Third and Fifth Grade Students Success on *TAKS* after using *Voyager Passport*™ Reading Intervention

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This study investigated the program effects of Voyager Passport™ on the reading achievement and TAKS passing rate of third and fifth grade students in a city in southern Texas who used this product as part of the reading intervention during the 2005-2006 school year. This study used a pretest posttest quasi-experimental design. The study participants included 762 students in a district that contains approximately 27 public elementary schools. Student growth was measured using oral reading fluency, as measured by the Vital Indicators of Progress (VIP®) Reading Connected Text (RCT) assessment and TAKS scores. Students in both third and fifth grades who participated in Voyager Passport showed significant gains in oral reading fluency.

INTRODUCTION

Many studies have shown a strong correlation between reading fluency and reading achievement. Oral Reading Fluency is the key to predicting which students will achieve grade-level reading. Several studies show that more than 80% of students who can read third-grade level text at a rate of 110 words per minute pass the high-stakes state reading assessments.

Current research converges on the certainty that few students acquire reading naturally, and that most students benefit from explicit and direct, structured instruction (National Reading Panel, 2000). This research, based on sound, scientific observations and analyses, provides evidence for not only what instruction works, but why and how it works (Reyna, 2004). Those students who struggle learning to read are served as well in small groups of three to four students as they are individually (Torgesen, 2004; Vaughn & Linan-Thompson, 2003).

An intense focus of instruction as of late has been on improving reading proficiency of students and providing intervention for those students who struggle with learning to read adequately. Although many children will have difficulty learning to read, regardless of their core reading program, they cannot simply be left to fall behind. Research has provided the knowledge and tools teachers need to ensure every student becomes a successful reader (Shaywitz, 2003).

A city school district in southern Texas serves about 28,000 students in all and has approximately 27 public elementary schools. This district has used *Voyager Passport* and other Voyager curricula for about four years. The *Voyager Passport* curriculum is used especially for students who are identified by not having passed the *Texas Assessment of Knowledge and Skills* (*TAKS*) or who are identified as being in danger of not passing the *TAKS*. This study examines the third and fifth grade students from this district who were enrolled in *Voyager Passport* during the 2005-2006 school year and have *TAKS* scores for the spring 2006 administration. Fourth graders who were enrolled in *Voyager Passport* during this time did not have *TAKS* scores and were not included in this analysis.

METHODS

Participants

During the 2005-06 school year, 389 grade 3 and 373 grade 5 students at 23 schools in this school district in Texas used the *Voyager Passport* program for its reading intervention curriculum. Across both grades, students were evenly divided between gender: 48% female and 52% male. Ethnic or racial background of participants was 98% Hispanic and 39% limited English proficient.

Implementation

This district implemented an in-school, pull out model for the reading intervention. Lessons were to be delivered to students five days a week for 30 minutes per day. The teachers were responsible for the testing of the students and for placing the assessment scores into VPORT®, the Voyager data management system.

Materials

Voyager Passport provides direct, systematic instruction in each of the essential reading components and is designed as an intervention program for students for whom the core reading program is not sufficient. The lessons are based on the scientific knowledge about effective reading instruction. The lessons address decoding strategies, fluency, and comprehension. Each student receives a set of individual instructional materials for the duration of the program.

Phonemic Awareness: To make the greatest gains in reading, students must learn to blend and segment individual sounds in words. Student gains in reading and spelling are strongest when print is integrated with phonemic awareness instruction (Hatcher, Hulme, & Ellis, 1994). For third grade students, the phonemic activities are integrated into the phonics and spelling lessons where students can apply knowledge of the alphabetic principle and coordinate orthographic, phonemic, and graphemic knowledge.

Phonics: Phonics instruction is the systematic use of sound-symbol relationships to teach the reading and writing of words. *Voyager Passport* utilized the extensive research base in phonics to develop systematic and explicit phonics and spelling lessons, shown to be the most effective way to ensure appropriate reading growth (National Reading Panel, 2000). The instruction builds in difficulty incorporating letter combinations, affixes, and strategies for decoding multisyllabic words. Words with irregular spelling patterns are also taught explicitly with extensive review.

Fluency: Fluency is the ability to accurately and quickly read text. Fluent reading allows readers to focus on comprehending and gaining meaning from text. Fluency instruction in *Voyager Passport* provides specific time for practicing reading and rereading text accurately, efficiently, and with expression. Once students can read connected text, repeated reading with feedback is an effective practice for improving fluency and reading achievement (Chard, Vaughn, & Tyler, 2002; Homan, Klesius, & Hite, 1993; National Reading Panel, 2000). As students develop more advanced reading skills, fluency lessons focus on text-level reading with teachers modeling appropriate reading rates and expression. Strategies for chunking text are also explicitly taught and timed readings motivate and challenge students to improve their reading rates.

Vocabulary: Vocabulary refers to the words a person understands and uses in listening, speaking, reading, and writing. Students learn word meanings through direct and indirect experiences with oral and printed language (Beck, McKeown, & Kucan, 2002; National Reading Panel, 2000). *Voyager Passport* addresses vocabulary instruction through a sequence of word introduction, with read-alouds, student passage reading, comprehension activities, and text discussions. The design allows repeated exposure to new vocabulary in a variety of contexts using oral and written language.

Comprehension: Comprehension is the ability to understand and gain meaning from language. Snow, Burns, and Griffin (1998) assert that the student needs both background knowledge and conceptual sophistication to understand the meaning of a word or text. Students extract meaning as well as construct meaning as they build representations and gain new meaning (Snow & Sweet, 2003). *Voyager Passport* teaches strategies for understanding text, including teaching students to monitor their comprehension, organizing and retelling information presented, recognizing story structure, generating questions about the text, predicting outcomes in the text, and confirming or revising predictions (National Reading Panel, 2000; Pressley & Wharton-McDonald, 1997; Rosenshine, Meister, & Chapman, 1996).

Assessments

Students received both the Texas state test and the Vital Indicators of Progress (VIP®) assessments.

Voyager Passport provides Vital Indicators of Progress (VIP®) measures developed by Dr. Roland Good and colleagues at the University of Oregon which are one-minute individually-administered fluency indicators to monitor growth in Voyager Reading Programs and are completely equivalent to Dynamic Indicators of Basic Early Literacy Skills (DIBELS™). Concurrent validity with the DIBELS/VIP passages and the TORF (Test of oral reading fluency) ranges from .91 to .96 across the passages. The cutoffs and goals are based on finding a point where the odds would be in favor (at least 80%) of the student achieving subsequent literacy outcomes as developed by the DIBELS Benchmarks (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002). Results for the VIP benchmarks identify if a student is a struggling, an emerging, or an on-track reader.

The RCT measure (Reading Connected Text) is a standardized, individually administered test of reading fluency with connected text for students in grades 1 through 5 and above. RCT is a set of equivalent passages and administration procedures designed to identify students who may need additional instructional support, and to monitor progress toward instructional goals.

Student performance is measured by having students read a passage aloud for one minute. Words omitted, substituted, and hesitations of more than three seconds are scored as errors. Words self-corrected within three seconds are scored as accurate. The number of correct words per minute from the passages is the oral reading fluency rate which is reported as the "RCT score." The tool provides information on student performance in English.

Typically the DIBELS goals are used with the VIP® fluency measures based on time of year (Good, Simmons, Kame'enui, Kaminski, & Wallin, 2002). The Hasbrouck and Tindal Oral Reading Fluency Norms (2006) are mentioned as a point of reference for oral reading fluency where appropriate. The DIBELS/VIP

passages however are standardized passages based on end of grade level reading targets and calibrated across nine readability formulas. Hasbrouck and Tindal Norms were developed using data collected from real teachers across the nation using the text they selected individually perceived as grade level text. In both cases the samples for the norms are quite substantial and provide valuable and reliable reference points for oral reading fluency. For the purposes of this study, the end of year DIBELS goals of 110 words per minute is used for third grade students and 124 words per minute is used for fifth grade students.

TAKS. Students in Texas were given the *Texas Assessment of Knowledge and Skills* (*TAKS*) test, the primary state-mandated assessment, in the spring 2006 to evaluate their progress on the state standards in reading (Texas Essential Knowledge and Skills). Students must earn a scale score of 2100 to pass with a Met Standard and a scale score of 2400 for a Commended Performance.

Data Gathering and Analysis
Data entered by the district into the VPORT data management system was merged with a separate set of data provided by the district which contained the *TAKS* scores by student.

Sixty-seven percent of students had Benchmark 1 and 3 scores. An RCT gain score was computed by subtracting the first Benchmark RCT from the third Benchmark RCT. All analyses used a .05 criterion for identifying statistical significance.

A repeated measures analysis of variance was used to assess growth in RCT words per minute by grade level. Scores were graphed by Benchmark 1 status. Partial ea-square (η^2) was used to consider effect size.

Analysis of variance was used to assess differences in RCT gain based on demographics. Regression was used to predict *TAKS* reading scale scores from the Benchmark 3 RCT wpm score.

RESULTS
Participation Level
During the 2005-2006 school year, 389 grade 3 and 373 grade 5 students a southern school district in Texas used the *Voyager Passport* reading intervention in a pull-out setting. Across both grades, students were evenly divided between gender: 48% female and 52% male. Ethnic or racial background of participants was 98% Hispanic and 39% limited English proficient.

Assessment Results
Fluency scores. There was a statistically significant increase in reading fluency scores in words per minute (wpm) for grade 3 students [$F_{(2, 500)} = 252.754$, $p < .001$, $\eta^2 = .503$]. Students who were On-Track at Benchmark 1 consistently scored higher than those that were emerging or struggling, but all groups showed growth (Figure 1).

Figure 1. Grade 3 fluency by Benchmark period.
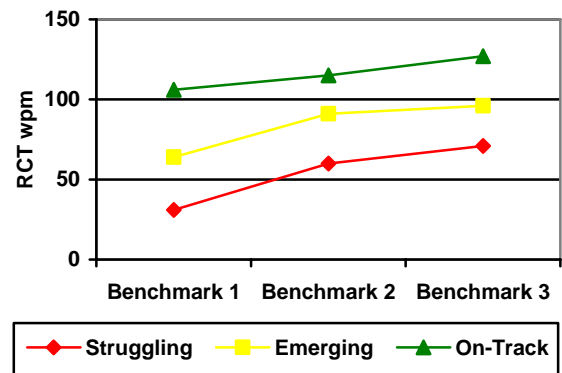
Similarly, there was a statistically significant increase in reading fluency scores in words per minute (wpm) for grade 5 students [$F_{(2, 440)} = 197.573$, $p < .001$, $\eta^2 = .473$]. Students who were emerging at Benchmark 1 had scores approximately equal to those who were on-track (Figure 2).

*Figure 2. Grade 5 fluency by Benchmark period.*
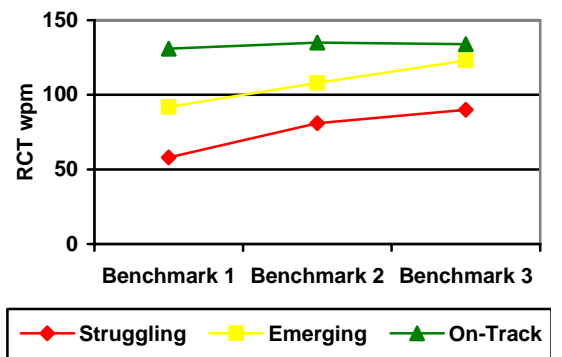
RCT gain scores. At grade 3, there were no significant differences in RCT gains by demographic variables. However, at grade 5, there was a statistically significant difference by English proficiency [$F_{(1, 237)} = 4.983$, $p = .027$, $\eta^2 = .021$]. English proficient students had mean gain almost 8 wpm higher than their limited English proficient counterparts.

TAKS **Reading scale scores**. The fluency score for students' Benchmark 3 RCT was a significant predictor

of the scale score on the *TAKS* taken in spring 2006 for both grades 3 [$F (1, 231) = 85.66$, $p <.001$] and 5 [$F (1, 212) = 33.52$, $p <.001$]. The adjusted R^2 of .27 (grade 3) and .14 (grade 5) indicated that, of the total variability that existed in *TAKS* scale score, 27% and 14%, respectively, is associated with variability in RCT wpm. The standardized beta coefficient showed that for every additional RCT fluency wpm, one could expect a .52 increase for grade 3 or .37 increase for grade 5 in the *TAKS* scale score.

The mean scale scores for each grade by Benchmark 3 reading status are graphed in Figure 3.

Figure 3. Mean TAKS Reading scale score by Benchmark 3 reading status.
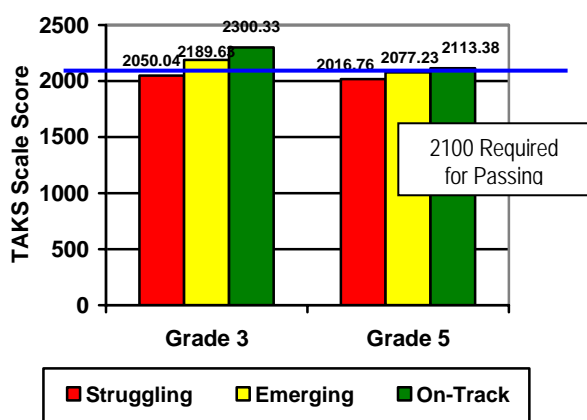
At grade 3, only students who were still struggling had a less than 50% chance of passing *TAKS* (Figure 4). Grade 5 students had a less than 50% chance of passing unless they were on-track at Benchmark 3.

Figure 4. Percentages of students passing TAKS by grade and Benchmark 3 reading status.
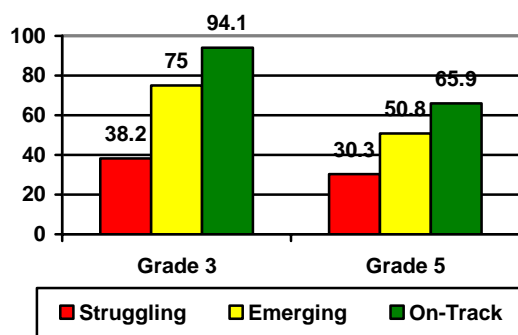
DISCUSSION

Studies such as these based on real-world practices of implementation of standard-protocol interventions with teachers using it as they actually would without researcher involvement have a lot to tell us. We learn that teachers can in fact implement a program and produce positive growth for students in typical settings, without the influence often inadvertently exerted by researchers.

Greater oral reading fluency is indicative of more practice reading. Fluency is defined by three constructs, quick and accurate word recognition, appropriate use of prosody, and in many cases comprehension (Kuhn & Stahl, 2003). More experience with text provides opportunities to learn about a wider range of topics, build automaticity with printed words, and demonstrate greater comprehension as a result of increased content exposure.

When students read more, they become more proficient with reading and thereby have higher fluency rates. Teachers were able to use *Voyager Passport* during the school day for an additional 30 minutes targeting struggling students which afforded an opportunity for students who needed additional reading instruction beyond the core to receive instruction in reading skills paired with accessible level text. As demonstrated by the analysis, every additional word per minute a student read translated to a .52 increase on the *TAKS* for third grade students and a .37 increase for fifth grade students.

CONCLUSION

Students made positive growth in oral reading fluency during the *Voyager Passport* reading intervention as illustrated by the statistically significant results for the third and fifth grade students from this southern Texas school district. Growth in fluency transfers to greater success on high-stakes measures such as the *TAKS*. Because oral reading fluency as measured by RCT is a significant predictor of scale scores on high stakes tests, the focus of improving reading proficiency and measuring fluency with progress monitoring will enable educators to best predict which students need additional support to reach subsequent literacy goals.

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