatment

Data were analyzed from the *Group Reading Assessment and Diagnostic Evaluation (GRADE)* and Iowa Tests of Educational Development (ITED) results for three groups of Davenport high school students enrolled in 9-week courses for 90 minutes a day, 5 days a week. This analysis was the only assessment of intensive, short-term *JRN* participation available in the first program implementation year.

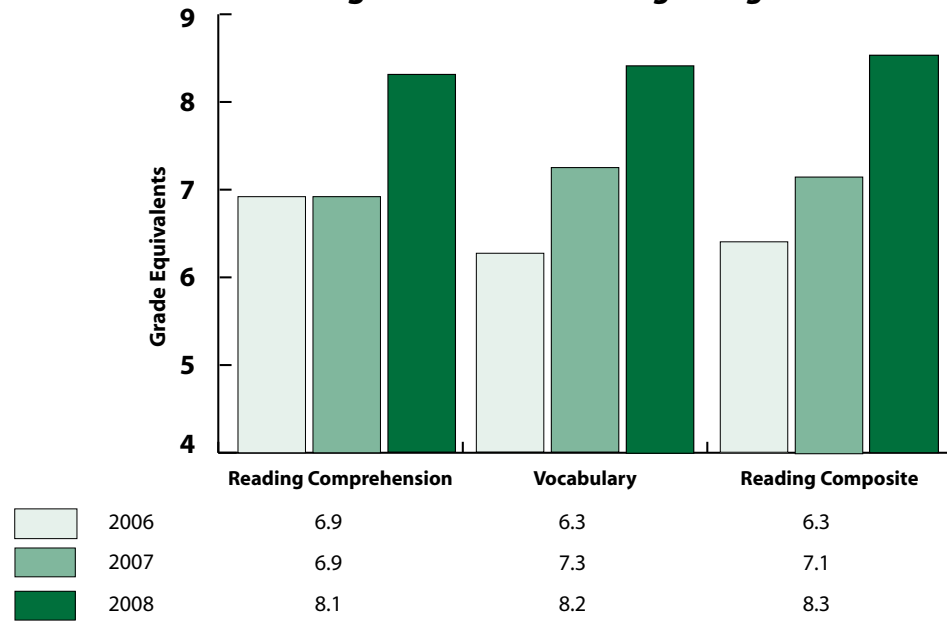
- GRADE: The GRADE was selected as the primary measure of change in reading skills due in part to its capability for off-grade level testing, group-administration, and standardized reading growth measures.
 - *Treatment subjects who completed GRADE pre- and post-tests (n = 217) demonstrated statistically significant improvement in reading skills (p = .023), including passage and sentence comprehension and vocabulary. Treatment subjects were capable of reading successfully using higher grade level materials (half a grade level) after approximately 7 weeks of JRN use. The relatively large effect size ($\omega^2 = .68$) according to the Cohen's classification of effect sizes provided further confirmation that the change in reading performance was not due to chance. Factors other than chance contributed to this increase in reading performance on the GRADE and all of these students were exposed to the JRN computer program and print resources for approximately 7 weeks and approximately 1 to 1.5 hours/day.*

Pre- and Post-Test Grade Equivalents for Davenport High School Treatment Students using *Jamestown Reading Navigator*



- Control subjects (n = 61) did not demonstrate improvement in their reading skills, including passage and sentence comprehension and vocabulary, according to the GRADE results ($p = .750$). The control subjects' were not reading higher grade level material after approximately 7 weeks of instruction in the control classroom. In fact, these students' reading comprehension and total reading grade equivalents declined after 7 weeks. This decline in reading performance followed an additive model; thus, the subjects' scores from the pre- and post-tests followed the same trend (decline in reading performance).
- ITED: A special analysis of selected ITED scores was performed at the request of Davenport. Results of this analysis are explained although they are not generalizable to other project implementation sites. For this research site, ITED score analysis serves as an adjunct inquiry into the effect of JRN on reading improvement and it is expected that this special analysis will continue to be performed for this research site annually throughout the project.
 - According to the ITED Reading Composite standard scores, the term 2 treatment (n = 40) students' average annual growth in reading improved from 2006 to 2008. This growth in reading was statistically significant for the treatment subjects from 2006 to 2007, $p < .05/2$, and from 2007 to 2008 (school year JRN was used), $p < .05/2$.

ITED Grade Equivalents for Davenport High School Treatment Students using *Jamestown Reading Navigator*



- Term 2 control subjects' (n = 34) ITED Reading Composite standard scores also increased from 2006 to 2008, demonstrating that these students' average annual growth in reading improved. This growth in reading was statistically significant for the control subjects from 2006 to 2007, $p < .05/2$, but not from 2007 to 2008, $p = .202/2$.

Long-Term Impact of JRN Treatment - Davenport Middle School Students

Based on the Iowa Tests of Basic Skills (ITBS) and JRN internal data results for Davenport middle school students enrolled in year-long courses for 50 minutes a day, 5 days a week, several findings are reported.

- ITBS: A special analysis of selected ITBS scores was performed at the request of Davenport. For this research site, ITBS score analysis serves as an adjunct inquiry into the effect of JRN on reading improvement and it is expected that this special analysis will continue to be performed for this research site throughout the project.
 - According to ITBS Reading Composite standard scores, treatment (n = 69) and control (n = 76) students' average annual growth in reading improved from 2006 to 2008. This growth in reading was statistically significant for treatment subjects from 2006 to 2007, $p < .01/2$, and from 2007 to 2008 (school year JRN was used), $p < .01/2$. This growth in reading was also statistically significant for the control subjects from 2006 to 2007, $p < .01/2$, and from 2007 to 2008, $p = .01/2$. Treatment and control subjects' improvement

in reading followed additive models, in that ITBS standard scores followed the same trend (increase in reading performance). Moreover, omega squared indicated that 37% and 34% of the variance in total reading performance by treatment and control subjects, respectively, was attributable to the years in which reading performance was evaluated. These are moderate effect sizes for educational research.

- **JRN Internal Data:** Changes in student performance on reading skills are assessed as an integral part of students' use of the JRN computer program. Analysis of this internal JRN data was performed to examine this measure of students' growth in reading skills over time.
 - *According to the JRN internal data measurements used, Journey (lesson) comprehension and vocabulary items, treatment students' (n = 65) performance on these items did not increase but held steady over a 4-month period (26 February–2 June). Students averaged more than half of comprehension and vocabulary items correct over the 4-month period (62–64% correct for Journey [lesson] comprehension items and 67–69% correct for vocabulary items). These results indicate that, on average, students using JRN maintained a generally constant level of performance on vocabulary and reading comprehension items as they progressed through successively more challenging reading material throughout the 4-month period.*

Long-Term Impact of JRN Treatment - San Juan Unified Students

Based on the Reading Level Indicator (RLI), GRADE, and internal JRN data results for a sample of San Juan Unified students enrolled in year-long courses for 50–60 minutes a day, 5 days a week, several findings are reported.

- **RLI:** The RLI was used to pre-assess initial reading levels for placement of students in optimally sensitive testing levels on GRADE, which was the primary instrument for measuring reading level growth.
 - *The treatment (n = 75) group who completed RLI pre- and post-tests demonstrated statistically significant improvement in reading skills, including vocabulary and sentence comprehension (p = .001). The control (n = 75) group did not, however, demonstrate statistically significant improvement (p = .062).*
- **GRADE:**
 - *Treatment subjects who completed GRADE pre- and post-tests (n = 67) demonstrated statistically significant improvement in reading skills (p = .01). Treatment subjects were capable of reading successfully using higher grade level materials after approximately 5 months of using the JRN computer and*

print materials. In fact, these students were reading materials approximately half a grade level higher according to the vocabulary subtest. Treatment students did not, however, demonstrate improvement in reading comprehension. However, the effect size for the treatment group was small ($\omega^2 = .10$) according to Cohen's classification of effect sizes.

- *Control subjects (n = 69) did not demonstrate statistically significant improvement in reading skills, including passage and sentence comprehension and vocabulary, according to the GRADE results (p = .606). Control subjects' were not reading higher grade level material after approximately 7 weeks of instruction in the control classroom. In fact, these students' reading comprehension and total reading grade equivalents declined after 7 weeks. This decline in reading performance followed an additive model; thus, the subjects' scores from the pre- and post-tests followed the same trend (decline in reading performance).*
- *JRN Internal Data:*
 - *According to JRN internal data measurements used Journey (lesson) comprehension and vocabulary items), treatment students' (n = 79) performance on these items did not increase but held steady over the 4-month period (26 February–2 June). Students averaged more than half of comprehension and vocabulary items correct over the 4-month period (54% correct for Journey [lesson] comprehension items and 59–60% correct for vocabulary items). These results indicate that, on average, students using JRN maintained a generally constant level of performance on vocabulary and reading comprehension items as they progressed through successively more challenging reading material throughout the 4-month period.*

Multiple inquiry methods were applied to the evaluation of *JRN* during the first program implementation year, 2007–2008. Quantitative analysis of reading performance was conducted using pre- and post-test scores from two standardized reading assessments, internal student performance data from the *JRN* internal information system, and, in one district, data from statewide standardized achievement tests. *JRN* program effects should be considered to be somewhat moderated by the fact that, in this initial year of implementation, teachers were new to the program and the integration of *JRN* into their instruction took some time to be accomplished. Nonetheless, several findings reflected positive effects of *JRN* participation on advancement of students' reading skills and favorable reactions of students and teachers to the program. Major findings from the first implementation year of the *JRN* study include the following.

- *Following approximately 7 weeks of JRN use in a concentrated 9-week course situation, Davenport high school students demonstrated statistically significant improvement in their reading vocabulary and comprehension skills. JRN students were capable of reading successfully using higher grade level material (half a grade level increase) after approximately 7 weeks of JRN use. Students in control group classrooms did not demonstrate comparable or statistically significant improvement after the same time interval of participation in an alternative reading improvement program. Although JRN effects may have been moderated in this first implementation year as teachers undertook the program's use for their first time, these results demonstrate positive effects of the JRN treatment on student reading growth. Successive years of assessment in which teachers will implement the program earlier and more effectively will offer improved opportunities to further examine program effects.*



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