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Implementation of a Reading Intervention Program: Internal Assessment and Cost-Benefit Analysis

by Derrick R. Fries, Eastern Michigan University, Tom Harwood and Greg Johnson, Grosse Pointe Public School System

Introduction

This article chronicles the implementation of a systematic reading intervention program in a large suburban school district. Selection and implementation of systematic reading interventions is a critical issue for many districts. Throughout the decades, several different reading intervention strategies and programs have been designed and published. Furthermore, many school systems have spent precious resources adopting interventions without adequate data analysis and review. The current article reviews one school district's longitudinal study that took place over multiple years and grade levels as a new reading intervention was adopted and implemented. This long-term approach assisted the school district in a cost-benefit analysis and in understanding the promise of the newly adopted intervention.

School personnel have myriad responsibilities for educating our nation's young elementary students on a limited budget. Public school administrators have a large amount of choice when identifying a particular reading intervention program to assist in elevating reading test scores. Each of these programs claims to help increase comprehensive reading skills, which assist challenged readers across all subject matter. The reduction of school and administrative personnel within public school systems makes it more difficult for districts to know which programs may be most effective.

Purpose of the Article

This article seeks to review our findings over the five years in which we implemented the Fundamental Applications of Successful Teaching (F.A.S.T.¹) reading program between 2007 and 2012. It is seldom that school districts evaluate how a newly adopted program may work to impact student outcomes. Therefore, staff and parents lack feedback on the efficacy of intervention programs. A complete and thorough data analysis was conducted on the efficacy of the F.A.S.T. Reading Program utilized by approximately 1,300 elementary students in 10 different elementary schools within the district. We begin by describing the district-wide adoption and implementation of a single reading intervention and we then describe how we evaluated this new program using assessment data that were already being collected at the state and district levels.

Before – Where We Were

Grosse Pointe Public School System (GPPSS) is a large suburban school district serving approximately 8,000 students. We at GPPSS asked a fundamental question that is critical during implementation of a new intervention: How could we measure, evaluate, and carry out a cost-benefit analysis of a reading intervention program in all

1. Founded by Steve Tattum and Incorporated by the Denver Academy in Denver, Colorado

of the district's elementary schools over a five-year period? Prior to the 2007-2008 school year, the school district used an eclectic approach to reading instruction. This decentralized approach included but was not limited to aspects of numerous intervention programs including: *Orton-Gillingham*, *Discover and Intense Phonics*, *Lindamood-Bell*, *Guided Reading*, *Project Read*, *Whole Language*, *Soar to Success*, and *Early Success*. The school district had monetary resources to provide reading specialists throughout the school district, and thus had one reading specialist per elementary school who provided intervention strategies and in-service training for the staff. Within each school the reading specialist had the responsibility of selecting appropriate programs and texts for the students.

At the end of the 2007 school year, the curriculum director at the time asked what would happen if the district elementary schools consolidated reading intervention strategies into one approach and examined it over the course of five years through a longitudinal study. Additionally, the district was the recipient of a large five-year grant from the school district's internal school district foundation². Thus, the school district sought out a single comprehensive intervention for more than 5,000 elementary school students. The district selected the F.A.S.T. Reading Program as the intervention.

Implementation

The Grosse Pointe school district was the recipient of an internal foundation grant for public education established by active parent groups within the school district. The Grosse Pointe Foundation for Public Education (GPFPE) awarded the district with approximately \$250,000 over five years for training and implementation of the F.A.S.T. Program. Therefore the district implemented this program in all elementary buildings in the district for the lowest performing readers.

Participants

Students were identified for participation in the F.A.S.T. program using reading assessment tools already in use throughout the district in all K-5 elementary school buildings. Beginning in the 2007-2008 school year the district analyzed Northwest Evaluation Association (NWEA) reading assessment data of all students in grades 1-5. In addition to NWEA reading scores, Michigan Educational Assessment Program (MEAP) reading scores for fourth and fifth grades were used with cut scores that varied by year. Therefore, NWEA scores were used throughout the elementary grades to determine which students would receive the intervention, with cut scores at the 40% level and appropriate cut scores varying from year to year in fourth and fifth grades (see Figure 1). Student population in the 10 elementary schools ranged from 280 to 504 students per building. In sum, each year approximately 12% of the total elementary school population received the F.A.S.T. intervention. Demographics for students receiving the F.A.S.T. intervention were as follows: approximately 80% Caucasian, 15% African American, and 5% other. Over the five-year study, regular and special education students who were identified to receive the fast program received identical intervention treatment. All of the reading specialists who delivered the program had been classroom teachers and had a minimum of a Master's Degree in reading-related curriculum.

Targeted F.A.S.T. Reading Intervention Strategies

The district wished to adopt a unified reading intervention model. The F.A.S.T. Reading Program was chosen due its comprehensive and integrated reading analysis system. District members believed the program supported instruction of the five critical areas of reading identified by the National Reading Panel (2000) including: phonemic awareness, phonics, fluency, vocabulary, and text comprehension. The F.A.S.T. Program

uses a multi-sensory approach to phonics instruction with a specific focus on kinesthetic activity where children manipulate letters and sounds on a magnetic board. F.A.S.T. lessons include sound syllable word drills of a particular letter-sound relationship. The drills are rehearsed and then students practice the concepts independently. In addition, in every unit F.A.S.T includes written response to text and learning of a critical skill for competency in literacy development.

Reading Specialists worked with caseloads of 40-50 students that met in small groups of 7-10 students at time. Students met with the Reading Specialists five days per week for 40- minute intervention sessions. At the beginning of each school year, students were reevaluated to see whether they should continue in the F.A.S.T. Program. On average, students participated in the F.A.S.T. Program for 1.5 years.

School Delivery Systems

The reading specialist in each building coordinated a pull-out program with the regular education classroom teacher during Language Arts instruction. School administrators and reading specialists believed that the use of a comprehensive, highly focused reading intervention program would increase student test scores. The goal of the intervention was to have struggling readers reach and maintain grade-level expectations and return to their respective classrooms for language arts instruction. Additionally, parents of student participants in the F.A.S.T. Program were contacted and provided with a contract to assist with reading at home. Parental support in the home was a vital part of the intervention.

There were several other important factors in our district's implementation of the F.A.S.T Reading Program. Although these individual factors are difficult to measure, they provided a rich qualitative context to understand the intervention as a whole. Sometimes, pull-out programs cause stigmas or embarrassing situations for students.

However, there were several factors in our districts that we believe acted in reverse to this idea and made the intervention something extremely positive for students and families. In fact, several students and parents requested to be included in the F.A.S.T Reading Program. This was the large paradigm shift for the district that required a lot of special effort and sensitivity to bring this cultural change. We believe the following factors acted to enhance the program:

- Reading specialists in all buildings were kid-friendly and kid-oriented.
- Reading clubs for students were established in each of the ten elementary schools.
- Regular Education and Special Education Teachers received F.A.S.T. Training and greatly embraced it.
- Professional Learning Communities (PLC) enabled ongoing professional learning for reading specialists and regular education teachers where they engaged as part of the same community.
- The district and administration provided support and encouragement.
- There was a high percentage of student involvement due to the district-wide approach.
- Parents of participants signed contracts, which led to high parental support and encouragement.

Results: What Changed

We were able to use data that the district was already collecting (e.g., MEAP and NWEA reading scores) to examine student growth. In 2012, descriptive statistics for the school district demonstrated consistent F.A.S.T. student growth since the adoption of the F.A.S.T program in 2007. Figure 2 shows growth for 143 F.A.S. T. students based on their 2009 to 2011 MEAP reading scores. As shown in this figure, the majority of F.A.S.T participants had a higher score on this assessment in the 2011 school year.

Figure 3 shows national percentage rank scores from 143 F.A.S.T. students as well as 352 students who did not receive the F.A.S.T. Program on the NWEA reading assessment in Fall of 2009 and Spring of 2012. This data demonstrates that the vast majority of F.A.S.T. participants moved to a higher percentile rank on this assessment, showing similar growth rates to students who did not participate in the F.A.S.T. Program. These results demonstrate that students in the F.A.S.T. Program made substantial reading gains during the time that they participated in the F.A.S.T. Program. The students who were placed in the F.A.S.T. Program were students who were initially performing at substandard reading levels. Therefore, without the intervention, we expected that F.A.S.T. students would have slower targeted reading performance rates than the non-F.A.S.T. students. Since the district's goal was the reintegration of these students back to regular education after their F.A.S.T. Reading Intervention (intervention times range from 1-3 years), we were particularly pleased to see that students in the program were able to make strong progress at similar growth rates to their non-F.A.S.T. peers.

Figure 4 shows growth in MEAP levels for F.A.S.T. and non-F.A.S.T. students. F.A.S.T. students were more likely to increase one level on the MEAP than their non-F.A.S.T. peers. Again, this is important because the goal was for F.A.S.T. students to improve their reading and return to the regular classroom for Language Arts instruction. In the reading portion of the MEAP, students were divided into 4 State-designated categories. These categories included: Not Proficient, Partially Proficient, Proficient and Advanced. For students to get an acceptable MEAP Reading test score indicating a passing score on the state-designated test, students needed to score in the Proficient or Advanced categories. Therefore, this data demonstrates that F.A.S.T. students were making strong growth towards passing the MEAP.

Additionally, the district was interested in providing our grantors with a cost-benefit analysis. On a per student basis, this intervention cost the grantor approximately \$186 per student that received the F.A.S.T. Reading Program intervention. This relatively small cost per student has resulted in significant educational gains. The average length of the F.A.S.T. Intervention Program was approximately 15 school months long, indicating efficient and impressive educational results.

Implications: What This Means for Other School Districts

In sum, the F.A.S.T. Program was implemented with a high level of success in the GPPSS, and students receiving the intervention made significant gains above and beyond the normal rate of progress. Some of the characteristics of this program that may have contributed to its success include explicit systematic phonics instruction, coordinated implementation, and a uniform delivery system across the district, professional development for teachers, and parent involvement. Other studies support the efficacy of these factors for improving student academic outcomes. Based on our results we recommend that other districts consider implementing the F.A.S.T. Program, or similar research-based intervention programs.

When investing significant funds into an educational reform, such as a reading intervention, an internal audit of performance gains can help demonstrate the efficacy of the program in comparison to the cost expended for implementation. Other districts should conduct this type of investigation in order to ensure that their investment is producing results for students. This type of investigation can be made cost-efficient by examining existing data that the district is already collecting (i.e., we were able to use MEAP and NWEA scores) as well as by using other existing resources (i.e., a math teacher in our district

helped to analyze the data and we partnered with a professor at a local university). Self-studies, such as this one, are a critical part of adopting a new program. This type of internal assessment and cost-benefit analysis can serve to ensure that districts are providing high-quality and effective reading interventions for students.

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Figure 1.

K-5 F.A.S.T. Reading Systems Flowchart for the Grosse Pointe Public Schools

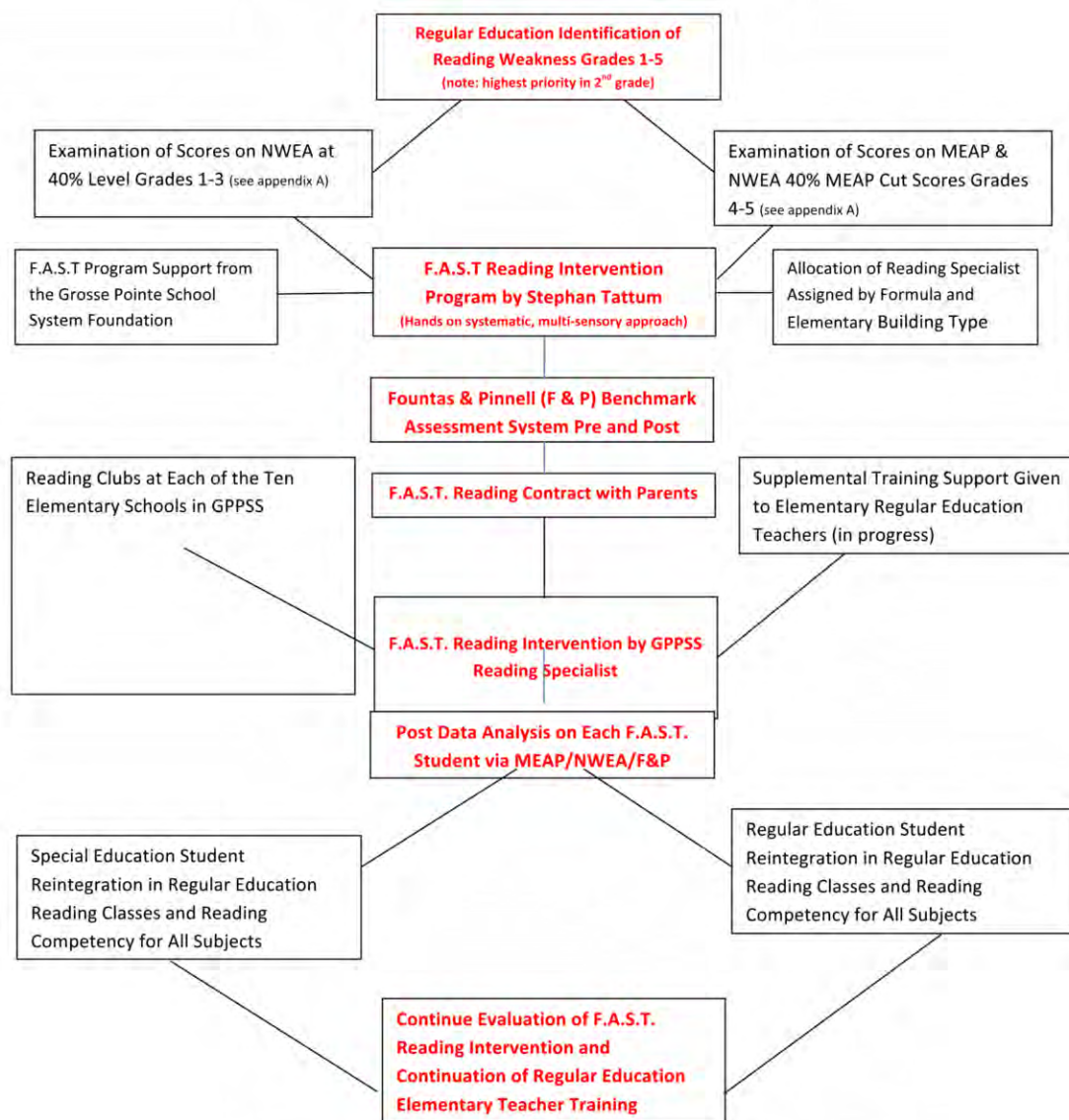


Figure 2.

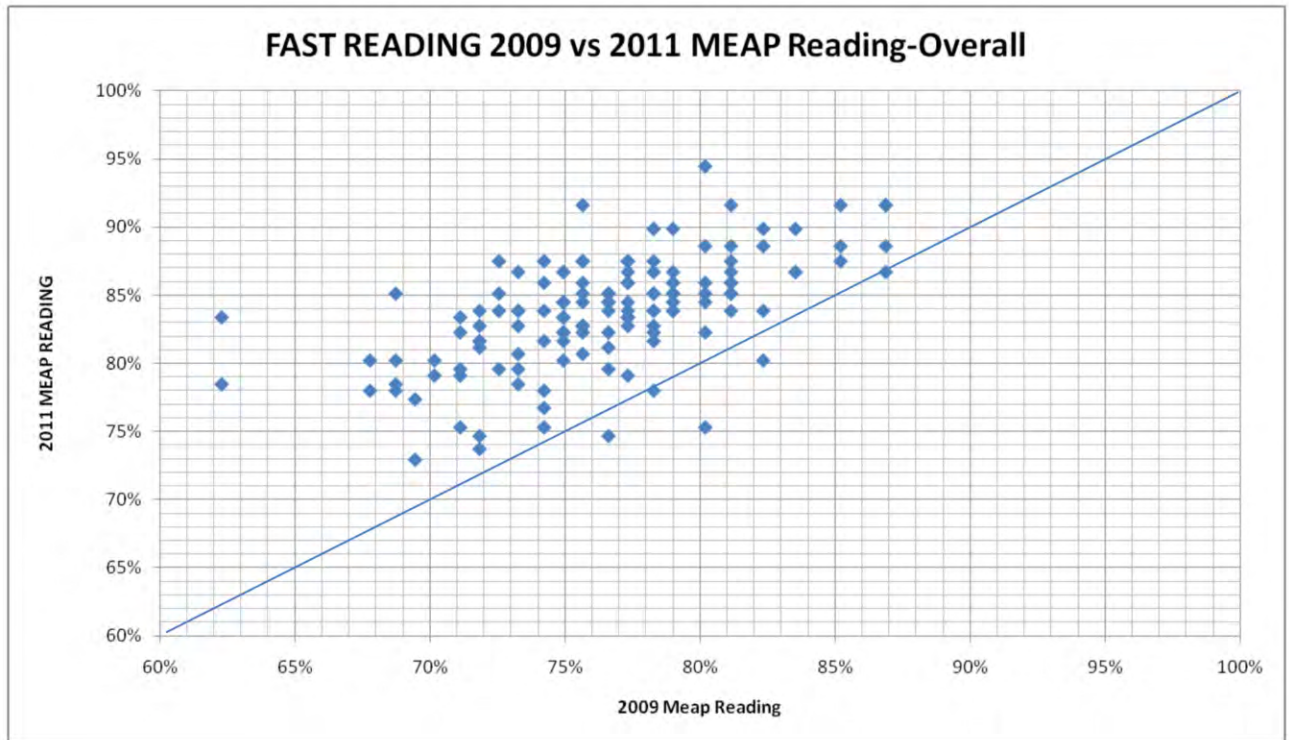


Figure 3.

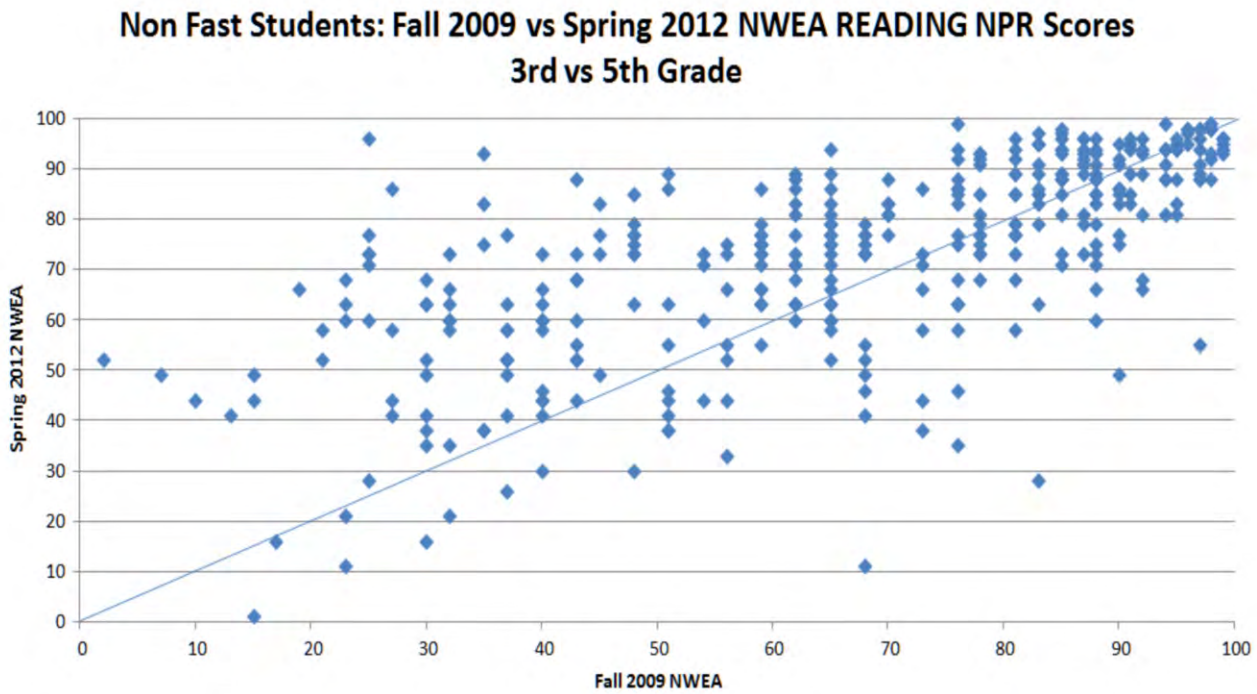
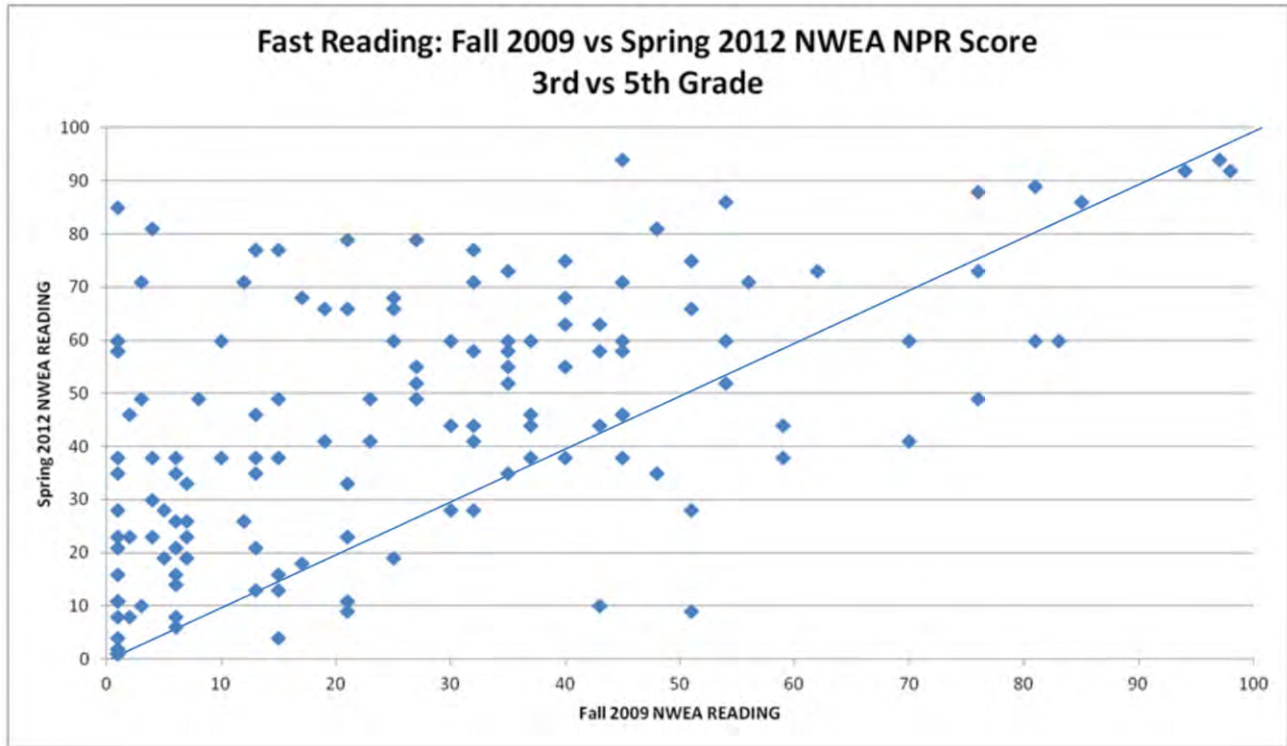


Figure 4.

