

A Literature Review of the SRA/McGraw-Hill Reading Mastery Program

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Learning to read in the elementary grades is an essential stepping stone, and a predictor for future educational performance and advancement in one's career. Elementary and primary schools focus a large portion of their instructional time on developing literacy skills in children, and even push the teaching of literacy skills across all content areas. Early literacy development has become so important that many public-school divisions and states have now implemented pre-kindergarten programs for students as young as three years old to help alleviate the environmental factors that may lead to poor literacy skills. With all the emphasis on literacy development, one would expect that students in the United States would be performing adequately on reading assessments, yet the results on the 2015 National Assessment for Educational Progress (NAEP) reveal something very different. Results on the 2015 NAEP indicate that only about one third of fourth and eighth graders can read at, or above a level considered proficient, 36% and 34% respectively (NAEP, 2017). These scores represent stagnation in reading growth at the fourth-grade level, and a decrease in performance in eighth grade when compared to the results two years prior. The results are even more alarming when you compare Black students with White students. While 46% of White students scored at or above proficiency in fourth grade, only 18% of Black students reached proficient (NAEP, 2017). The results were no better in eighth grade where 44% of White students scored proficient, and only 16% of Black students scored proficient (NAEP, 2017). Additionally, more than 30% of all adults living in The United States perform below the lowest levels of literacy (American Institutes for Research, 2016). Furthermore, approximately 4 out of 10 students have reading difficulties severe enough to hinder their reading enjoyment (Schieffer, Marchand-Martella, Martella, Simonsen, and Waldron-Soler, (2002). These literacy statistics are alarming

considering the time, money and resources that are invested in the development of literacy skills in young children.

It is estimated that the cost of the illiterate to the world economy is more than USD \$1.2 trillion, and the burden to the United States economy is approximately \$360 billion dollars (The World Literacy Foundation, 2015). These figures account for lack of production, unemployment benefits, social services expenditures, and lost tax revenues. In addition to the financial burden placed on the US economy by the illiterate, there is a significant impact on society as well. There is a myth that states project their future prison bed needs based on elementary school student performance on reading assessments. While no evidence exists to support this belief, it is not that far from the truth as 85% of juvenile offenders have reading difficulties, and 3 out of 5 people in American prisons cannot read (Literacy Project Foundation, 2017). Illiteracy also has dire consequences on the health of individuals. The illiterate are more likely to adopt poor nutrition and hygiene habits, which lead to higher rates of disease, accidents and health issues (World Literacy Foundation, 2015).

Reading achievement data in the United States demonstrates that students are not learning to read at a successful rate. In every school in the United States there are children who are struggling to learn to read. These students struggle to be successful in school, and often drop out, or worse, become a part of the juvenile justice system. The SRA/McGraw-Hill Reading Mastery program has the potential to have a positive influence on the reading achievement of students by providing instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension. These five components have been identified by The National Reading Panel (2000) as essential parts of an effective reading program.

Instruction in reading is complex, and can be delivered through different methods. The two main philosophies behind reading instruction are whole language and phonics. Whole language focuses on meaning and strategy instruction, and teaches students to recognize words as whole units. Phonics instruction emphasizes decoding, and teaching children to recognize words by their individual phonemes. Reading Mastery is a program that encompasses both the phonics and whole language philosophies to teaching reading.

The Reading Mastery program was implemented at a small, rural kindergarten through third grade Virginia school at the beginning of the 2015-2016 school year. The program was put in place with the aim of increasing the low reading levels of students, and to bring about improvement in student performance on the statewide accountability assessments. Approximately 80% of the students who attend the school were reading multiple grade levels below their expected level, and the school was not fully accredited by the State of Virginia. Additionally, approximately 70% of the school's students receive free or reduced-priced lunches, and about 65% of the school's students are African American. In each of the past three years, scores on the state assessment in reading have dropped. While the scores are better than the NAEP results, still only 58% of Black students and 81% of White students pass either proficient or advanced on the state reading assessment (Virginia Department of Education, n.d.). Results in reading for the whole division show similar trends in reading achievement on the state assessment. From 2014-2017, the school's scores on the state assessment have decreased for students classified as economically disadvantaged, from 73% to 60% (Virginia Department of Education, n.d.).

This literature review of the Reading Mastery program will provide some insight into the literacy crisis we face in the United States, and the costs the illiterate pose to our society. A historical perspective will be provided of the Reading Mastery program, along with a theoretical explanation of the program's foundation, and an

explanation of how the Reading Mastery program includes the five essential elements of an effective reading program. The potential academic and behavioral impacts of the program will also be overviewed. Finally, some discussion of student and teacher perceptions of the Reading Mastery program will be presented.

Historical Perspective of Reading Mastery

The Reading Mastery program is the brain child of Seigfried Engelmann. Engelmann, a former professor at The University of Oregon, is the senior author of Direct Instruction Programs, and is the Director of the National Institute for Direct Instruction (McGraw-Hill, n.d.). Engelmann developed the idea of direct instruction while attempting to find a way for his sons and neighborhood children to increase retention of content. His direct instruction method of content delivery to children was originally published in 1969 and was known as the Direct Instruction System for Teaching Arithmetic and Reading, (DISTAR) (McGraw-Hill, n.d.). DISTAR was based on the behaviorist notion that learning is defined as a change in behavior, and the program provided learners with a highly regimented, procedurally driven way to learn. The original purpose of DISTAR was to provide compensatory education to early elementary students who came from disadvantaged homes where environments led to the underdevelopment of language skills, and made learning to read difficult.

In 1968, under the direction of Lyndon B. Johnson, the United States Federal Government funded a study to determine the most effective instructional methods for teaching at risk students in grades kindergarten through three (Eppley, 2011). *Project Follow Through* was the largest educational experiment ever conducted, and involved more than 200,000 students in 178 communities (Engelmann, 2012). The communities represented in the study spanned the full spectrum of demographics, ethnicities, and economics. The study allowed parents in the selected communities to choose one

of 22 instructional methods to be implemented in their school. Engelmann, with the backing of The University of Oregon, entered his Direct Instruction model of teaching in the experimental project. The Federal Government provided oversight in each community to provide training, to ensure implementation fidelity and to protect the accuracy of data. To help control for equity barriers, the research project included a nutrition component, and medical and dental care for participating students. When the study concluded in 1977, nine years after it began, Engelmann's Direct Instruction approach to learning was the clear winner. "Direct Instruction had significantly higher academic achievement with students than any of the other programs," and "subsequent research found that the DI students continued to outperform their peers and were more likely to finish high school and pursue higher education" (NIFDI, 2015, n.p.). Additionally, the students taught with Engelmann's Direct Instruction method outperformed the students taught using the other 21 instructional methods in basic academic skills, problem solving, and had higher ratings of self-esteem (NIFDI, 2015). Shortly after the conclusion of *Project Follow Through*, Engelmann revised his DISTAR program and published it with SRA/McGraw Hill as Reading Mastery.

Theoretical Perspective of Reading Mastery

There are a multitude of instructional models that a teacher can choose from to deliver instruction to her students. Direct Instruction is an instructional model that has a positive effect on academic achievement ($d=0.59$), (Hattie, 2009). Hattie's more than 300 research studies exploring Direct Instruction were reviewed, and it was found that Direct Instruction is twice as effective as inquiry-based learning, four times more effective than problem-based learning and 10 times more effective than the whole language approach (Killian, 2014).

Direct Instruction programs teach a carefully sequenced curriculum of knowledge and skills in flexible ability groups through explicit teaching.

Mastery learning is the goal of Direct Instruction programs, meaning that students only progress to the next level when they have mastered the level they are currently on (Killian, 2014). Direct Instruction programs are constructed to teach skills and concepts in isolation, and then systematically integrate the new knowledge with previously learned skills and concepts. For this reason, a typical Direct Instruction lesson consists of about 10% new content, while the rest of the lesson focuses on reviewing and applying the skills and concepts that were introduced in previous lessons (Stockard & Engelmann, 2010).

The DI approach attempts to control all the major variables that impact student learning through the placement and grouping of students into instructional groups, the rate and type of examples presented by the teacher, the wording that teachers use to teach specific concepts and skills, the frequency and type of review of material introduced, the assessment of student's mastery of material covered and the responses by teachers to student's attempts to learn the material. (Stockard & Engelmann, 2010, p. 4)

The Direct Instruction model teaches students the skills needed to be successful in an academic content area in a structured, explicit, and systematic manner. Some might argue that Direct Instruction is too rigid and that it treats all instructional tasks as though they only have one correct answer. While it is often the case that a question or task may have only one acceptable response, Direct Instruction programs are designed to allow for variations in answer responses (Adams & Engelmann, 1996).

Reading Mastery Incorporates the Five Key Elements of an Effective Reading Program

The Reading Mastery program is a Direct Instruction approach to teaching students to read. It presents the five key elements of an effective reading program through a scripted, efficient and fast paced delivery system. The Reading Mastery program teaches children to read by teaching

phonemic awareness and phonics skills at an early age. Some scholars have asserted that a phonics approach to learning to read during the initial reading acquisition stages is superior to a meaning based approach (Grossen, n.d.). Additionally, Reading Mastery facilitates the development of fluent reading by providing multiple opportunities for guided oral reading with appropriate correction and feedback during each lesson (Schieffer, Marchand-Martella, Martella, & Simonsen, n.d.). Reading Mastery presents the final two elements of an effective reading program by directly teaching vocabulary prior to and during story reading, and by teaching literal and interpretative comprehension skills explicitly (Schieffer, Marchand-Martella, Martella, Simonsen, & Waldron-Soler, 2002). Reading Mastery lessons are designed to ensure daily practice of the five elements of an effective reading program.

The typical kindergarten and first grade Reading Mastery lesson begins with the direct instruction of letter identification, individual letter sounds, or blending of letter sounds. Along with its heavy emphasis on phonics, Reading Mastery places immense value on the direct teaching of strategies to decode words. The Reading Mastery lesson generally progresses from explicit phonics instruction, to a whole class read aloud of a story. The story is then read aloud a second time, this time by the teacher to model fluency, expression, and vocal tone. The story is then read aloud a third time by student partners to focus on fluency and accuracy. Prior to, during, and after each reading of the story students respond to questions that are posed by the teacher. At times, the whole class will respond in unison to the questions, and at other times students respond individually. The lesson concludes with students working independently to complete workbook pages that provide additional phonics practice, and allows students to demonstrate comprehension by responding to questions. After every five lessons, the teacher assesses each child individually with a mastery checkout. Students are timed for fluency, and reading errors are recorded. These data is used to determine if the class proceeds to the next lesson, or

if additional teaching is needed. The typical Kindergarten and first grade lesson takes approximately 30 – 45 minutes to complete.

The second-grade level of Reading Mastery, and all subsequent levels phase out the focus on explicit phonics instruction and replace it with word recognition. Each lesson begins with lists of words that are from a word family, or that follow a certain pattern. The focus shifts from relying on individual phonemes to decode words, to automatic word recognition. After demonstrating mastery of the word lists students follow a similar format as the kindergarten and first grade levels for story reading. Before, during, and after each reading of the text students respond to scripted comprehension questions posed by the teacher. The lesson concludes with the students completing workbook activities practicing the recently acquired skills, and responding to comprehension questions. From start to finish, the typical Reading Mastery lesson for second grade and up takes approximately an hour and a half. Lessons are conducted in whole group format, and are delivered by a teacher following a highly structured, scripted teacher presentation book.

Achievement Effects

The Reading Mastery program has been shown to be effective with students of varying backgrounds and ages. It has been successful in increasing the reading achievement of students in inner-city schools, it has been successful with students with disabilities as well as students from poverty, and research supports its success with students who are on or above grade level (Schieffer, Marchand-Martella, Martella, & Simonsen, n.d.). The largest education research project ever conducted was sponsored by the U.S. Department of Education to compare instructional methods and their effect when working with children, and it found that Direct Instruction was the most effective (Adams & Engelmann, 1996). Specifically, *Project Follow Through* showed that Direct Instruction was superior to all other models tested in fostering basic

reading skills, higher order thinking skills, and even self-esteem (Adams & Engelmann, 1996).

Studies focusing on the impacts Reading Mastery has with teaching elementary students to read show that positive achievement has occurred. In three separate studies, researchers found that elementary students made significant gains in their reading levels, increased their performance on standardized achievement tests and made measurable improvement in specific reading skills (SRA/McGraw-Hill, 2009; Wiltz & Wilson, 2006; Stockhard & Engelmann, 2010). In two of the three studies, the SRA/McGraw-Hill program was implemented in predominantly African American, inner-city schools (SRA/McGraw Hill, 2009; Wiltz & Wilson, 2006). In these two studies, researchers found that after students received instruction with the Reading Mastery program they made significant gains in reading level, increased their performance on standardized reading assessments and demonstrated growth in specific reading skills. Additionally, when comparing the reading levels of students instructed with Reading Mastery to those of students taught with a different program, it was found that kindergarten through third grade students receiving instruction with the Reading Mastery program scored on average, 150 points higher in Oral Reading Fluency Lexile scores (Stockhard & Engelmann, 2010). They also found that students read a significantly higher number of words using the Reading Mastery program than did their peers using a different method. It is important to note that the SRA/McGraw-Hill (2009) study was conducted by the publisher of the Reading Mastery program, so a closer analysis of the study may be warranted, and the results should be reviewed with caution.

Reading Mastery has proven to be an effective program for increasing the achievement levels of students with disabilities. A study of junior high students with emotional and behavior disorders found that after 19 weeks of instruction using the SRA Corrective Reading Series (a version of the Reading Mastery program for older students), students exhibited growth in both fluency and comprehension of text (Strong, Wehby, Falk, &

Lane, 2004). The researchers also indicated that the direct and systematic instruction that Reading Mastery is predicated upon can have a substantial impact on the academic and overall school outcomes of students with emotional and behavioral disorders.

Several studies have been presented that indicate gains in student reading abilities and performance on various assessments. However, no studies have been able to decipher if the increases were due to the Reading Mastery program, or its structure. Reading Mastery is built on mastery learning; the idea that a student does not progress to the next level until mastery of the taught skills is reached. Additionally, the Reading Mastery program is structured to ensure that all students are taught at their instructional level. Continuous progress monitoring allows students to be accelerated or retaught. The studies that were reviewed did not mention these variables, or their potential for impacting the student achievement results that were attained.

Behavioral Influences

Behavior is a powerful predictor of academic performance from one grade to another. (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008). Additionally, it has been found that behavioral issues in school can have a direct impact on a person's livelihood in their middle age years. Students who are persistently disruptive as eight-year olds tend to have low status occupations by the time they reach 40 (The National Science Foundation, 2007). It makes sense that if a student is disruptive it will impact their ability to learn, and potentially the learning of classmates.

Incorporating the behavioral components of the Reading Mastery program, giving positive praise, utilizing point systems, and explicitly teaching the routines and procedures led to fewer classroom disruptions (Martella & Marchand-Martella, 2015). Additionally, it was discovered that second and third grade students decreased their problem behaviors by up to 20% during the implementation of Reading Mastery (Sanford &

Horner, 2012). It is important to note that the Sanford and Horner (2012) study only involved four students. Finally, in a study of eight general education and eight special education students, Lingo (2003) found that when students were assigned independent work during Reading Mastery lessons they were more likely to be off task than when being provided the teacher-led Direct Instruction component of the Reading Mastery lesson.

Although the research regarding Reading Mastery's impact on behavior is limited, it is still an area worth exploring because it could have a positive impact on student achievement. Several studies mention how Reading Mastery has had an impact on behavior, but it is hard to determine if the impacts are due to the Direct Instruction model the Reading Mastery program follows, or if it has more to do with students being engaged with content at their instructional level.

Student and Teacher Perceptions

Students exhibited favorable attitudes toward the Reading Mastery program, but this is based on limited research. Two separate studies addressed student perceptions of the Reading Mastery program, but this concept was not the primary focus of these studies. It was discovered that students taught with the Reading Mastery program exhibited greater confidence, and were likely to assist other students who were having difficulty sounding out words (Wiltz & Wilson, 2006). The researchers also found that teachers felt the program was strong in providing instruction in phonics, letter sounds, blending, and finding patterns, but they seemed to feel that the Reading Mastery program needed to be augmented to include instruction in higher level thinking skills. The teachers also pointed out that the reading mastery program was only effective at teaching rudimentary skills, and was not effective at teaching problem solving or higher order cognitive skills. It is true that Direct Instruction programs teach a basic foundation of skills, or prerequisite knowledge at lower levels, but complex problem solving and

reasoning skills are taught in later levels (Tarver, 1998). Additionally, Reading Mastery is effective at teaching not only decoding and word recognition, but also at teaching students inferencing, cause and effect, drawing conclusions and logical reasoning (Tarver, 1998).

It was found that students who experienced the Reading Mastery program developed a love of reading and preferred to read over watching TV (SRA/McGraw-Hill, 2009). The researchers also discovered that students were no longer afraid to read orally in front of others, and even wished they had more opportunities to do so. It is important again to consider that McGraw-Hill is the publisher of the Reading Mastery program, and the one who conducted this research. Assessing student and teacher perceptions of the Reading Mastery program is an area where further research is needed to help in determining the program's overall effectiveness. There are some who believe that Direct Instruction, because of its rigid structure and procedurally driven approach, has a detrimental impact on students' self-esteem and attitude toward learning. It has been found that Direct Instruction has a positive effect on student's self-esteem, and it fosters a positive attitude toward learning because students experience success, and that success promotes positive feelings of self-worth (Tarver, 1998; Adams & Engelmann, 1996).

Conclusion

The challenge of creating a literate society persists even with the advances in instructional strategies and knowledge of how we learn to read. A comprehensive reading program that contains the five essential elements of phonemic awareness, phonics, fluency, vocabulary and comprehension is essential to the reading success of students (National Reading Panel, 2000). Reading instruction provided through the SRA/McGraw-Hill Reading Mastery program contains the five essential elements of an effective reading program. In the program, students learn to hear and identify individual phonemes. This knowledge, when added with direct instruction in phonics, results in students

who can decode text. Through much practice and repetition, students become fluent at decoding and reading text. Vocabulary and comprehension instruction is provided through direct, and contextual instructional methods. The largest educational research study ever conducted, *Project Follow Through*, found that Direct Instruction was the most effective method to teach children to read (NIFDI, 2015). Finally, research has shown that Reading Mastery is effective at providing reading instruction to students of all abilities and backgrounds (Schieffer et al., n.d.)

While there is research to support Reading Mastery's effectiveness to successfully teach children to read, additional information is needed to determine if it has any impact on student behavior. Additionally, information about student and teacher perceptions concerning the effectiveness and explicit structure of the program is needed. Will students and teachers be less creative because of Direct Instruction? Will teachers have the flexibility as professionals to respond to the needs of individual students? These are areas that need further investigation to determine if the potential impact the Reading Mastery program could have on the literacy crisis we face in The United States, is worth its potential costs.

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