Reading Plus® National Research Project Second Grade Study Overview 2005 – 2006

Introduction

A study involving a total of 12 schools during the 2005-2006 school year was coordinated by Dr. John Shelley-Tremblay, Researcher and Assistant Professor in the Department of Psychology at the University of South Alabama. Second grade students from six elementary schools in five different states participated as part of this study: Del Rio Elementary in California, Galatas Elementary and Anson Elementary in Texas, Carr Elementary in Florida, Marya Yates Elementary in Illinois, and Edgerton Elementary in Michigan. Five of these schools are located in the suburbs and one in a rural location. A total of 212 second grade students participated in the study, 95 students in the treatment group and 117 students in the control group. In this study, students were randomly selected, and their reading abilities varied from reading below grade level to reading above grade level. Data from some students in the treatment group was excluded due to insufficient use of Reading Plus®. Only the 56 treatment students who used Reading Plus® based on the minimum recommendation of 40 Reading Plus® sessions and 40 Guided Reading™ lessons were considered in the final analysis.

Purpose of Research

This research project was conducted to investigate whether the use of Reading Plus® contributes significantly to students' gains made in the standardized test scores of the Gates-MacGinitie Reading Tests and Visagraph™ eye movement appraisals. Many individual studies have been conducted in the past using Reading Plus®, and standardized test results have proved to be promising; however, no studies prior to this have been conducted with second grade students using the Reading Plus® system. Hence, the present study was conducted to show the effectiveness of Reading Plus® on these lower reading levels.

Methodology

All 173 second grade students considered for final analysis (56 treatment, 117 control) were administered the Gates-MacGinitie Reading Tests, Level 2, Pre (Form S) and Post (Form T) to measure reading achievement along with Pre and Post Visagraph™ eye movement recordings to measure reading efficiency. The Reading Plus® usage of the 56 treatment students ranged from 1-3 times per week. One school used Reading Plus® for half a school year, while the others used Reading Plus® for almost the entire school year. The treatment group students reported on had completed the minimum required 40 or more sessions of Reading Plus® programs, including 40 or more lessons in Guided Reading™ fluency development.

The control group used various forms of reading instruction for periods of time equal to the treatment group. Instruction included reading instruction from basal reading series such as *Rigby Literacy* by Harcourt Rigby Education, *Wright Group Literacy* by Wright Group/McGraw Hill, *Reading Adventures* by Houghton Mifflin, and in two schools, the online computerized reading program *Successmaker* by Pearson Education.

Both treatment and control groups spent the same amount of time in each reading session.

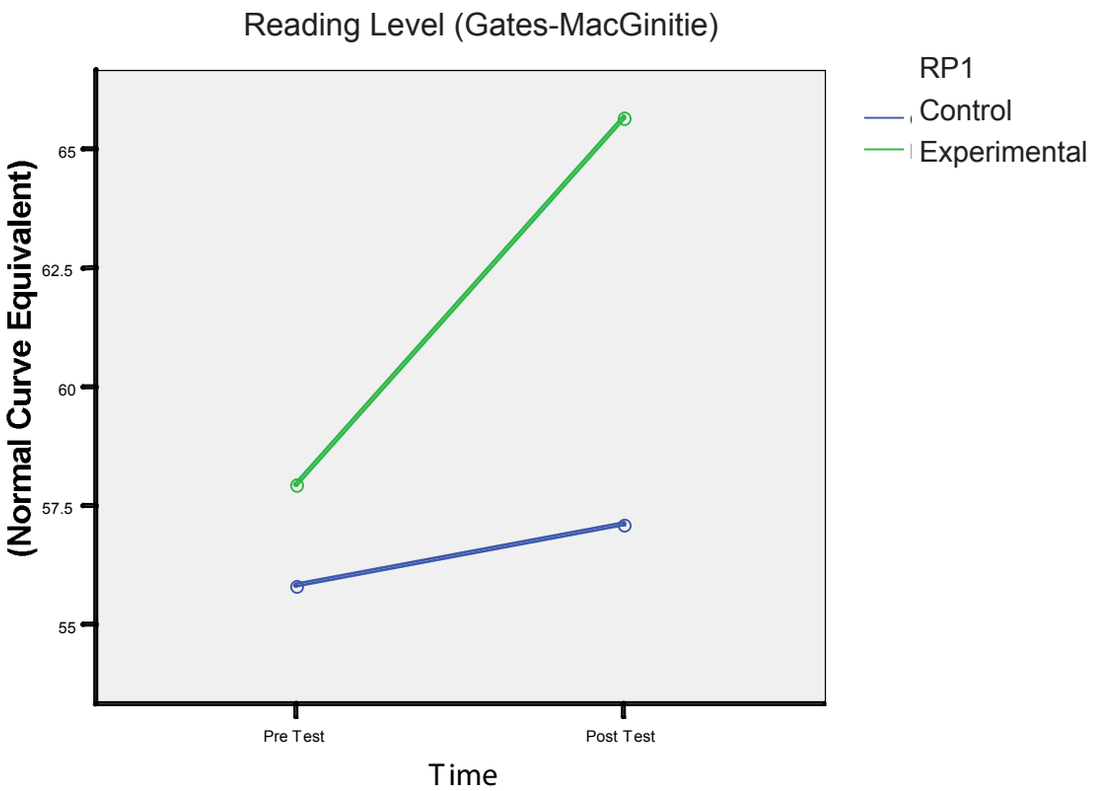
Results

An analysis was conducted to determine the relative effectiveness of Reading Plus® (RP) in producing changes in Reading Comprehension scores, as measured by Gates-MacGinitie scores. Data from all second grade participants was entered into repeated measures ANOVA performed on the mean Gates-MacGinitie Normal Curve Equivalent (NCE) scores for experimental (n = 56) and control (n = 117) participants separately using the pre and post-treatment scores. For this analysis, a main effect of time appeared as $f(1, 267) = 14.145$, $p < .001$, but an additional interaction between Time and Group also appeared, $f(1,171) = 11.677$, $p = .001$, indicating that the Reading

Plus® treatment group improved in reading significantly more than the control group on the Gates-MacGinitie Test.

The following graph shows the results of the pre and post Gates Reading Tests for both Treatment and Control groups.

The metric used for ANOVAs is the Normal Curve Equivalent:

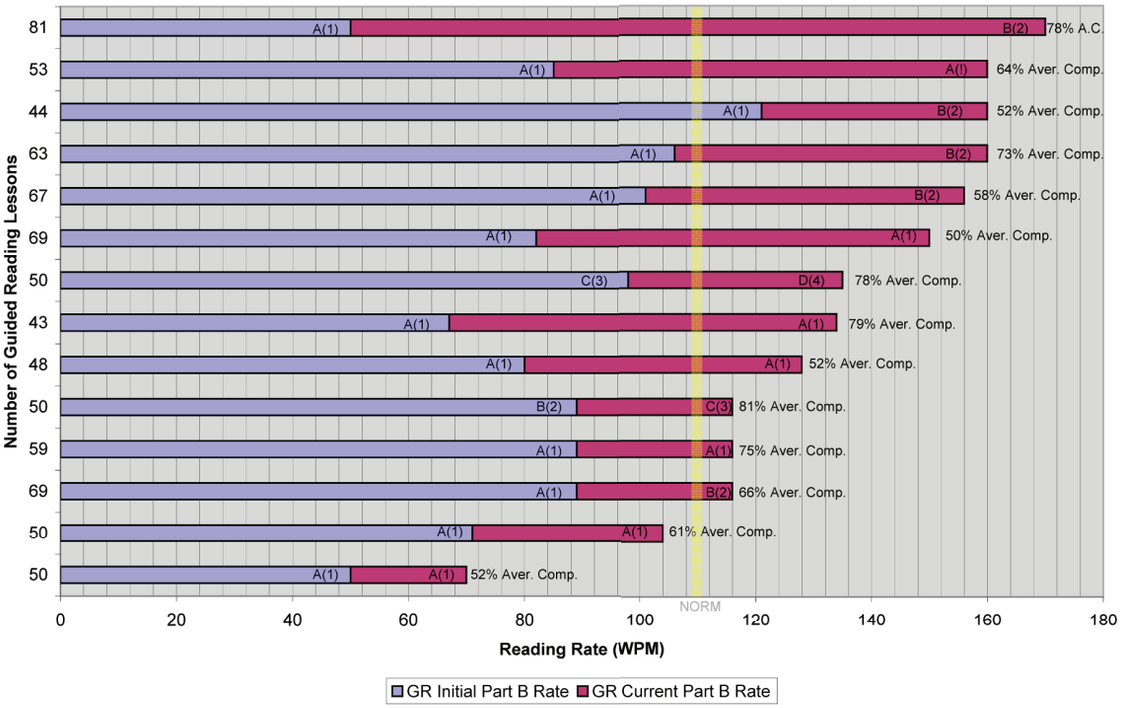


The Average Grade Equivalents (Gates-MacGinitie) are as follows:

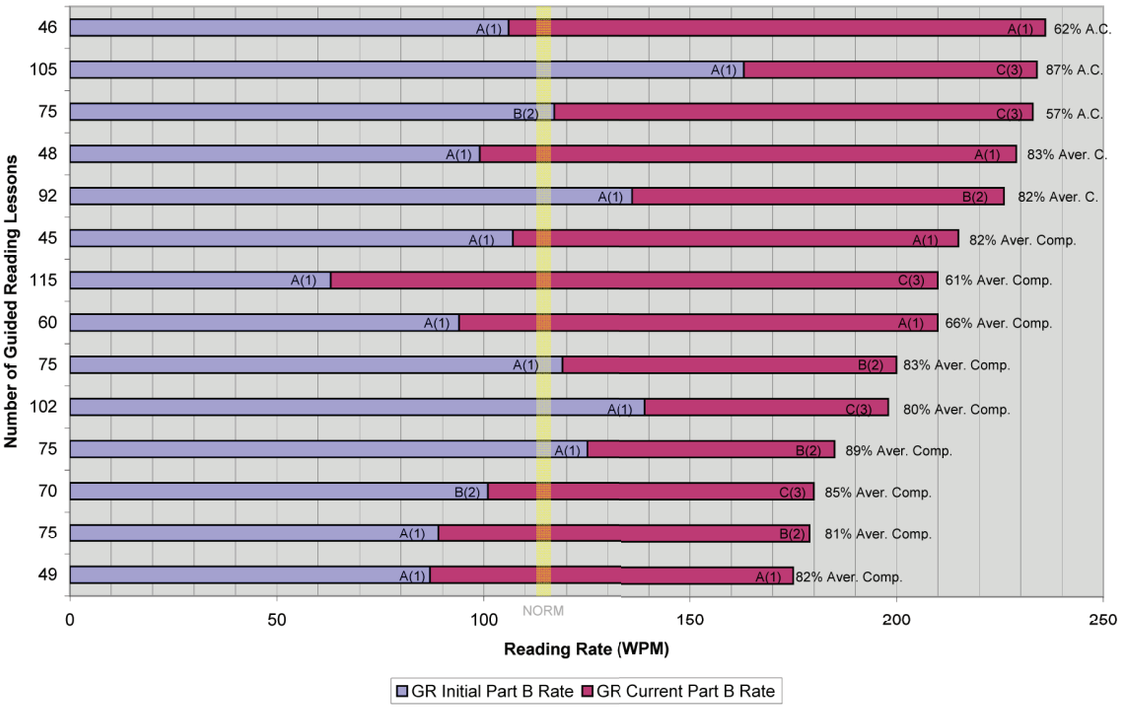
	PreTest Mean	PostTest Mean
Control	2.74	3.39
Treatment	2.75	4.00

The following bar graphs show the treatment group's Reading Plus® Guided Reading™ rate changes. The treatment students read an average of 65 Guided Reading™ lessons with an average comprehension rate of 73%. On average, the students initially read at 117 words per minute. Upon completion of the study, students were reading an average of 246 words per minute, an average rate gain of 112%. More than half of the students also increased their reading levels by one to two grade levels above their initial assigned reading level.

2005-2006 2nd Grade Research Study (1)



2005-2006 2nd Grade Research Study (2)



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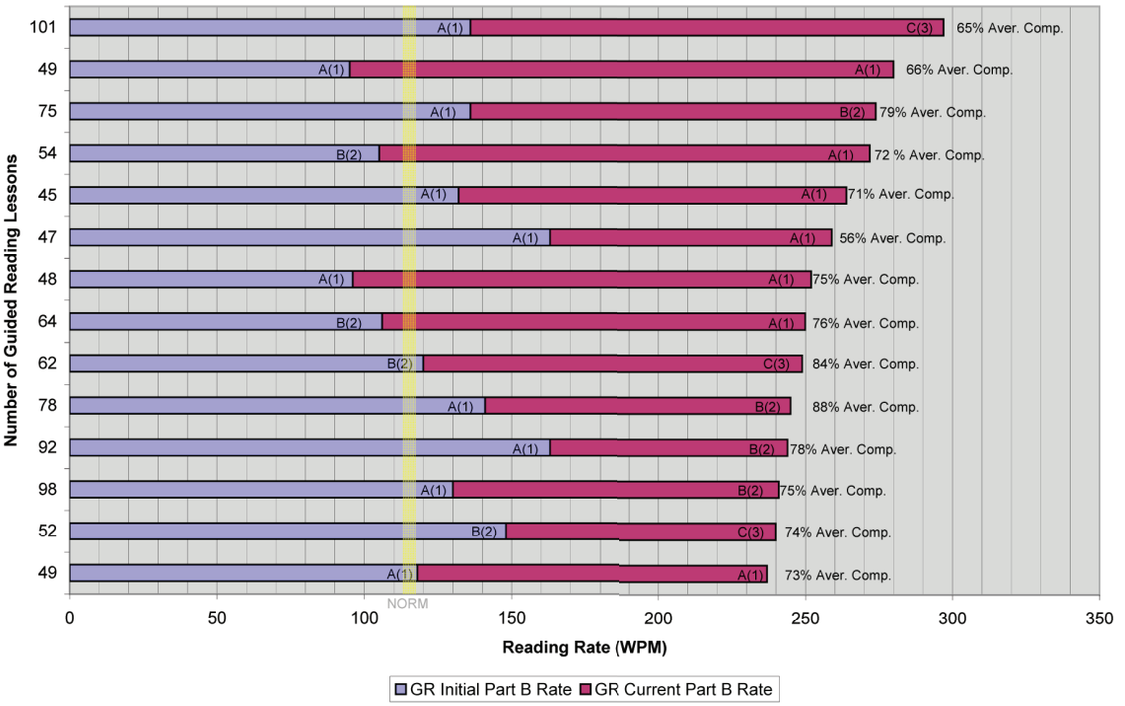
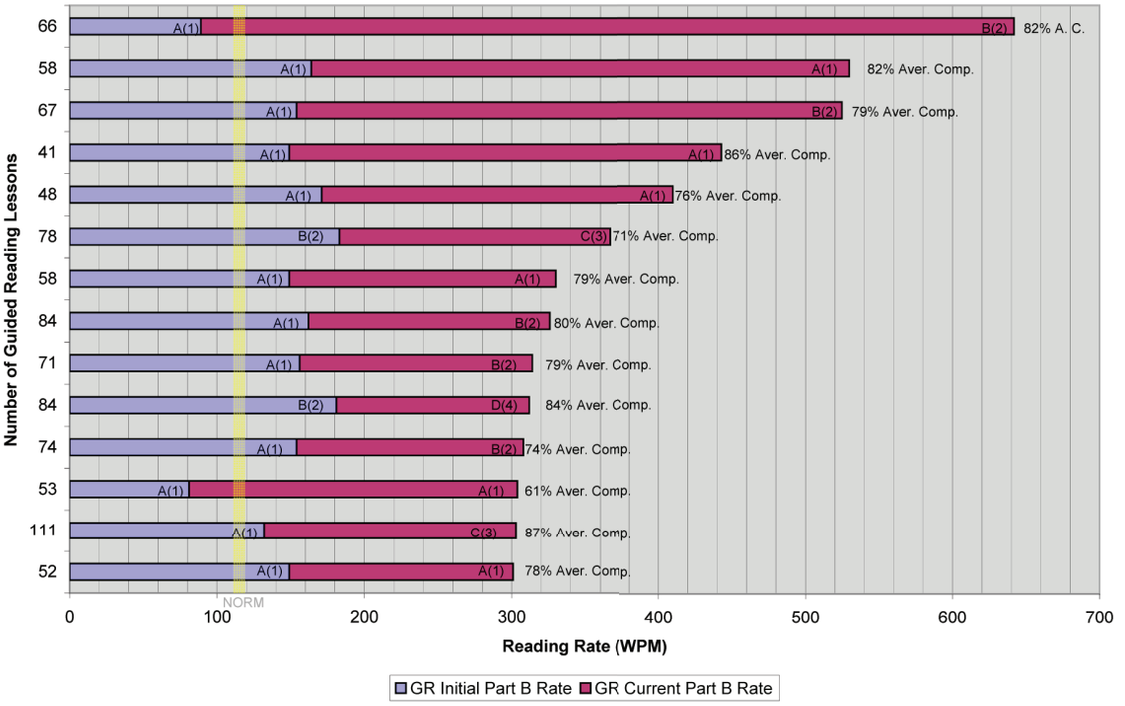


2005-2006 2nd Grade Research Study (4)



The results of the Visagraph™ eye movement recordings, which measure reading efficiency or fluency in silent reading, for both treatment and control groups are as follows:

Visagraph™ Average Grade Level Equivalents (GLE):

	Pre GLE	Post GLE
Control	3.13	3.30
Treatment	2.86	4.20

On average, the treatment group made a substantial gain of 1.34 GLE, or almost a year and half grade level gain when post tested on the Visagraph™. By contrast, the control group made a lesser average grade level gain of only 0.17, equivalent to less than one fourth of a school year in their GLE.

Visagraph™ Average Fixations:

	Pre Fixations	Post Fixations
Control	183	165
Treatment	177	144

The treatment group made fewer fixations after using Reading Plus® than the control group. On average, fixations decreased by 18.64% in the treatment group, and only 9.84% in the control group.

Visagraph™ Average Regressions:

	Pre Regressions	Post Regressions
Control	35	29
Treatment	30	20

The treatment group made fewer regressions after using Reading Plus® than the control group. On average, regressions decreased by 33.33% in the treatment group, and only 17.14% in the control group.

Visagraph™ Average Reading Rate (WPM):

	Pre Rate	Post Rate
Control	110	130
Treatment	112	153

Although the treatment and control groups' average Visagraph™ pre reading rate was nearly the same (T=112 wpm, C=110 wpm), by completion of the study, the treatment group increased their reading rate by 26.80% while the control group experienced a smaller increase of 15.38%. For perspective, according to the study conducted by Taylor, Frackenpohl, and Pettee (1960) on National Grade Level Norms, the National Norm Rate for second grade at mid year is 115 wpm and the norm rate for third grade is 138 wpm.

Conclusions and Summary

This study examined the benefits of implementing Reading Plus® with second grade students with varying reading abilities. The treatment group used various programs in Reading Plus®: PAVE™, D-Code™, Word Memory™, Guided Reading™, Cloze Plus™, and Comprehension Power™. Reading Plus® usage ranged from 1-3 times per week, for the minimum required forty sessions, including forty or more sessions of Guided Reading™. The control group used basal readers or the computerized reading program *Successmaker*, and both groups spent equal time in their reading instruction.

Reading Plus® was designed to help students with foundational reading fluency skills which include achieving adequate reading rates, reaching or exceeding grade level content, and improving vocabulary and comprehension skills. The results of this study clearly show that the treatment group students who used Reading Plus® according to the required and recommended usage of at least 40 sessions with 40 or more Guided Reading™ lessons did significantly better in achieving these goals than the control group who used other reading instructional methods. Although both groups did make improvements over the course of the study in each of the testing variables, the Reading Plus® treatment group made a more substantial gain in all forms of analyses. In the Gates-MacGinitie Reading Test, the treatment group made a significant improvement in reading achievement with average grade equivalent gains of over one grade level, while the control group made less than a grade level gain. The Visagraph™ results, after pre and post recordings, also indicated a much greater improvement in the treatment group's Grade Level Equivalent, number of fixations and regressions, and reading rate than the control group's.

Improvements in reading by treatment students can also be seen in the gains made in Reading Plus®. More than half of these students made at least one level gain in content levels of Guided Reading™, with some students reading two levels higher at the end of the study. Average words per minute increased from 117 to 246, with students maintaining an average comprehension level of 73%.

While this evidence of Reading Plus®' effectiveness on students' reading performance is promising, it should be noted that the time spent and frequency of use in Reading Plus® should be consistent and completed within a reasonable period of time. If used 2-3 times per week for 40-45 minutes per session as recommended by Taylor Associates, students can complete the recommended 40 Reading Plus® sessions and 40 Guided Reading™ lessons in half a school year. Although substantial gains in reading were made by the Reading Plus® treatment group, only one out of the six schools in this study used according to the recommendations by completing the forty Reading Plus® sessions in one school semester. More studies need to be conducted to determine if this time factor could have an effect on the gains made and if greater improvements could be seen in shorter time spans.

Taylor Associates/Communications, Inc.
200 East Second Street • Suite 2 • Huntington Station, NY 11746 • (800) READ PLUS (732-3758) • Fax (631) 549-3156 • www.readingplus.com