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Impact of a Reading Program on Rural Elementary School Students' Oral Reading Fluency and Early Literacy Skill Acquisition and Rate of Improvement

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Indiana University of Pennsylvania

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IMPACT OF A READING PROGRAM ON RURAL ELEMENTARY SCHOOL

STUDENTS' ORAL READING FLUENCY AND EARLY LITERACY SKILL

ACQUISITION AND RATE OF IMPROVEMENT

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Christina Smith

Indiana University of Pennsylvania

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Title: Impact of a Reading Program on Rural Elementary School

        Students' Oral Reading Fluency and Early Literacy Skill
        Acquisition and Rate of Improvement

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        This program evaluation is a study of the effectiveness of a core reading program, Journeys, by Houghton Mifflin Harcourt (HMH), on the early literacy skills and oral reading fluency (ORF) of kindergarten through second grade students in a rural elementary school. The scores of the students in the experimental group were compared to scores of students across the country represented by the AIMSweb 2012 national norms, serving as the control group. Additionally, an assessment of intervention integrity was completed using teacher self-report questionnaires, direct classroom observations, and lesson plan reviews. An indication of treatment integrity was then determined. Finally, a determination was then made as to the effect of the reading program on students' early literacy skills and ORF.

        The results indicated that the experimental group who were instructed with the Journeys reading program outperformed the control group on most measures of early literacy skills and ORF. The hypotheses for both of these research questions were partially accepted. No sex differences were found. Students from low socioeconomic backgrounds scored significantly lower than students from average/high socioeconomic backgrounds only in first and second grades. No socioeconomic differences were found for kindergarten.

Limitations of the study included the use of a convenience sample, minor statistical assumption violations, unknown training of control group assessors, unknown administration procedures of the control group assessments, use of the Bonferroni method which decreased the alpha values, and unknown activities of the experimental group over the summer which could have influenced the results. The implications of these findings for school psychology are presented as well as recommendations for future research.

ACKNOWLEDGEMENTS

This doctoral dissertation is a major accomplishment and one with which I am very pleased. I could not, however, have completed this colossal task alone. First and most importantly, I give thanks to God, my creator, sustainer, and ever-present source of strength. I realize that this accomplishment is an achievement of which to be proud, but one that would not be possible without God who provided me with the resources, opportunities, and abilities. Lord, this is for you! I pray that I will always use my degree to bring glory to you.

Second, my dissertation committee deserves thanks as they have been a tremendous support and encouragement to me in this process. Dr. Staszkiewicz, my dissertation chair, has constantly expressed to me his confidence in my ability to undertake and complete this endeavor. Dr. Staszkiewicz, you will never know how much motivation I gained from your positive outlook and always seeing the best in me. Your positive and confident attitude toward me and my abilities caused me to want to work harder and write better. You challenged me and assumed I could handle the challenge. I discovered much strength and perseverance in myself because of that. Your patience with, and confidence in, me is embodied in a quote from Ralph Waldo Emerson: "Treat a man as he is, and he will remain as he is. Treat a man as he could be, and he will become what he should be" (Emerson, n.d., n.p.). Thank you, Dr. Staszkiewicz.

The other members of my committee also deserve a huge thank you for tirelessly putting up with my "blunders and absurdities" and for reading each and every page of my writing no matter how painful. Thank you. Thank you for your constructive comments, suggestions, and helpfulness in shaping this document into something that will hopefully

make a contribution to the field, and specifically to schools considering adoption of this reading program.

My family has also played a very important part in the successful completion of this doctoral degree. When I began this program, my husband moved us wherever I needed to be in order to more effectively meet the demands of the curriculum. Thank you, Troy.

My children also deserve an expression of gratitude. They have sat beside me while I read articles, wrote paragraphs, and posted sticky notes on everything reminding myself of what I needed to focus on. My children do not know me apart from attending school, as I have been in a graduate program since they were born. When I first started graduate school, I sat in grad classes and ate dry cheerios until my belly got too big for the little chairs and desks. Then, when my daughter, Emma, was two, I began the school psychology program at IUP. She is now 12. My sweet Emma, I dragged her around campus for years and many of my fellow students tested her for practice. She was a true guinea pig and never complained. She was glad for all the attention from my colleagues, and we were glad for a preschooler to test! A big thank you to Gabriel also who never got mad at me for having to work on my paper, thus neglecting him. Thanks, Buddy. You made it easier.

My parents have also provided me with tremendous support and encouragement throughout. My mother prayed for me and always had words of encouragement, and my father always conveyed to me that he had no doubts I could do this. He kept pushing me on. He listened to me babble on and on about school issues, and has always pushed me to keep working hard and trying even when all I had was just enough light for the step I was on. I felt I was walking alone in the dark a lot just wading through an amorphous mess. My parents, however, kept encouraging me to keep walking. I am so glad I did because I finally

learned how to write! First you make a mess, and then you clean it up. I learned that writing is not pretty, must be done on a regular basis, and is as sacred as classroom teaching. I am grateful for the faith in God my parents have instilled in me and the good example they have been. Even when it felt like the valley of the shadow of death, their faith in my abilities increased my faith that the light and the order would soon sync up.

To my sister and co-conspirator, I thank you for daring me to write a really crappy first draft! (I beg the pardon of the reader for the language.) Because only with something on the paper can you shape it into something great. When you're overwhelmed, you have to make the goal attainable. So, we decided my first goal was just to write the worst thing possible because that was a goal I could definitely accomplish. From there, a second draft might be good… and a third – great??? My words to you Dear Sister (as you should remember lecturing me the night before my doctoral comps):

> Finish each day and be done with it. You have done what you
> could; some blunders and absurdities no doubt have crept
> in; forget them as soon as you can. Tomorrow
> is a new day; you shall begin it serenely and with too high
> a spirit to be encumbered with your old nonsense.
> (Emerson, n.d., n.p.)

If one perceives each "blunder" and "absurdity" in oneself and in one's work as a major setback, one can never move forward. Thank you Dear Sister for helping me to understand that perfection does not exist – only hard work and perseverance, and a lot of humor.

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CHAPTER I

INTRODUCTION

Overview

Too numerous to count are the reasons why society needs, and almost certainly cannot survive without, educated individuals. The belief in this notion was so strong that in 1983 the federal government charged a group of individuals with the colossal task of reviewing and synthesizing data on the quality of learning and teaching in the nation's schools. The resultant report, "A Nation at Risk" (U.S. Department of Education, 1983), communicated the need for an educated humanity, not only for financial and economic reasons, but for deeper concerns, evident in the following statement:

> Our concern, however, goes well beyond matters such as industry
> and commerce. It also includes the intellectual, moral, and
> spiritual strengths of our people which knit together the very
> fabric of our society. The people of the U.S. need to know that
> individuals in our society who do not possess the levels of
> skill, literacy, and training essential to this new era will be
> effectively disenfranchised, not simply from the material rewards
> that accompany competent performance, but also from the chance to
> participate fully in our national life. A high level of shared
> education is essential to a free, democratic society. (U.S.
> Department of Education, 1983, p.10)

The report went on to convey the importance of education in undergirding "American prosperity, security, and civility", the "mediocrity" of which would "threaten our very future as a Nation and a people" (p. 10). These notions of deep, lifelong learning contrast sharply with ideas of "doing the minimum work necessary for the moment" (p. 15) and have of late become even more a part of the educational

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rhetoric, suggesting a need for knowledge and skills, not only for the purpose of securing financially gainful employment, or economic betterment, but to further this quest for full and educated participation in society and in life.

In addition to the "intellectual, moral, and spiritual strengths" that are developed and enhanced through a high quality education, there are some very practical societal, national, and individual benefits also conferred upon the well-educated. Every three years, The College Board produces a document entitled "Education Pays" (Baum, Ma, & Payea, 2010), describing the return society as a whole, as well as the individual, receives from investments in higher education. The report addresses the benefit domains in terms of earnings, other economic benefits, health benefits, other individual and societal benefits, college enrollment, educational attainment, and geographic comparison. The 2010 report gives detailed information in support of obtaining a solid education. The following major findings emerged: higher levels of education lead to both higher levels of earnings for individuals and higher tax revenues for federal, state, and local governments; college-educated adults are more likely than others to be employed, to receive health insurance and pension benefits from their employers, and to be highly satisfied with their jobs; adults with higher levels of education are more active citizens (e.g., donating their time in volunteer organizations) and are more likely to vote; college education leads to healthier lifestyles, reducing health care costs for individuals and for society (e.g., college educated adults, and children living with them, are less likely to be obese; and mothers with higher levels of education are less likely than others to have low-birth-weight babies and are more likely to breast-feed); and college-educated parents engage in more educational activities with

their children, who are better prepared for school than are children of non-college educated parents.

Because of these benefits conferred upon society, upon the nation, and upon the individual, we logically conclude that every individual, therefore, deserves an excellent education. As part of "A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act" (U.S. Department of Education, 2010), President Barak Obama (Obama, 2010) included a letter stating the following:

> Every child in America deserves a world-class education. Today, more than ever, a world-class education is a prerequisite for success. America was once the best educated nation in the world. A generation ago, we led all nations in college completion, but today, 10 countries have passed us. It is not that their students are smarter than ours. It is that these countries are being smarter about how to educate their students. And the countries that out-educate us today will out-compete us tomorrow. (p. 1)

Unmistakable in the President's message is the growing need for an increasingly well-educated student body, resulting in a more skilled workforce, and finally a globally competitive economic nation.

Because there are significant benefits to society, to the country, and to the individual, and because every individual deserves a high quality education, it is regrettable and unjust that individuals with disabilities often do not have the same opportunities to receive a high quality education and secure satisfying employment when compared with their nondisabled counterparts. Levinson (1993) reflects on the educational and employment effects of students with disabilities.

In terms of employment, Levinson (1993) reports research documenting the existence of a positive correlation between self-concept or self-esteem and job satisfaction. In other words, an individual's adjustment to work directly impacts his or her life adjustment. Studies have revealed that individuals in satisfying vocational situations are significantly less likely to commit suicide than their un- or underemployed counterparts and those frustrated with their work (Levinson, 1993). The difficulty here is that students with disabilities have historically been at exceptionally high risk for failing to secure productive and satisfying employment following school completion. For example, the U.S. Bureau of Labor Statistics (U.S. Department of Labor, 2011), in a report of their 2010 annual averages, presented statistics which showed that of non-disabled individuals age 16 and older, 63.5% were employed; compared with 18.6% of non-institutionalized disabled individuals employed in that same age group. The dire economic and personal consequences of this are enormous.

Just as a city set on a hill cannot be hidden (Matthew 5:14, New King James Version), so the power of education to increase employment opportunities is abundantly clear. Levinson (1993) expounds upon the significance of education, particularly with regard to the vocational opportunities of students with disabilities. Levinson's work establishes the vital role the school plays in determining the extent to which disabled individuals acquire the necessary skills to gain productive employment; however, sadly, he later reports that schools have done an inadequate job of preparing young people for work (Levinson & Ohler, 2006). Regarding the role played by literacy instruction in securing employment, Miller, McCardle, and Hernandez (2010) affirm that higher literacy skills correlate with higher wages, and individuals with higher literacy skills are more likely to be

employed full-time than those with lower literacy levels. The authors comment that "increasing demands placed on literacy can limit opportunities in the workplace" (p. 107). This finding is daunting when examining the adult literacy statistics. The 2003 National Assessment of Adult Literacy (NAAL), the most comprehensive nationally representative assessment of adult literacy since 1992, reports that, of individuals aged 16 and older, 11 million Americans are nonliterate in English. Of these, four million could not take the test due to language barriers; and seven million could not answer even the simplest of questions (U.S. Department of Education, n.d.).

Individuals with disabilities are not the only demographic group experiencing academic growth that lags behind that of their peers. Students of low socioeconomic status and male students tend to fall behind their peers in reading, as well. Children from low socioeconomic backgrounds often do not perform as well in school when compared with peers from average or high socioeconomic backgrounds. Sirin (2005) conducted a meta-analytic review of the studies on socioeconomic status (SES) and academic achievement published between 1990 and 2000. His findings from 6,871 schools included in the sample indicated that the overall effect size (ES) represented a medium level of association between SES and academic achievement at the student level, and a high degree of association at the school level. The author commented that "[o]f all the factors examined in the meta-analytic literature, family SES at the student level is one of the strongest correlates of academic performance. At the school level, the correlations were even stronger" (Sirin, 2005, p. 439).

Similarly, the correlation between sex and reading has been well-established. The Programme for International Student Assessment (PISA) has documented this global gender gap since the first world-wide

reading assessment in 2000 (Organisation for Economic Co-operation and Development (OECD), 2009). The most recent assessment in 2009 showed a 39 point average advantage of females over males for participating countries, up nine points from 2000.

Because a high-quality education is beneficial to society, the nation, and the individual, for economic reasons, for full participation in life, and for practical returns, and because everyone deserves a solid education but not everyone receives one, it is imperative that our schools employ effective programs and practices that can improve future vocational opportunistic outcomes, impacting upon the very aspect of life quality and adjustment in all the ways described. The benefits of education, and literacy in particular, to the individual, society, and humanity are of great consequence.

Legal Mandates to Promote Academic Achievement

The federal "No Child Left Behind Act" (NCLB), public law 107-110 (U.S. Department of Education, 2001), signed into law under the George W. Bush administration, is a comprehensive reform of the Elementary and Secondary Education Act (ESEA) of 1965. Some have considered it revolutionary because of its unprecedented focus on reducing achievement gaps (Sherman, 2008). The Act came about in part because of the need for an educated society, but also because of the frustration of the federal government with "the refusal of educators across the nation to accept responsibility for mediocre school performance or to accept the need to fundamentally retool schools that were massively failing black, Latino, and poor children" (Hess, 2004, p. 15).

The NCLB Act asserts that its purpose is to "ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on

challenging State academic achievement standards and state academic assessments" (20 USC 6301). This purpose was made manifest by the creation of NCBL's four objective pillars: "stronger accountability for results, more freedom for states and communities, proven education methods, and more choices for parents" (U.S. Department of Education, 2004). These four objectives were to be accomplished through several different approaches including alignment of instructional materials with state standards; meeting the educational needs of low-achieving children; closing the achievement gap; holding schools accountable; promoting school-wide reform and ensuring the access of children to effective, scientifically-based instructional strategies and challenging academic content; providing children an enriched and accelerated educational program that increases the amount and quality of instructional time; and "significantly elevating the quality of instruction" (115 STAT. 1440), among other methods. These approaches clearly emphasize the federal government's endorsement of instruction, materials, and activities that are "high quality, research-based, and specifically designed to increase the academic achievement" of students (115 STAT. 1494). Of such significance is this notion of high-quality education, that the 670 page document references "scientifically-based research" 69 times.

Specific to reading achievement, the NCLB Act (U.S. Department of Education, 2001) states that its main purpose is as follows:

> … to provide assistance to State educational agencies and local
> educational agencies in establishing reading programs for
> students in kindergarten through grade three that are predicated
> upon scientifically-based reading research, to ensure that every
> student can read at grade level or above not later than the end
> of grade three. (SEC.1201.Purposes)

Paralleling the NCLB Act which pertains to all students, the federal Individuals with Disabilities Education Improvement Act of 2004 (hereinafter known as IDEA, 2004) is also "an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities" (IDEA, 2004, (I)(A) SEC. 601). The Act presents a federal directive to improve the achievement of students with disabilities and increase the quality of their instruction. The Act's Part D Amendment - National Activities to Improve Education of Children with Disabilities – states that, regarding use of funds, states must provide "professional development activities that …provide training in methods of… scientifically-based reading instruction, including early literacy instruction" (118 STAT. 2771). Schools are, therefore, directed to engage in reading activities that, not only have a high likelihood, but are known to increase reading achievement of students with and without disabilities.

The Pennsylvania Accountability System, applicable to all public schools and districts in Pennsylvania, addresses the requirements of the federal No Child Left Behind Act, and shares the same goal of every child proficient in reading and math by 2014 (Pennsylvania Department of Education, 2011a). Adequate Yearly Progress (AYP) is the manner in which the PA Department of Education evaluates whether schools are making progress toward the 100% proficiency goal. One specific AYP target is that of proficient performance on the reading portion of the Pennsylvania System of School Assessment (PSSA).

In summary, federal laws, including the No Child Left Behind Act of 2001 and the Individuals with Disabilities Education Improvement Act of 2004, mandate efforts to increase achievement for all students, specifically attending to the needs of individuals with disabilities.

The manner in which this is to be carried out is explicitly stated, noting use of scientifically-based reading instruction as a core method. The PA System of Accountability further mandates this and provides the specific manner in which performance growth will be measured.

Statement of the Problem

For the reasons discussed above, the pressing need for an educated society should not be underestimated. In the pursuit of educating our citizens, when compared with other skills, the need for solid reading skills quickly becomes paramount, as reading certainly serves as a primary avenue of learning in many domains. Ellis (2005), however, states that the frequency with which evidence-based reading programs are adopted and implemented in schools is very low, as educators rarely wait for, or require hard evidence of, effectiveness data before adopting new practices on a large scale. This becomes a significant problem for all schools, but especially for schools composed of large numbers of students with disabilities or of low socioeconomic status, as students with these characteristics tend to struggle with academic achievement to a greater extent and require robust educational programs.

Our Educational System

In 1983, the U.S. Department of Education's landmark report, "A Nation at Risk", was created (U.S. Department of Education, 1983) — a document which shocked the nation with its colorful portrayal of the dismal state of the U.S. educational system. In that document, the National Commission on Excellence (i.e., the committee created to examine the quality of education at that time) produced the following statement:

Our nation is at risk. Our once unchallenged preeminence in

commerce, industry, science, and technological innovation is

being overtaken by competitors throughout the world...The

educational foundations of our society are presently being eroded

by a rising tide of mediocrity that threatens our very future as

a nation and a people. What was unimaginable a generation ago

has begun to occur – others are matching and surpassing our

educational attainment. …We have, in effect, been committing an

act of unthinking unilateral educational disarmament. (U.S.

Department of Education, 1983, p. 9)

At the time of "A Nation at Risk" (U.S. Department of Education,

1983), the National Commission on Excellence produced the following

data, which were thoroughly documented through testimony received by

the commission, and presented to the Nation and U.S. Department of

Education, Secretary of Education: some 23 million American adults

were functionally illiterate; SAT scores were dropping; college

students needed more and more remedial courses in college;

approximately 13 percent of all 17-year-olds in the U.S. were

functionally illiterate; illiteracy among minority youth reached as

high as 40 percent; and many 17-year-olds did not possess the "higher

order" intellectual skills expected of them - 40 percent could not draw

inferences from written material, only one-fifth could construct a

persuasive essay, and only one-third could solve a multi-step math

problem. But what really caused the hideous face to emerge from amidst

the rubble, with a clarity not achieved by the sheer numbers alone, was

the report's stunning proclamation, as follows:

Each generation of Americans has outstripped its parents in

education, in literacy, and in economic attainment. For the

first time in the history of our country, the educational skills

of one generation will not surpass, will not equal, will not even

approach, those of their parents. (p. 12)

In 2008, the U.S. Department of Education released a report

entitled, "A Nation Accountable: 25 Years After A Nation At Risk",

reviewing the progress the country has made since the dismal 1983

declarations (U.S. Department of Education, 2008). The 2008 report

consensus was that we remain a nation at risk – at even greater risk,

in fact, due to the increasing economic demands of the global economy;

however, we are now a "nation informed, a nation accountable, and a

nation that recognizes there is much work to be done" (p. 1). The

report showed that we have made progress since 1983; however, the

central unanswered question is "Will the children being born today have

a better shot at getting a decent education than those born in 1983?"

(p. 3). The data presented in the document suggested that of 20

children born in 1983, only six would have been proficient readers in

fourth grade. The report also noted that a group of 20 children born

in 1997 and assessed in fourth grade would have included seven

proficient readers out of the 20 – an increase of one (5%). Thus,

while the country had made some progress, 65% of fourth graders born in

1997 still failed to meet proficiency in reading. The report likened

our country to an athlete "running in place" while other nations fly on

by.

Because of reports produced by entities commissioned by the

United States federal government, such as the 1983 "A Nation At Risk"

and the 2008 "A Nation Accountable" documents, many people continue to

adhere to the belief that our educational system is miserably failing

our students. To make the situation appear even worse, the U.S.

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Department of Education itself reported that if we were a nation at risk in 1983, we are now a nation at even greater risk due to the increased demands of the global economy and the need to educate students to ever higher levels (U.S. Department of Education, 2008).

To make this point, at the 2011 Pennsylvania Department of Education conference, "Making a Difference: Educational Practices That Work", Wagner, Harvard University, presented the notion of "The Global Achievement Gap" (Wagner, 2011) as the difference between what society and the economy desire and need in 21st century skilled workers, and how America's educational system is failing to address or teach those needed skills. Wagner discussed the idea of the "knowledge economy" wherein individuals are now required to use their "minds" to earn a living, as opposed to 25 years ago when most people performed manual labor. During his conference presentation, Wagner stated that, "…today if you can't use your head, you'll never earn more than minimum wage." His extensive interview research revealed that the number one complaint of both college teachers and employers is the inability of the high school graduate to use effective oral and written communication. Although on paper, schools may be making AYP, in the sense of higher learning – most are failing their students. To a child and a family, and ultimately society as a whole, whether a school has met AYP cowers in comparison to the significance of whether or not an individual will graduate from high school – college, career, and citizenship ready (Wagner, 2011).

Thus, being the primary avenue of basic learning and ultimately deep 21st century learning, the need for solid reading skills stubbornly situates itself at the forefront of the educational agenda. The federal and state governments have clearly articulated this agenda (Pennsylvania Department of Education, 2011a; U.S. Department of

Education, 2001; U.S. Department of Education, 2004). Curiously, however, although schools have been given the explicit directive to use evidenced-based practices in reading, many pupils, still fail to read at a proficient level.

At the international level, PISA, an international test assessing academic achievement in the areas of reading, math, and science, 2009 results showed that the U.S. ranked 15th in reading out of 65 countries who took the test (Organization for Economic Co-operation and Development, n.d.). Specifically pertaining to the PISA reading assessment, this test evaluates a student's ability to retrieve information, interpret texts, and reflect and evaluate. As per the most recent assessment (2011), the U.S. national reading trend for fourth grade students was higher in 2011 than in 1992 (221 and 217, respectively); however, there was no significant difference between years 2007, 2009, and 2011 (each at 221). Fourth grade females tended to score consistently and significantly higher than males (225 versus 218 in 2011) as did Whites and Asian/Pacific Islanders when compared with Blacks and Hispanics (U.S. Department of Education, 2011). Following that same trend, family incomes strongly predicted reading achievement in fourth grade, as students who were eligible for the National School Lunch Program scored significantly and consistently lower than children who were ineligible. Finally, students with disabilities scored considerably lower than students without disabilities.

At the national level, the National Assessment of Educational Progress (NAEP), which was mandated by Congress through NCLB's legislation (Davis & Buckendahl, 2009) for the participation of students in grades four and eight in reading and math every other year, is currently used to monitor trends in student achievement, make state-

to-state comparisons, and make evaluative statements on achievement (Lane et al., 2009). The NAEP long-term trend reading assessment (U.S. Department of Education, 2008b), which assesses a student's ability to locate detailed information, make inferences, and identify main ideas, shows that reading scores have only slightly improved from 1971 to 2008 for fourth graders (208 to 220, respectively); and improvement has been negligible for 13 and 17 year olds (255 to 260; and 285 to 286, respectively).

At the state level, Pennsylvania students continue to perform below the expectations of both the federal No Child Left Behind Act (U.S. Department of Education, 2001), and the Pennsylvania goals for progress in the area of reading. On the PSSA, the state academic assessment, which is "used as the primary means of determining the yearly performance of the State" (U.S. Department of Education, 2001, p. 25), a rating of proficiency refers to "satisfactory academic performance indicating a solid understanding and adequate display of the skills included in Pennsylvania's Academic Content Standards" (Pennsylvania Department of Education, 2011a, p. 2).

The 2009-2010 Pennsylvania state report card reading results reported by the Pennsylvania Department of Education (Pennsylvania Department of Education, 2011b) showed that 72% of students were advanced or proficient on the PSSA), reflecting 674,089 students. That leaves a remaining 262,145 students reading at basic or below basic levels. More recently, the 2010-2011 Pennsylvania state report card showed 72 percent (671,744 students) proficient or advanced, leaving a remaining 261,233 students reading below proficiency (Pennsylvania Department of Education, 2012). The goal, thus, continues to lie before us, and has been heretofore, unreachable.

The Need for Effective Reading Programs

Because of the scores of children still failing to read at a proficient level, the number of adults who are functionally illiterate, the inestimable value of a solid education and the life-altering impact on both individuals and society, and because of the federal call for proficiency by 2014, schools need to be efficient and adept at selecting effective instructional programs. This is especially true with regard to reading – the chief cornerstone of all learning. Walker (2004) refers to the development of literacy as the school system's "primary mission". This seemingly straightforward task, however, is laden with substantial challenges.

The Problem with Selecting Educational Programs

Kovaleski (2007) reports that it is surprising that schools' choices of curricula has not been systematically studied – that the "what" that students are expected to learn has been largely ignored. A common claim, nevertheless, of most educational programs is that they are "research-based". Others involved in this field of study, however, have reported that the research basis claim is sometimes better characterized as the inclusion of program components that are based, or loosely based, upon research.

Ellis (2001) purports that a program that includes components that are supported by research, however, is a far cry from demonstrating total program effectiveness. One reason for the adoption of a program that merely includes components based on research as opposed to one that has demonstrated total program effectiveness may be the complexity of educational research reports. Ellis (2005) states that many school personnel fail to comprehend the complicated and cryptic procedures of educational research, and, therefore, need to base decisions regarding whether or not to adopt a program on

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persuasive arguments given by "experts". These persuasive arguments

typically involve a communication, often between a school district and

publisher representative, of the findings from Level II research

(empirical research) or, in other words, the results from trying out a

theory under controlled conditions. Ellis (2005) states that this is

problematic because theories of human behavior have real consequences

when tried out on people, and the gap between theory and practice is

often great. Helping to bridge this gap between theory and practice is

a Level III type of research called program evaluation. Ellis (2005)

states that this is the point where it becomes possible to learn the

extent to which a program is successful when implemented with children

in a large number of schools or districts. Program evaluation, or real

world-application research, is necessary because of the unavoidable,

and potentially major, distortions that often come with actual

application of a program. Rathvon (2008) has stated the following:

>Many of the intervention studies in the literature have been
>
>implemented by researchers in controlled settings, rather than in
>
>typical contexts by natural intervention agents, such as teachers
>
>and parents, and are impractical for general education
>
>classrooms. Unless interventions can be translated into the day-
>
>to-day realities of the classroom, teachers will be reluctant to
>
>implement them and maintain them over time, regardless of the
>
>quantity and quality of the evidence base. (p. x)

Houghton Mifflin Harcourt Journeys

When schools and districts adopt new reading programs, the

potential for affecting the lives of many children is great. Core

reading programs are defined as "the primary reading program for the

school and the expectation is that all teachers within and between the

primary grades will use the core program as the base of reading

instruction" (University of Oregon, 2013). The importance of selecting an effective core program becomes more vivid in light of the following information.

Journeys, a core language arts program (Baumann et al., 2011), published by HMH, is a relatively innovative product. It was released for initial implementation by consumer schools in July 2010. The publisher's fall 2010 user list included 172 school districts from 30 states across the country implementing the new materials as the core reading program for the 2010-11 school year. In the Milwaukee Public Schools alone, the 2010 replacement of the reading program with the HMH programs, including Journeys for grades K-6, involved 130 schools and some 60,000 students. Taken together and over time, this involves potentially millions of children. Moreover, the publisher was quoted in a news release as saying, "…there has been a wide-scale adoption of our innovative products" (Houghton Mifflin Harcourt, 2010, p. 1). The importance of implementing an effective reading program, in light of the number of students affected by it is evident, as there exists a growing need for an increasingly educated and skilled work force.

Not only does the Journeys program have the potential to affect the lives of children because of its wide-scale adoption, but the magnitude of its impact will also be influenced by the program's strength in raising reading achievement. In terms of effectiveness, the Journeys publishers and researchers claim the program is effective and has a basis in scientific research (Beck, Connor, Cruse, & Fernandez, 2009). The publisher states that the program is designed to meet the various needs of all students, and includes all the key essentials you would expect in reading instruction (Houghton Mifflin Harcourt, 2012). A detailed examination of the program materials (e.g., teacher guides, student manuals, etc.) show evidence of

including pedagogical and content related elements that have a strong
Level II research base, or in other words, elements that appear to be
effective under controlled conditions.

Some of the program's instructional elements backed by Level II
research include explicit instruction, reinforcement and multiple
exposures, and making connections (Fox, 2009; National Institute of
Child Health and Human Development, 2000), word morphology instruction
(Kieffer & Lesaux, 2007), use of scaffolding and graphic organizers
(Chang, Sung, & Chen, 2002), and strategy instruction and activating
prior knowledge (Fox, 2009).

In terms of content, the Journeys program addresses the five big
ideas in reading, as identified by the National Reading Panel (National
Institute of Child Health and Human Development, 2000). In other
words, the program specifically incorporates those domains shown
through research to be necessary components of a reading program.
Included are systematic instruction in phonics and phonemic awareness,
vocabulary acquisition strategies, and instruction in reading fluency
and comprehension.

The strategies used to teach early literacy skills and fluency in
the Journeys program, such as systematic instruction in phonics and
phonemic awareness and repeated readings, respectively, have a strong
evidence base.

In terms of phonemic awareness instruction, or phonological
awareness (PA), the National Institute of Child Health and Human
Development (NICHHD) (2000) National Reading Panel findings showed that
"teaching children to manipulate phonemes in words was highly effective
under a variety of teaching conditions with a variety of learners
across a range of grade and age levels and that teaching phonemic
awareness to children significantly improves their reading more than

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instruction that lacks any attention to PA" (p. 7). The Journeys

program spends time each day in the early grades on activities teaching

these skills, such as substituting beginning sounds to produce

different words (e.g., mat - replace the m with a c).

In terms of phonics, the National Reading Panel's (NICHHD, 2000)

meta-analysis determined that "systematic phonics instruction produces

significant benefits for students in kindergarten through 6th grade"

(p. 9) and that "first graders who were taught phonics systematically

were better able to decode…and showed significant improvement in their

ability to comprehend text" (p. 9). The meta-analysis further

demonstrated that, "systematic synthetic phonics instruction was

significantly more effective in improving low socioeconomic status

(SES) children's alphabetic knowledge and word reading skills than

instructional approaches that were less focused on these initial

reading skills" (p. 9). In the early grades, the Journeys materials

incorporate phonics and phonemic awareness activities, such as short

vowel sounds, long vowel sounds, etc., into the daily lessons.

Additionally, regular assessment, and follow-up customized instruction

in early literacy skills is recommended (Snow, Burns, & Griffin, 1998),

and is a weekly integral component of the Journeys series, as Fridays

are primarily devoted to assessment of skills.

In addition to the early literacy components of phonics and

phonemic awareness, vocabulary instruction is also an important

component of learning to read (NICHHD, 2000) and is a large component

of the Journeys program. Research studies have established the value

of connecting vocabulary instruction with comprehension instruction

(Coyne, Simmons, Kame'enui, & Stoolmiller, 2004; Fisher, Frey, & Lapp,

2008). The Journeys program incorporates this finding so that neither

is taught in isolation, but rather in a meaningful context.

Being the primary goal of reading, comprehension strategies are applied weekly throughout the program lessons. For example, a common Journeys program element of focusing on the content of what has been read, and asking students to respond critically to the content, has been shown to be effective in enhancing students' comprehension (McKeown, Beck, & Blake, 2009).

The importance of developing reading fluency lies in its connection to reading comprehension. This phenomenon has been well-documented as described by Klauda and Guthrie (2008) who affirm that "[e]mpirical studies of the relationships among reading skills have often reported moderate to high positive correlations between measures of fluency and comprehension" (p. 310). Further, Snow, Burns, and Griffin (1998) report that gaining meaning from print strongly depends on one's word recognition accuracy and reading fluency. In terms of Journeys fluency instructional components, studies of those methods have suggested an empirical basis. For example, guided repeated oral readings, a common element in the Journeys lessons, have been shown to have "…a significant and positive impact on word recognition, fluency, and comprehension across a range of grade levels" (NICHHD, 2000, p. 12).

Although many of the components, both pedagogical and content-oriented, comprising the Journeys program are supported by a strong Level II research base, they do not represent Level III, or program evaluation, research. Slavin, Lake, Chambers, Cheung, and Davis (2009), in their meta-analysis of effective elementary reading programs, report that although we do know a great deal about basic reading research, about how children learn to read, and what goes awry when they fail to learn, there is "much less research evaluating practical programs actually available to schools and teachers to ensure

reading success, and the research that does exist has not been comprehensively reviewed" (p. 1392). These authors highlight the importance of attending to all aspects of reading approaches, not only to those addressed by the National Reading Panel (NRP). This can be accomplished through program evaluation.

The Journeys program has one Level III, or program evaluation, study associated with it. This study, conducted by the Educational Research Institute of America (ERIA; Beck, Connor, Cruse, & Fernandez, 2009), was a short-term, quasi-experimental study designed to determine the effects of the HMH Journeys reading program (Baumann et al., 2011), on urban elementary students' "reading skills and strategy use" (Beck et al., 2009, p. 2). Over the course of this study, the program was implemented for an average of 10 days, and the outcome measures were developed by the researchers at ERIA. This previous Level III study, however, has not been comprehensively reviewed. The design employed an experimental group of 15 teachers who taught one unit from the targeted program; while the control group consisted of seven teachers using programs they had been using prior to their involvement. Assessment consisted of the administration of a pre-test with only the experimental group prior to instruction with Journeys materials; and a post-test for both experimental and control groups after one unit from the Journeys program had been taught. The results of the investigation suggested that the experimental group had significantly higher scores in terms of reading skills and strategy use when compared with the control group at post-test. Although this is a valuable finding, the present study extends this research in a number of ways.

Based upon this previous study and the information contained therein, the present design extends or alters several facets of the previous study in order to design a more exhaustive study. First, the

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timeframe that the Journeys program was implemented in the classroom for the present study was extended to span three years. Consequently, the full Journeys program was taught to the students. Additionally, both the experimental and control groups received the pre-test in the present study to determine initial group differences in terms of reading skills before the intervention was presented. Moreover, although fidelity of the intervention in the previous study was assessed, it was done so through teacher self-report only. Thus, the present study assessed this construct in both a direct and indirect manner to more accurately determine the strength of the treatment. Finally, the most important extension of the previous research relates to the outcome measures. The present study made use of a standardized instrument in an attempt to establish the manner in which students instructed with the Journeys program fared in comparison with students across the country. Use of standardized instruments, for which the reliability and validity are known, allowed us to make more useful conclusions regarding the program effects. These alterations to the previous study represent a different approach in an attempt to design a more thorough evaluation. Although the previous evaluation of the Journeys program provided useful information regarding the program's effects, there exists a need for supplementary information.

Purpose of the Study

Given the legal mandates to increase academic achievement, including reading achievement, among school students, and the fact that students nationally and statewide continue to fall below proficiency, it is important to determine whether the Journeys reading program, used by hundreds of schools and districts across the country, is effective in raising reading achievement when brought to scale in typical schools with large numbers of children.

The present study is a Level III program evaluation study of the HMH Journeys reading program. This study differs from any other studies that have been conducted and attempts to advance the extant research base in the following ways: by conducting a Level III program evaluation study when the Journeys program is implemented over time; evaluating the program on reading-related variables (i.e., oral reading fluency [ORF] and early literacy skills) that differ from the previous evaluation; employing outcome measures that have been nationally normed; calculating the effects of the program on a sample of students from rural Pennsylvania; providing thorough fidelity of implementation documentation – both directly and indirectly; and examining whether certain demographic differences commonly observed (i.e., differences in reading related to sex and SES) will also hold true for students instructed with the Journeys program.

More specifically, the present study compared the effects of the Journeys reading program, implemented over a period of one to three years, on the ORF and early literacy skill fluency (specifically, letter naming fluency, phoneme segmentation fluency, and nonsense word fluency) of rural kindergarten through second grade students from a mid-western Pennsylvania school district, to the levels and rates typically observed across the nation represented by AIMSweb 2012 national norms serving as the control group. For those students instructed with Journeys, additional investigations included an examination of possible associations between sex or socioeconomic status and ORF or early literacy scores.

In terms of the outcome measure, the AIMSweb assessments represent a Reading Curriculum Based Measurement (R-CBM) tool. According to Graney and Shinn (2005), R-CBMs require "that students read passages of connected, meaningful text aloud for 1 minute. The

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number of words read correctly is counted and used as the primary datum" (p. 184). This process applies most specifically to the assessment of ORF, but also pertains to the evaluation of early literacy skills, the primary difference being, in lieu of number of words read correctly, the evaluator's focus would be on correctly identified letter names, phonemes segmented, etc.

As discussed, there is presently some evidence to suggest the usefulness of the Journeys program; namely that the program components have empirical support. There are also some limited data suggesting the program as a whole may have implications for use; however, as previously stated, more information is needed. This study, therefore, provides further information related to looking beyond the components comprising the program, and at the program as a whole.

Research Questions

This study answered the following research questions:

1. How do the early literacy mean scores and mean rates of improvement (ROI) of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national normative sample?

2. How do the ORF mean scores and mean ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national normative sample?

3. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for males versus females?

4. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean

score or mean ROI differ for those from low socioeconomic

backgrounds when compared with those from average/high

socioeconomic backgrounds?

5. What was the level of program implementation fidelity during the

study?

Hypotheses

The literature supports the hypotheses that:

1. Students instructed with the Journeys reading program will show

higher early literacy mean scores and mean ROIs when compared

with the AIMSweb national norms. This is based on the fact that

the Journeys program consists of early literacy instructional

components that have empirical support. The Journeys program

specifically and intensely addresses early literacy skills (e.g.,

print awareness/concepts about print, letter knowledge/alphabetic

principle, linguistic awareness, phonemic awareness, temporary

invented spelling, vocabulary) with each lesson taught, which are

the foundational skills of reading and which the AIMSweb tests

measure.

2. Students instructed with the Journeys reading program will show

higher ORF mean scores and mean ROIs when compared with the

AIMSweb national norms. This is based on the fact that the

fluency-based instructional components implemented in the

Journeys program have empirical support.

3. Female students instructed with the Journeys program will show

higher ORF/early literacy mean scores and mean ROIs, when

compared with their male counterparts who were also instructed

with Journeys. This is based on previous research which has

demonstrated that females outperform males in the area of reading

(NAEP, 2008).

4. Students from low socioeconomic environments will have lower ORF/early literacy mean scores and mean ROIs when compared with students from average and high socioeconomic environments. This is based on previous research identifying a strong relationship between one's socioeconomic status and academic achievement (Podell & Soodak, 1993; Sirin, 2005). The Journeys reading program does not differentially address, or specifically instruct, students who are from lower socioeconomic environments. There is no reason to believe that this relationship will not also hold true for the sample population.

5. Treatment fidelity will be high with respect to implementation of the Journeys reading program. A combination of direct and indirect methods will be used to assess intervention integrity.

Research Procedures

The present investigation is a Level III program evaluation study of a core elementary school reading program entitled, Journeys, by HMH (Baumann et al., 2011). The study attempted to determine if kindergarten through second grade students taught with the Journeys program outperformed those in a national normative sample in terms of ORF and early literacy skills and whether certain typically observed demographic trends in reading achievement also hold true for students instructed with the Journeys program.

One year of reading curriculum-based measurement data, specifically ORF and the early literacy skill measures of letter naming fluency, phoneme segmentation fluency, and nonsense word fluency, using the AIMSweb outcome measures (AIMSweb, 2012b), were collected from grades kindergarten, one, and two from a school in rural Pennsylvania from the 2012-2013 school year. In particular, these ORF and Early Literacy scores were then compared to the AIMSweb 2012 national

normative data (AIMSweb, 2012a), serving as the control group. These

data were analyzed and the significance of the differences between the

means of the study population data and the national normative data were

examined to determine whether higher mean scores were achieved and/or

greater gains were made by the students instructed with the new

Journeys reading program. See Figure 1 for a logical path diagram of

these hypotheses.
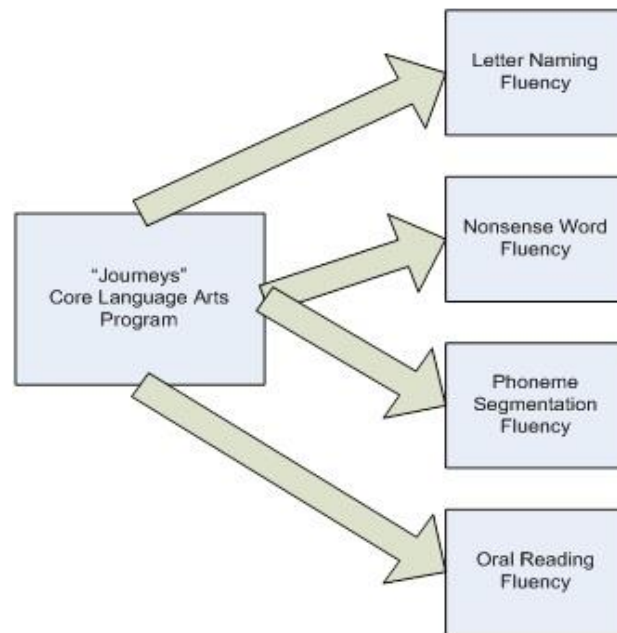
Figure 1. Logical path diagram of the independent and dependent

variables.

    In addition to collection of the curriculum-based measurement

data, information obtained also included the demographics of student

sex and SES. This information was used to test the hypotheses that

typically observed trends in academic achievement related to these

variables should also hold true for the study population.

    In terms of norms used for comparison, in the fall of 2011, the

AIMSweb organization developed national norms representing the

performance of the national student population in grades K through 8.

Schools were selected for participation in the creation of these norms

based on their use of AIMSweb for universal screening, as well as their demographic characteristics in order to develop a nationally representative sample. The resultant sample was a match to the national student population in terms of sex, ethnicity, and socioeconomic status (AIMSweb, 2012c). The normative sample included a large number of students.

In addition to the aforementioned quantitative comparisons, both direct and indirect methods were employed to assess the integrity with which the Journeys program was implemented. For this purpose, direct classroom observations were conducted, teacher self-reports were requested, and permanent product reviews of teacher lesson plans were performed. An overall indication of school-wide intervention integrity was then determined.

Scope

Participants in the study included a cohort of approximately 270 children in grades kindergarten through two from a rural school district in the mid-west region of Pennsylvania. These students, who were instructed with the HMH Journeys (Baumann et al., 2011) core reading program, attend a single elementary school. This school has 14 students for every full time teacher. In the town where the school is located, according to 2009 records, the median income for a household in the borough was $27,972, only a little over half the Pennsylvania state median income for that year (Citydata.com, 2011). The group of student participants were selected during the 2012-13 school year, and were assessed in the fall, winter, and spring by the district with AIMSweb Reading Curriculum Based Measurements (R-CBM) (AIMSweb, 2012b; Shinn & Shinn, 2002) (i.e., the outcome measure).

Additionally, the teachers of the K-2 classrooms were asked to participate in assisting in the documentation of program fidelity.

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They were asked for their voluntary informed consent to allow the researcher to conduct classroom observations, review lesson plans, and collect self-report questionnaires.

Assumptions

1. Teacher lesson plans are being followed as indicated.

2. Program implementation fidelity in years one and two, if documented, would be found similar to that documented in year three (i.e., 2012-2013).

3. All curriculum based measurements conducted with the AIMSweb probes, both in the study school and in the normative control group, were administered according to standardized procedures and were reported accurately.

4. By using the AIMSweb 2012 national normative data as a comparison group, it is assumed that differences in reading programs would be neutralized or balanced out, thereby creating a heterogeneity of reading instructional practices with which to compare the experimental group, which was only exposed to the Journeys reading program.

Limitations

Threats to Internal Validity

It is important to note several limitations of the current study. First, in terms of Mitchell's and Jolley's (1996) and Suter's (2006) discussion of Campbell's and Stanley's recognized Eight Threats to Internal Validity, the threat of history is conceivable in this study. When experimental treatments extend over a period of time, it is possible for extraneous events to occur that in some way affect the outcome. In using the pre-test/post-test nonequivalent group design, the key internal validity concern is the degree to which the groups are comparable before the intervention. In terms of comparing the

similarity of the experimental and control groups prior to intervention implementation, t-tests of mean differences on fall kindergarten measures were conducted. Because a mean ROI was also calculated for each group, taking into account beginning, middle, and end scores, this threat would be avoided.

In a similar vein, while the use of national norms is valuable for comparisons at the national level, questions are raised regarding the study's internal validity. The reason for this lies in the study's lack of random assignment of students to either treatment or control conditions. The proper response to this internal threat is to specify the demographic characteristics of both the control and treatment groups, examining them for symmetry and, if needed, make adjustments to reduce potential bias. This is possible in the present study as demographic characteristics for both the national norm group and treatment group are available.

Correspondingly, this study presents potential threats relative to the quality of the national normative data and its comparability with the treatment group data. More specifically, because the AIMSweb organization selected data for their national norms that were independently gathered by many different schools and districts throughout the United States, it is impossible to ascertain the quality of those data collection procedures and whether these factors, such as time of assessment, administration conditions, adherence to standardized procedures, etc., are consistent with the factors surrounding the administration and collection of data in the study sample.

In terms of the potential internal threat of intervention integrity, if found to be low, it will be impossible to conclude that the intervention actually produced the observed outcomes. Meaningful

determinations, therefore, regarding the intervention effects would not be completed (Roach & Elliot, 2008). In a similar vein, an internal weakness of the study would involve fidelity measures being taken in the third year of program implementation only, with no information pertaining to the fidelity of program implementation in years one and two. It could be assumed that if fidelity is achieved in year three, this may reflect an increased level of integrity when compared with years one and two, given increased familiarity and fluidity with the curriculum over multiple years. Another fidelity-related threat to internal validity would involve the situation if all K-2 teachers do not volunteer to participate in fidelity data collection. The researcher can still access student achievement data; however, the fidelity of the entire K-2 reading program would not be verifiable – an estimate of the population fidelity would then need to be established based the obtained sample.

Additionally, treatment drift could be a threat to the internal validity of the present study. In other words, if teachers change the intervention over time (after documentation of fidelity), the functional relationship would be unidentifiable. This phenomenon may be true for years one or two, as treatment fidelity was established in year three.

Finally, the threat of selection-maturation could threaten the internal validity of the study. As students naturally change over time, those differential group changes (not the treatment) could explain changes in the outcome measures. There is no evidence, however, to suggest that the experimental group would differentially mature or change in a significant manner when compared with the control group.

Although the present study involves applied social research, social interactions threats are not considered to be a major threat to internal validity since the study design uses two groups that are unaware of each other; however, it is possible for natural human interactions to make program effect determinations more difficult.

Threats to External Validity

A sample of convenience was used in this study. For this reason, population validity is a concern for generalizability from the sample to the population.

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Definition of Terms

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1. *Curriculum Based Measurement: C*urriculum based measurement includes "a set of standardized and validated short duration tests that are used by special education and general education teachers for the purpose of evaluating the effects of their instructional programs" (Shinn, 2002, p. 671).

2. *Benchmark:* "A standard that has been correlated to successful outcomes" (Griffiths, Parson, Burns, VanDerHeyden, & Tilly, 2007, p. 221).

3. *Oral Reading Fluency (ORF):* A "measure of passage reading fluency" (Clemens, Shapiro, & Thoemmes, 2011, p. 235) in which passages are selected from curriculum materials, or in this study, AIMSweb measurement probes, and students are asked to read each passage orally for one minute. The number of words read correctly per minute is calculated. This number is the ORF score.

4. *Rate of Improvement* or *Slope:* This refers to the weekly rate of academic progress (Fuchs, Fuchs, & Hamlett, 1993). In terms of AIMSweb measures, it is the spring score minus the fall score (or winter minus fall) divided by 36 weeks (or 18 weeks) (AIMSweb,

2012). In other words, the difference between the beginning
score on the AIMSweb measures and the ending score divided by the
number of assessment weeks. Others contend that this is not a
measure of slope (cf. Ardoin & Christ, 2008; Christ, Monaghen,
Zopluoglu, & Van Norman, 2013).

5. *Early Literacy:* A "description of the knowledge, skills, and
dispositions that precede learning to read and write in the
primary grades (K-3)" (Roskos, Christie, & Richgels, 2003, p. 2).

    a. *Nonsense Word Fluency* – An early literacy curriculum-based
assessment of the AIMSweb system which involves "accuracy
or fluency in reading pseudowords" (Clemens, Shapiro, &
Thoemmes, 2011, p. 232).

    b. *Phoneme Segmentation Fluency* – An early literacy
curriculum-based assessment of the AIMSweb system which
involves fluently and accurately "identifying sounds in
words" (Clemens, Shapiro, & Thoemmes, 2011, p. 232).

    c. *Letter Naming Fluency* – An early literacy curriculum-based
assessment of the AIMSweb system which "measures students'
fluency in letter recognition" (Clemens, Shapiro, &
Thoemmes, 2011, p. 232).

6. *Synthetic Phonics:* "Teaching students explicitly to convert
letters into sounds (phonemes) and then blend the sounds to form
recognizable words" (NICHHD, 2000, p. 8).

7. *Treatment/Intervention Integrity:* The degree to which
interventions have been implemented as designed (Griffiths,
Parson, Burns, VanDerHeyden, & Tilly, 2007).

Summary

In summary, this chapter has described the need for effective
educational programs for the purpose of efficiently improving student

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academic achievement. Central to this issue is the difficulty schools and districts face in selecting effective programs. Despite the great need for improving student academic achievement, there is often a lack of Level III program evaluation research conducted on educational programs and, therefore, little is specifically known about how programs influence learning, leaving schools to hope for the best.

The purpose of the present study was to evaluate the effects of a popular core reading program, Journeys, by HMH. The study compared the ORF and early literacy skills of rural elementary students to those observed in the AIMSweb 2012 national normative sample. The study also examined sex and socioeconomic differences in these variables within the sample of students who were instructed with the Journeys program to more clearly ascertain the manner in which the program may differentially influence student learning.

Included in this chapter are the research questions and hypotheses that were devised from supporting literature, along with assumptions and limitations that may have impacted study outcomes and the ability to generalize findings to the study population. Finally, important operational definitions were presented to clarify terms used in this manuscript, pertinent to the context of the study.

Chapter II

LITERATURE REVIEW

Overview

This chapter provides the theoretical framework for the present study. To begin, an overview and discussion will be presented pertaining to the factors leading to early reading development and oral reading fluency (ORF), in light of the relevance of these issues to the statement of the problem. Next, the Journeys program will be analyzed via comparison with what the literature indicates are important factors in reading instruction and what the Journeys program does. Next, the issue of fidelity of implementation is addressed, revealing its significance in program evaluation. Finally, the manner in which implementation fidelity is addressed in the Journeys program will be discussed.

Overview of Early Literacy Skills

In 1997, the United States congress appointed the National Reading Panel (NRP) to determine what could be done to increase reading proficiency in the elementary and secondary years, including evaluating "…the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read" (NICHHD, 2000, p. 1). Although the panel's meta-analyses yielded vital information pertaining to conventional reading (e.g., vocabulary, fluency, and comprehension), critics have noted that the NRP neglected to assess preschool factors affecting later reading achievement (National Center for Family Literacy, 2008; Shanahan, 2003).

Definition of Early Literacy Skills

To address this gap in the literature, the National Early Literacy Panel (NELP) was assembled in 2002 under the direction of the National Institute for Family Literacy, in order to conduct a

scientific analysis of the research on the early literacy skills of

children age birth to five years or kindergarten for the purpose of

informing educational policy and practice (National Center for Family

Literacy, 2008). The panel's goal was to identify the skills and

abilities of young children that predict later reading, writing, and

spelling achievement, and the programs, interventions, or instructional

methods contributing to gains in these skills or abilities. The

panel's meta-analytic process included 500 research articles that were

examined by the team. The panel contrasted later developing

conventional literacy skills (i.e., ORF, reading comprehension,

writing, and spelling) with precursor, predictive, foundational, or

emergent skills (e.g., letter identification).

Results of NELP's investigation pointed toward six early literacy

skills, or precursor literacy skills, that have medium to large

correlations with later developing conventional literacy skills. These

six variables maintained their predictive power even when other

impacting variables, such as socioeconomic status, were taken into

consideration. These six indicators include: alphabet knowledge (AK),

phonological awareness (PA), rapid automatic naming (RAN) of letters or

digits, RAN of objects or colors, writing letters or writing one's

name, and phonological memory (PM). These predictors of later reading

were defined by the panel as follows:

Alphabet knowledge. "Knowledge of the names and sounds associated

with printed letters" (National Center for Family Literacy, 2008, p.

vii).

Phonological awareness. "The ability to detect, manipulate, or

analyze the auditory aspects of spoken language (including the ability

to distinguish or segment words, syllables, or phonemes), independent

of meaning" (National Center for Family Literacy, 2008, p. vii).

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Rapid automatic naming (RAN) of letters or digits. "The ability to rapidly name a sequence of random letters or digits" (National Center for Family Literacy, 2008, p. vii).

Rapid automatic naming (RAN) of objects or colors. "The ability to rapidly name a sequence of repeating random sets of pictures of objects (e.g., "car", "tree", "house", "man") or colors" (National Center for Family Literacy, 2008, p. vii).

Writing or writing one's name. "The ability to write letters in isolation on request, or to write one's own name" (National Center for Family Literacy, 2008, p. vii).

Phonological memory. "The ability to remember spoken information for a short period of time" (National Center for Family Literacy, 2008, p. vii).

In addition to the six early literacy skills noted above, the panel found an additional five variables that were moderately correlated with at least one measure of later literacy. In contrast to the above six, these five, however, either did not maintain their predictive power when other variables like SES were taken into consideration, or were not evaluated in this manner. Those five potentially significant variables are listed and defined below:

Concepts about print. "Knowledge of print conventions (e.g., left-right, front-back) and concepts (book cover, author, text)" (National Center for Family Literacy, 2008, p. viii).

Print knowledge. "A combination of elements of AK [alphabet knowledge], concepts about print, and early decoding" (National Center for Family Literacy, 2008, p. viii); letter-name knowledge and early decoding skills.

Reading readiness. "A combination of AK, concepts of print, vocabulary, memory, and PA" (National Center for Family Literacy, 2008, p. viii).

Oral language. "The ability to produce or comprehend spoken language, including vocabulary and grammar" (National Center for Family Literacy, 2008, p. viii).

Visual processing. "The ability to match or discriminate visually presented symbols" (National Center for Family Literacy, 2008, p. viii).

In terms of overall findings, several significant conclusions were established. The panel found that, taken together, "…[t]hese 11 variables consistently predicted later literacy achievement for both preschoolers and kindergartners" (National Center for Family Literacy, 2008, p. vii).

Meta-analysis is useful as a means for completing "statistical aggregation and summation of research results" (Carson, Schriesheim, & Kinicki, 1990, p. 233). The most noteworthy limitation, however, involving the process of meta-analysis relates to the quality of the original studies being combined. Because of this limitation, these findings, therefore, according to the panel, should be considered an indication of what may be influencing later reading – not the final or complete word on the matter. Additionally, the panel noted that the findings were the result of combining only published studies. Including non-published studies might provide different results.

Factors Affecting Early Literacy Skill Development

The NELP (National Center for Family Literacy, 2008), in their large-scale meta-analysis of experimental and quasi-experimental research studies, identified several factors affecting the early literacy skills of young children. The panel reviewed studies

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evaluating the impact of several different categories of interventions
on the early literacy and conventional literacy skills of young
children. These groups of interventions included code-focused
interventions, shared reading interventions, parent and home programs,
preschool and kindergarten programs, and language enhancement
interventions.

Results of the meta-analysis suggested that code-focused
interventions (n = 83), which seek to teach children the alphabetic
code and place the greatest importance on learning the relationship
between letters and sounds (i.e., the alphabetic principle; Chall,
1996), typically resulted in statistically significant and moderate to
large effect sizes both for conventional literacy (i.e., reading and
spelling skills) and precursor literacy skills. The effect sizes (ES)
of this group of interventions were statistically significant
(p < 0.05) for all outcomes (i.e., alphabetic knowledge, cognitive
ability, memory, oral language, phonological awareness, print
knowledge, rapid automatic naming, reading readiness, reading,
spelling, and writing). Effect sizes for code-focused interventions
were positive for all outcomes with the exception of cognitive ability,
which had an average negative ES; however, the number of studies in
this group (n = 2) limits the interpretation of these results. The
largest average ES of code-focused interventions was PA (ES = 0.82),
suggesting that children receiving a code-focused intervention scored
0.82 standard deviations higher on PA outcome measures than children
who did not receive a code-focused intervention. The number of studies
included in the meta-analysis and the average ESs of code-focused
interventions on the outcome variables are outlined in Table 1 below.

Table 1

Effect Sizes of Code-Focused Interventions

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Phonological Awareness	51	0.82*
Spelling	15	0.61*
Writing	5	0.61*
Oral Language	16	0.73*
Print Knowledge	5	0.47*
Reading	36	0.44*
Rapid Automatic Naming	8	0.38*
Alphabet Knowledge	24	0.38*
Oral Language	14	0.32*
Memory	9	0.27*
Reading Readiness	3	0.20*
Cognitive Ability	2	-0.41*

* = $p < 0.05$

Additional analyses showed that the strong, significant, and positive

effect sizes for code-focused interventions on the outcomes mentioned

above hold true for both kindergarten and pre-school children when

analyzed separately, regardless of the prior literacy skills of the

children involved in the studies.

As part of the NELP meta-analysis, the code-focused interventions

were separated into four categories: PA training only; PA and AK

training; AK training only; and PA and phonics training. Results

indicated that on the outcome of PA, the highest average ES included

interventions involving PA training only (ES = 0.91); for the outcomes

of AK and reading, the highest average ES was for interventions

involving PA and phonics training (ES = 0.57 and 0.66, respectively);

for oral language, the highest average ES was for interventions

involving AK training only (ES = 0.83); and for spelling, the highest

average ES was for PA training only and PA and phonics training

interventions (both ES = 0.59). Interventions that did not include a

print factor such as PA training only, had a weaker impact upon print-

type outcomes such as AK. Overall, results suggested that

interventions that included PA affected reading and spelling, in

addition to the effect on PA. These findings are noteworthy because

they suggest that it is possible to influence those skills that are

most predictive of later reading for preschool and kindergarten

children.

The panel also examined the impact of shared reading

interventions on young children's early literacy skills. Shared

reading involves an adult (e.g., parent or teacher) reading a book with

a child or group of children. Results of the panel's meta-analysis

showed that shared reading interventions had a moderate effect on young

children's print knowledge. The number of studies included in the

meta-analysis and the average ESs of the shared reading intervention on

the outcome variables are outlined in Table 2 below.

Table 2

Effect Sizes of Shared Reading Interventions

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Oral Language	16	0.73*
Writing	1	0.52*
Print Knowledge	4	0.50*
Phonological Awareness	2	0.11
Cognitive Ability	1	0.10
Alphabet Knowledge	2	-0.06*
Reading Readiness	1	-0.14

* = $p < 0.05$

These data show that the shared reading intervention had the largest

impact on the oral language skills of young children.

Similarly, Mol, Bus, and DeJong (2009) conducted a meta-analysis

to determine the extent of the impact of interactive shared storybook

reading on the vocabulary and print knowledge of preschool and

kindergarten children. Studies included in the meta-analysis were

required to have used a shared reading intervention. The treatment

fidelity was estimated to be "satisfactory" (mean = 85% adherence),

although this was not able to be reliably calculated due to the number

of studies reporting data on this variable. The number of studies

meeting researcher criteria and included in the meta-analysis totaled

31 (N = 2,025 children studied). Results showed that the interactive

shared reading interventions had a moderate impact on oral language

skills (ES = 0.54; p < 0.001), and print knowledge (i.e., alphabet

knowledge, phonological sensitivity, and orthographic awareness). See

Table 3.

Table 3

Effect Sizes of Interactive Shared Storybook Reading

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Oral Language	31	0.54
Expressive Vocabulary	31	0.62**
Receptive Vocabulary	31	0.45**
Alphabet Knowledge	31	0.39*
Phonological Sensitivity	31	0.43**
Orthographic Awareness	31	0.41**

* = p < 0.01; ** = p < 0.001

Thus, according to this meta-analysis, young children's oral

language and print-related skills appear to improve with the inclusion

of interactive shared book reading (teacher reading, large group ES =

0.47; experimenter reading, small group = 0.73; experimenter,

individual ES = 1.40). Interestingly, the greatest impact on oral

language skills was found for experimenters reading to children one-on-

one when compared with reading with small or large groups of children.

Additionally, those studies with higher fidelity scores evidenced

higher effect sizes. Another significant finding was that

interventions implemented for a short period of time (mean weeks =

11.33) had a smaller ES (ES = 0.21) on phonological sensitivity than

those implemented from four months to a school year (ES = 0.60);

however, children's oral language and print knowledge was not

influenced by the difference in duration. These findings are important

given that the outcomes have been shown to consistently predict later

literacy achievement for both preschoolers and kindergartners.

The NELP also examined the impact of home and parenting programs

on the early literacy skills of young children. Their meta-analysis

yielded moderate to large, statistically significant effects on young

children's oral language and cognitive abilities. Nine categories of

dependent variables were analyzed. The number of studies included in

the analysis and average ESs for each variable are listed below in

Table 4.

Table 4

Effect Sizes of Home and Parenting Programs

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Memory	1	1.17*
Cognitive Ability	6	0.92*
Writing	1	0.52*
Oral Language	18	0.37*
Reading	1	0.28
Phonological Awareness	2	0.21
Spelling	1	0.09
Alphabet Knowledge	1	-0.03
Reading Readiness	1	-0.05

* = $p < 0.05$

These findings held true for differences in children's ages and family

demographics (e.g., socioeconomic status). Thus, the greatest impact

for home and parenting programs as an intervention was observed on

memory and cognitive ability.

The NELP meta-analysis also examined the impact of preschool and

kindergarten programs (e.g., Head Start) on the early literacy skills

of young children. The purpose of this analysis was to determine

whether such programs confer upon children an advantage in those

literacy skills that predict later success. Findings indicated that

these interventions resulted in large outcomes for readiness and print

knowledge. Although the effect sizes for other variables were also

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moderate to large, some analyses did not reach statistical

significance. The number of studies included in the meta-analysis and

the average effect sizes for each variable are listed below in Table 5.

Table 5

Effect Sizes of Preschool and Kindergarten Programs

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Reading Readiness	3	1.22*
Print Knowledge	2	0.98*
Reading	9	0.75
Writing	2	0.67
Memory	2	0.47*
Cognitive Ability	4	0.35
Spelling	3	0.34*
Alphabet	4	0.23
Oral Language	12	0.13
Phonological Awareness	2	0.08

* = $p < 0.05$

Thus, preschool and kindergarten program had their greatest impact on

reading readiness and print knowledge.

Finally, the NELP meta-analysis examined the impact of language

enhanced interventions on the early literacy skills of young children.

Specifically, the analysis examined interventions designed to

"explicitly and directly improve young children's language skills, in

terms of vocabulary development, syntactic sophistication, listening

comprehension, and other similar aspects of language development"

(National Center for Family Literacy, 2008, p. 237). The number of

studies included in the meta-analysis and the average ESs for each

variable are listed below in Table 6.

Table 6

Effect Sizes of Language Enhanced Interventions

OUTCOME	NUMBER OF STUDIES CONSIDERED	ES
Cognitive Ability	1	0.85*
Print Knowledge	1	0.81*
Readiness	1	0.62*
Oral Language	19	0.61*
Phonological Awareness	2	0.55*
Rapid Automatic Naming	1	0.54
Reading	2	0.20

* = $p < 0.05$

No differences in the effectiveness of these types of interventions were found for children in terms of socioeconomic status (SES), ethnicity, and population density of where a child resides. One difference in intervention effectiveness concerned the age of the children, with younger children benefitting more from this intervention than older children (ages three to five).

Support for Standards in Early Childhood Education

The importance of developing early literacy skills has been a concern of the Nation for many decades. Beginning in the 1980s, states began developing standards for learning that became frameworks for classroom instruction. During that time, however, early literacy standards were absent from deliberations. In the early 1990s, though, the George H. Bush administration passed legislation that included early childhood education (Grisham-Brown, 2008). In 1998, the National Association for the Education of Young Children (NAEYC), in conjunction with the International Reading Association (IRA), issued a position statement entitled, "Learning to Read and Write: Developmentally Appropriate Practices for Young Children" (NAEYC, 1998). This position statement, endorsed by entities such as Association for Childhood Education International, Association of Teacher Educators, Council for Early Childhood Professional Recognition, and the American Academy of

Pediatrics, as well as several other organizations, summarized the relevant issues in early literacy for the purpose of improving practice and supporting educational policy development over the period of birth through age eight years. The reason for the position statement, as indicated in the report, was the urgent need to teach children to read and write competently, and the notion that this mission "is a shared responsibility of schools, early childhood programs, families, and communities" (NAEYC, 1998, p. 8).

Following this national effort, in 2010, the National Governors Association Center for Best Practices and the Council of Chief State School Officers created the state-led "Common Core State Standards" for grades K-12, in an effort to provide more consistency and clarity concerning what is expected of student learning across the country and "…to ensure that all students, no matter where they live, are prepared for success in postsecondary education and the workforce" (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2012, p. 1). Each state can choose whether or not to adopt these standards. Pertaining to kindergarten literacy, the standards include goals for informational text, literature, and foundational skills (i.e., print concepts, phonological awareness, phonics and word recognition, and fluency).

Presently, across the U.S., all but four states have adopted the Common Core Standards (Association for Supervision & Curriculum Development (ASCD), 2012). The National Association for the Education of Young Children, the leading organization for teacher preparation programs, also developed standards for early childhood higher education programs (NAEYC, 2011) with these purposes in mind.

In Pennsylvania, the Department of Education, State Board adopted the Common Core Standards in July 2010 (Pennsylvania Department of

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Eduation, 2012). These regulatory enforced academic standards pertain

to any organization educating young people and receiving state funds,

and must be used as the source for curriculum and instruction. As of

April 20, 2012 an updated draft has been completed for grades prek-12

(Pennsylvania Department of Education, 2012b). The content of the

draft for early reading corresponds with the Common Core and includes

outcomes for foundational skills, reading informational text, and

reading literature.

Overview of Oral Reading Fluency

Definition

Reading fluency is typically defined as the ability to read text

aloud with speed, accuracy, and prosody (i.e., proper expression)

(Francis et al., 2008; National Reading Panel, 2000). Others, of late,

have questioned the ability of this definition to fully capture the

meaning of the term. For example, Samuels (2007) pondered whether

there was more to fluency of reading than the speed of one's speech

when he asked, "Is speed of barking at print what we mean by reading

fluency?" (p. 563). The author later went on to suggest that "[i]t is

the simultaneity of decoding and comprehension that is the essential

characteristic of reading fluency" (p. 564). Rasinski (2011) defined

reading fluency as "… the ability to simultaneously process written

texts accurately, automatically, with appropriate prosody and

comprehension" (p. 76), and others have also included this

comprehension component in the definition of reading fluency (NICHHD,

2000; Rasinski, 2003). Despite the variations in definition, however,

it is commonly agreed that fluency is the "…essential link between word

analysis and comprehension of text" (Chard, Vaughn, & Tyler, 2002, p.

401). For the purposes of this study, however, when discussing reading

fluency, the implication will be for the speed and accuracy components

of the construct, as these components are relatively easily measured and strongly predictive of reading comprehension (Berninger, Abbott, Vermeulen, & Fulton, 2006; Burns et al., 2011; NICHHD, 2000; Young-Suk, Petscher, Schatschneider, & Foorman, 2010; and Young-Suk, Wagner, & Foster, 2011).

A Critical Component of Good Reading

Reading fluency instruction has been identified as an important part of effective reading education (NICHHD, 2000), as it has been shown to lead to improvements in overall reading achievement (Rasinski, Samuels, Heibert, Petscher, & Feller, 2011). The importance of adequate reading fluency is understood in the context of its close association with reading comprehension – the overall goal of reading, as well as in its ability to accurately predict overall reading achievement and student performance on state-assessments. For these reasons, helping students achieve a level of proficiency in reading fluency is a highly sought-after educational objective.

Prediction of reading comprehension. The National Reading Panel's (NRP) 2000 assessment of the scientific research literature on reading showed that fluency is a critical part of skillful reading and closely tied to reading comprehension. One explanation that has been proposed for this connection between fluency and comprehension is LaBerge and Samuels' (1974) work on the theory of automatic information processing in reading. The theory includes an emphasis on the vital role of attention in beginning reading. Situated at the heart of the task, one's attention alternates between decoding and comprehension. Only one of these activities, however, can be attended to at a time. As reading becomes more fluent, decoding becomes automatic and attention persists with comprehension of text. In other words, individuals have a limited amount of attentional capacity for any given

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cogntive task. It is this *capacity allocation* to the word level that
is minimized in the efficient reader, reserved for the more complex
task of comprehension (Stanovich, 1987). This theory of automaticity
has been used for over 30 years to explain the difficult task of
reading, and has emerged as one of the most dominant theories in
reading because of its explanation of how fluency develops (Schrauben,
2010; Stanovich, 1987).

Several empirical studies have endeavored to ascertain the
relationship between ORF and reading comprehension. In a recent
attempt, Burns et al. (2011) examined the relationship between ORF and
reading comprehension for second grade students from two elementary
schools in Minnesota, in both a rural and urban environment. Eighty-
eight students (*n* = 44 females; 44 males) participated in the study.
The ethnicity of the sample included 3.6% African-Americans, 4.8%
Asian-Americans, 82.1% Caucasians, 8.3% Hispanics, and 1.2% Native
Americans. These participants were randomly assigned to one of four
conditions of reading a grade-level passage containing 0%, 10%, 20%, or
30% scrambled words, and then answering follow-up comprehension
questions. Scrambled words were embedded within passages in order to
systematically slow down the students' decoding, while still
controlling for the reading level of the words used, thus attempting to
control the level of comprehension. In other words, once the scrambled
words were unscrambled and decoded, the child had a good chance of
knowing the meaning of the word; therefore, the experimental procedure
altered the decodability of the text but not the comprehension of the
text as would be the condition if higher text difficulty were used.
Pearson correlations were used to determine the strength of the
relationship between correct answers on comprehension questions and
student ORF score, represented by words read correctly per minute

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(WCPM). A Pearson correlation coefficient of r = 0.54, significant at p < 0.01, was found, suggesting a strong correlation between ORF score and comprehension, according to Cohen's (1988) recommendations.

The second research question in the study by Burns et al. (2011) was related to the minimum ORF necessary for adequate comprehension. Adequate comprehension was defined as 80% or higher. Twenty students demonstrated adequate comprehension and 64 did not. These data resulted in a set point of 63 WCPM needed for adequate comprehension for second grade students.

Similar to the Burns et al. (2011) study, Young-Suk et al. (2011) also examined the relationship between ORF and comprehension, although with first grade students. The participants included a sample of 316 first-grade students from Florida. The sample consisted of approximately equal numbers of males and females, and their ethnic and racial background reflected the population within the district: 60% Caucasian, 25% African American, 4% Hispanic, 4% Asian, and 7% other. The average age of the students was 85 months. Results showed that ORF is a strong predictor of reading comprehension. For example, as part of the assessments administered, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) ORF Passage 1 correlated with the Woodcock Johnson III (WJ-III) Comprehension Subtest with a correlation coefficient of 0.84; DIBELS Passage 2 – 0.83; and DIBELS Passage 3 – 0.83. All were significant at p < 0.01.

In a similar experiment, Berninger, Abbott, Vermeulen, and Fulton (2006) conducted a study of reading comprehension focusing on at-risk second grade readers. Their findings suggested that accuracy and rate of real-word reading and text reading predicted reading comprehension. For example, the Gray Oral Reading Test, 3rd Edition, Oral Reading Rate subtest correlated with the Wechsler Individual Achievement Test, 2nd

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Edition, Reading Comprhension subtest at *r* = .73 (*p* < .001). This is
considered large according to Cohen's 1988 recommendations for
correlation interpretations.

Young-Suk, Petscher, Schatschneider, and Foorman (2010) examined
the relationship between the growth rate/trajectory of ORF from first
grade to third grade, and subsequent reading comprehension. This study
differs from previous studies that have examined only correlations of
time-point data and not growth trajectories. Information from a state-
wide database of the DIBELS was used, which included measures of
fluency. Data from 12,536 individuals were used in the analyses.
Students were evenly distributed with regard to gender, and were
diverse in terms of ethnicity. Sixty-nine percent were eligible for
free or reduced school lunch. Results of the study showed that when
first grade predictors were used, ORF growth rate explained the largest
amount of variation in students' reading comprehension at the end of
first and third grades. On the contrary, when second-grade predictors
were used, the student's initial ORF score (i.e., fall), provided the
most information about second-grade reading comprehension, which, was
most related to reading comprehension in third grade. When third-grade
predictors were used, again, students' ORF in the beginning of the year
was more intensely linked to year-end reading comprehension than was
ORF growth.

These data highlight the notion that ORF growth rate may supply
teachers with necessary information about later reading comprehension.
In other words, in addition to conducting fall assessments, it may be
important to pay attention to rates of improvement (ROIs), mainly in
first grade, in order to determine those at risk for comprehension
difficulties.

Prediction of reading achievement. Just as a student's reading fluency affects his or her reading comprehension, the fluency component also has a profound impact upon a student's overall academic achievement and motivation to learn. Rasinski et al. (2005) reported that overly dysfluent reading is a major weakness for overall reading proficiency. Dysfluency interferes with performance during reading instruction and content area instruction (Al Otaiba & Rivera, 2006). Further, students who read at a very slow pace, even when their comprehension is not affected, are at a disadvantage compared with their classmates reading at typical rates. These levels of performance can easily lead to avoidance of reading tasks and failure to learn through tasks involving reading, because reading has become strenuous and frustrating (Ackerman & Dykman, 1996).

Prediction of performance on state assessments. In this age of accountability, school personnel are concerned with attempting to devise ways for predicting how their students might perform on upcoming high-stakes state assessments. Many research studies, therefore, have examined this issue in relation to the administration of curriculum-based ORF measures (R-CBMs) and how they correlate with state assessments, since the CBMs are conducted frequently and take little time to administer (i.e., from one to three minutes) and score.

Goffreda, DiPerna, and Pedersen (2009) investigated the usefulness of the DIBELS first grade ORF risk categories to predict performance on the TerraNova California Achievement Test (CAT) Assessment and the Pennsylvania System of School Assessment (PSSA) in second and third grades. Sixty-seven first-grade students from a rural, central Pennsylvania school district participated in the study. Forty-four percent of the students were female, and 56% were male. Seventy-eight percent of the students were White, 10% were Hispanic or

Latino, 2% were Black, 1% was Asian American, and 9% belonged to an unknown group. Eleven percent of the students received special education services. A non-experimental design using regression analysis was employed to establish the results. Results suggested that students' first grade ORF risk categories (i.e., at risk, some risk, and low risk) were correlated with the PSSA at a level of 0.54 ($p < .01$); and correlated with the TerraNova at a level of 0.39 ($p < .01$). As per Cohen's recommendations (Cohen, 1988), these scores represent large and medium relationships, respectively, and significantly predicted future reading proficiency on both the TerraNova and PSSA.

Yeo (2010) sought to determine the relationship between CBM and state-wide achievement tests in reading. A multi-level meta-analysis was used to establish the correlation coefficient. A sample of 27 studies were selected that met inclusion criteria. The sample consisted of students in grades one throught eight; however, 11 of the 27 studies focused only on grade three. Fifteen state-wide achievement tests were used and included the following: the Minnesota Comprehensive Assessment, the Ohio Off-Grade Proficiency Reading Test, the Ohio Reading Proficiency Test, the Florida Comprehensive Assessment Tests, the Michigan Educational Assessment Program, the Oregon Statewide Assessment, the Pennsylvania System of School Assessment, the Delaware Student Testing Program, the Colorado Student Assessment Program, the Washington Assessment of Student Learning, the Oklahoma Criterion Referenced Test of Reading, the Arizona Instrument to Measure Standards, the Illinois Standards Achievement Test, the Texas Assessment of Knowledge and Skills, and the North Carolina End of Grade Reading Assessment. In terms of analysis, the correlation coefficient was used as an indicator of effect size, because the selected studies

reported only correlation coefficients between CBMs and statewide

achievement tests. Compared with Cohen's (Cohen, 1988) recommendations

for correlation coefficient interpretation (i.e., small (r = .1),

medium (r = .3), and large (r = .5), the results indicated a large

correlation coefficient for the studied relationship, with a population

correlation of .689. Because CBMs were administered before state-wide

reading tests in the selected studies, the evidence supports the

reasoning that CBM is a valid predictor of reading performance on

statewide reading tests.

Factors Affecting Oral Reading Fluency Development

There are numerous factors that can influence an individual's

reading fluency. These factors can be divided into the following

categorizations: child demographic variables, psychological

constructs, verbal and linguistic constructs, instructional methods,

and early literacy skills.

Child Demographic Variables

Research has attempted to establish relationships between various

child-specific demographic characteristics and reading development.

This group includes child sex, issues of heritability, environment,

socioeconomic status, minority status, and grade level.

Sex. It is clear from the data, that girls outperform boys in

reading (Organization for Economic Co-operation and Development, n.d.).

The most recent results from the Program for International Student

Assessment (PISA) (2009), which included data from 65 countries, showed

that the gender gap in reading was far wider than in either math or

science, with girls outperforming boys in all countries by an average

of 39 points. Compared with the 2000 assessment, the gender gap in

reading widened in some countries, but did not narrow in any country

(Organization for Economic Co-operation and Development, n.d.),

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suggesting that girls' superiority in reading is growing (Lynn & Mikk, 2009).

One of the primary questions in this domain, however, is whether males are more susceptible to reading disabilities when compared with females. Recent studies composed of large samples, ruling out referral biasing effects, have reported an increased prevalence of reading disabilities for males (Chiu & McBride-Chang, 2006; Rutter et al., 2007). Other studies, however, have not come to these conclusions (Shaywitz, Shaywitz, Fletcher, & Escobar, 1990). The reasons for the lack of consensus on this issue appear to be heavily influenced by how one determines the existence of a reading disability (i.e., how it is defined and, consequently, what aspects of reading are assessed); the possible influence of comorbid conditions on reading skills (e.g., writing difficulties); age range of the students studied; and, at times, sampling or referral bias (i.e., males may be referred at greater rates due to their observed tendency to act out). It is important to note, however, that mean achievement score sex differences, do not necessarily imply that sex differences are an underlying cause of individual differences in reading ability (Harlaar, Spinath, Dale, & Plomin, 2005).

Heritability. The prevalence of reading disabilities is higher among families, and we now have a preponderance of evidence that this is due to the fact that families share both genes and environments (Byrne et al., 2009). Several key twin studies have examined the relative influence of genetics on reading and early literacy skills across different developmental stages (Byrne et al., 2002, 2006, 2007, & 2008; Samuelsson et al., 2005 & 2007). It has been well-established via these key studies that differences in reading are at least partially inherited; however, the relative importance of genetics and

environmental factors among individuals with reading difficulties and among the typical range of readers may vary (Byrne et al., 2002).

In addition to the behavioral genetic studies on reading skills, molecular studies have also suggested a genetic link by localizing the genes that affect reading (Fisher et al., 2002; Gaya´n et al., 1999). It appears that the controls over reading skills are both genetic and environmental. Since, however, genetic manipulation is not an option, the only remaining suggestion involves continued environmental support (Samuelsson et al., 2005).

Environment. Reading achievement may be particularly influenced by family-related factors. Chiu and McBride-Chang (2010) studied family characteristics and the link between literacy and learning in 41 countries. The sample consisted of 193,841 15 year olds across 41 countries. The outcomes measure was the PISA reading achievement data (Organization for Economic Co-operation and Development, n.d.). In terms of results, students scored higher on the PISA reading assessment if they had the following environmental characteristics: two-parent households (versus one-parent, no parents, or blended families), native-born students (versus immigrants); households with more books, more cultural possessions, or cultural communication at home; students living in homes without grandparents; students with fewer siblings; and students who were born earlier.

Socioeconomic status. Studies have shown that students from low socioeconomic backgrounds are more likely to experience academic difficulties (Podell & Soodak, 1993). Sirin (2005) reviewed the literature published in journals from 1990 to 2001 in terms of the correlation between socioeconomic status (SES) and academic achievement. This meta-analysis included over 100,000 students and almost 7,000 schools. Overall, correlations ranged from .005 to .77,

with a mean of .29 (*SD* = .19) and a median of .24. The overall effect

size obtained represents a medium level of association, according to

Cohen's 1988 guidelines, with respect to the impact of SES on academic

achievement. Sirin (2005) noted that, of all the meta-analytic factors

analyzed, family SES at the student level is one of the strongest

predictors of academic achievement.

Minority status. Studies have shown that students from ethnic

minority families are likely to experience greater academic

difficulties when compared with students from white families (Podell &

Soodak, 1993). Vanneman, Hamilton, Baldwin Anderson, and Rahman (2009)

report the findings of the National Center for Education Statistics'

2007 study of reading and math achievement differences between black

and white students across the nation. Their findings concluded that,

for both reading and math, white students had higher scores than black

students on all assessments.

Grade level. Experience in school, as reflected by grade level,

has been shown to have an effect on ORF ROIs as reported by Fuchs,

Fuchs, and Hamlett (1993). These researchers examined students' rates

of academic growth when R-CBMs were conducted repeatedly over the

course of a year. ANOVA procedures revealed statistically significant

effects of grade level on ORF slopes, with the average magnitude of the

slope decreasing significantly from grades one through six. In other

words, earlier in the school experience, students showed more growth in

ORF.

Psychological Constructs

Psychological constructs have been shown to influence one's

reading achievement. This group of predictors includes intellectual

ability, short-term/working memory, rapid naming, visual/perceptual

skills, and phonological skills.

Intellectual ability. The presence of a discrepancy between one's intelligence quotient (IQ) and one's reading achievement is the "primary criterion in virtually all states for designating a child as learning disabled" (Stuebing, Fletcher, Branum-Martin, & Francis, 2012, p. 472). IQ tests have traditionally been widely accepted as an index for a child's ability to learn, especially with regard to academic skills. It has been shown that there exist both IQ-discrepant and IQ-consistent poor readers. Stuebing et al. (2002) conducted a meta-analysis involving 46 studies and 301 effects to examine the validity for reifying classifications of reading disabled children based upon the presence or absence of a discrepancy between IQ and achievement. In other words, do children whose reading achievement correlates highly with their IQ score differ in concrete reading disability type or classification when compared with children whose reading skills do not correlate with (i.e., are discrepant from) their IQ. Stated another way, 'are there meaningful differences between IQ-discrepant and IQ-consistent readers' (Stuebing, Fletcher, LeDoux, Lyon, Shaywitz, & Shaywitz, 2002)? Results of the meta-analysis showed that the overall aggregated effect size of .0135 was small for achievement, suggesting there is only a slight significant difference between the IQ-discrepant and IQ-consistent groups in terms of achievement. Within the domain of cognitive ability, an effect size of 0.303 was determined suggesting a small difference between the groups in cognitive ability.

Additionally, in terms of phonological awareness (ES = -0.13), rapid naming (ES = -0.12), verbal short-term memory (ES = 0.10), and vocabulary/lexical skills (ES = 0.10) (i.e., four variables that are known to be closely linked to reading proficiency and poor reading), IQ-discrepant and IQ-consistent groups were not significantly different. In other words, according to results of this meta-analysis,

there appears to be inadequate external validity for differentiation of reading disability based upon the existence or non-existence of an IQ-achievement discrepancy. This does not suggest that overall IQ cannot, in some instances, correlate with reading achievement, especially when the IQ is very low, only that it is not a necessary condition in terms of establishing a reading disability.

In a study conducted by Duckworth and Seligman (2005), correlations between IQ and academic performance variables were at most, medium in degree. For example, the correlation between IQ and final grade point average (GPA) was r = 0.32.

Specifically pertaining to reading achievement, Fuchs et al. (2012) identified cognitive characteristics responsible for, or associated with, the failiure of children to read at the word level. For example, nonverbal reasoning skills in first grade were a significant predictor of reading ability in fifth grade.

Ferrer, Shaywitz, Holahan, Marchione, and Shaywitz (2010) studied the connection between IQ score and reading over time. They found that, in typical readers, reading and IQ are linked over time. For poor readers, the influence of IQ on reading was small over time and significantly different from that observed in the group of typical readers.

Short-term/working memory. It has been suggested that working memory training is an effective treatment for improving cognitive ability and scholastic attainment in children. Melby-Lervåg and Hulme (2012) conducted a meta-analytic review of the evidence. Twenty three studies with 30 group comparisons were included in the review. Results indicated that working memory training programs produced consistent short-term improvement in working memory skills. Transfer effects for verbal working memory were not sustained at follow-up; however, there

was limited evidence that transfer effects might be sustained for visuospatial working memory. Most importantly, the review did not provide convincing evidence of the generalization of working memory training to other skills, such as verbal ability or word decoding.

In terms of working memory training with children, Shipstead, Redick, and Engle (2012) found that working memory training improves short-term memory tasks. Of 11 studies examined, eight reported unequivocal transfer to a working memory task, and 3 reported mixed transfer (i.e., either visuospatial or verbal working memory). Five studies reported the effects of working memory training on academic achievement. Of these five studies, four reported transfer effects to assessments of reading-related skills. More specifically, three studies reported transfer of working memory training to the Wechsler Abbreviated Scales of Intelligence (WASI) Verbal IQ; one study reported transfer to the Wechsler Objective Reading Dimensions (WORD); and one reported transfer of working memory training to reading comprehension skills, but not recognition of spelling errors or spelling ability. Limitations of the studys included similarity of working memory training and transfer tasks (i.e., possibility of task learning); insufficient use of control groups; and non-blinding when subjective ratings of growth were obtained. In summary, because of the lack of consistently applied study controls, meaningful training effects cannot yet be evaluated.

Fuchs et al. (2012) have reported that reading disability is "almost always the result of deficits in phonological awareness, speeded lexical retrieval, and verbal short-term memory" (p. 218). Verbal short-term memory is understood to be an element of the working memory system, in which information is temporarily stored. These authors reported that "Researchers have found that performance on tasks

tapping retrieval in verbal short-term memory contribute unique variance to the prediction of word reading skill, even when controlling for phonological awareness or naming speed" (p. 218). For example, in a study conducted by de Jong (1998) of working memory deficits in children with reading disabilities, results showed that children with reading disabilities performed worse on all measures of working memory than did children who were not reading disabled.

The evidence is ambiguous as to whether the presence of reading disabilities influences working memory or, in contrast, whether working memory affects reading disability development. Results of the two literature reviews presented above suggest that more research is needed in this promising domain.

Rapid naming. As Fuchs et al. (2012) have pointed out, speeded lexical retrieval (i.e., rapid naming) has a unique predictive power for reading disability. Swanson, Trainin, Necoechea, and Hammill (2003), in their meta-analysis of the correlational literature on measures of phonological awarenes, rapid naming, and reading, have defined rapid automatized naming (RAN) as "the ability to name a series of visual symbols, such as colors, pictures, letters, numbers, or words, as quickly as possible with a minimal amount of errors" (p. 408). In this meta-analyis, correlations were anlyzed across 49 independent samples. The average correlation was 0.46 between RAN and real word reading.

Norton and Wolfe (2012), in their review of the ability of RAN tasks to provide insight into the complex cognitive processes supporting fluency in reading, commented that RAN is one of the most robust early indicators of potential reading difficulties. Given that speed and automaticity are both indicators of what it means to be a

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good reader, RAN assessments can identify children who may have a speed deficit in reading.

Visual or perceptual skills. Some have suggested that visual or perceptual deficits contribute to developmental dyslexia (Ben-Yehudah & Fiez, 2008). Oftentimes, individuals with dyslexia complain that the words or letters on the page blur or move around while the individual is trying to read (Stein & Walsh, 1997). These authors have reported that often the binocular control of individuals with dyslexia is poor, thus, the eyes are unsteady and vision is unstable when attempting to view small letters, and errors in reading are, consequently, made.

Pertaining to the relationship between visual skills and reading fluency, Katzir et al. (2006) examined the relative contributions of orthographic pattern recognition to fluent word- and connected-text reading within a sample of 123 second and third grade children with dyslexia. The authors stated that previously, orthographic pattern recognition had been linked to word-reading performance but had not been linked to connected-text fluency. In this study, Pearson correlation coefficients were used to determine relationship strength between variables of interest. Results showed that orthographic pattern recognition, assessed by the Peabody Individual Achievement Test (PIAT), was correlated with the Gray Oral Reading Test (GORT) Rate subtest at a level of $r = 0.41$; and GORT Accuracy subtest at $r = 0.42$ indicating a medium to large association between orthographic pattern recognition and reading fluency.

Further, Ben-Yehudah and Fiez (2008) reported that neuroimaging studies in typical readers "consistently show cerebellar activation in tasks that involve reading" (p. 260). The cerebellum, as we know, is consistently involved in visual processing tasks.

Phonological skills. As has been noted, phonological awareness has predictive power for reading disability (Fuchs et al., 2012). In the meta-analysis conducted by Swanson, Trainin, Necoechea, and Hammill (2003), the correlation between phonological awareness and real word reading was found to be 0.48. Pertaining to the relationship between phonological skills and reading fluency, or fluently reading connected text, Katzir et al. (2006) investigated this association with dyslexic children. The results of their study suggested a small correlation between phonological awareness and reading fluency. The test of phonological awareness (i.e., Elision, which requires the child to repeat a verbally presented word while omitting a sound) was correlated with the GORT – Rate at a level of 0.05.

Verbal and Linguistic Constructs

Verbal and linguistic constructs have been shown to influence one's reading achievement. This group of predictors includes language and speech skills.

Language skills. Hammill and McNutt (1980) defined language as "the ability to understand and use abstract symbols for communication" (p. 269). In their review of the literature, these authors found that measures of oral expressive language have a low, correlation with reading, although the relationship between receptive language and reading was somewhat stronger (listening comprehension, r = 0.39).

More recently, in a study conducted by Fuchs et al. (2012), oral language comprehension in first grade was a significant predictor of reading in fifth grade.

Speech skills. The extant literature provides evidence for a long-term impact of speech impairment on literacy.

In terms of speech perception, Robertson, Joanisse, and Ng (2009) studied speech perception in school-age children with dyslexia.

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Participants included 14 children with dyslexia from London, Ontario Area Schools. Results showed that poor speech perception was generally not observed in the sample of children with dyslexia.

In terms of speech production, Hammill and McNutt (1980), in their literature review of the relationship between language and reading, found only a weak correlation between measures of speaking and reading (e.g., meaningful speaking r = 0.25).

More recently, Overby, Trainin, Smit, Bernthal, and Nelson (2012) used archival data to study the relationship between the speech-sound production skills of kindergarten students and literacy outcomes in grades one through three. The sample involved the use of an archival data set of 272 kindergarteners. Speech sound production was measured in kindergarten, and reading skills were measured in grades one; while, spelling skills were measured in grades two and three. Results indicated that kindergarten speech-sound production correlated with first grade reading at a level of 0.438 (p < .01). Several groups of participants, however, had different outcomes. For example, kindergarten students with speech-sound production at the seventh percentile, had below average literacy outcomes; those with speech-sound production at the 15th/30th/50th percentile ranks had average literacy outcomes; and those at the 98th percentile rank, showed superior literacy outcomes. This study coincides with earlier studies (Leitao & Fletcher, 2004) that have also suggested an association between expressive speech impairments and reading skills.

Instructional Methods

The National Institute of Child Health and Human Development (NRP, 2000) reported that it is commonly agreed upon that fluency develops from practicing reading. The issue that had not been determined, however, was the specific nature of the reading practice

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that produced the most favorable results. The NRP conducted a meta-analysis of the research on the two most common instructional practices pertaining to the improvement of reading fluency: repeated oral reading practice and formal efforts to increase the amount of silent or recreational reading (e.g., sustained silent reading).

Repeated oral reading. Kostewicz (2012) states that repeated oral reading practices generally refer to having a student read a grade-level passage multiple times until a fluency goal is reached. The NRP's examination of 77 studies involving this practice determined that repeated oral readings had a moderate positive impact on word recognition, fluency, and comprehension (National Institute of Child Health and Human Development, 2000). The weighted average effect size for this intervention was determined to be 0.41 suggesting that the treatment group mean score averaged about 0.41 standard deviations higher than the mean of the control group for this intervention. The effect sizes of the intervention, however, varied by outcome with an average ES of 0.55 for word reading accuracy; 0.44 for fluency; and 0.35 for comprehension.

More recently, Therrien (2004) conducted a meta-analysis to determine a more thorough description of the necessary instructional components of repeated reading and its effect on fluency and comprehension. The author identified 18 studies from 1977-2001 meeting inclusion criteria. Results showed that repeated reading improved the reading fluency and comprehension of students with and without learning disabilities. On non-transfer outcome measures (i.e., measures specifically selected to assess the effects of the intervention), the mean effect size of the intervention was 0.83 for fluency, and mean comprehension ES increase was 0.67. For transfer measures (i.e., other related measures, such as state assessments, that were not directly

selected to assess the intervention effects, and onto which skills are expected to "transfer" over), the mean effect size was 0.50 for fluency, and mean comprehension ES was 0.25. Some critical instructional distinctions of effective repeated reading included (a) having students read aloud to adults, when compared with reading to peers, (b) having students read the passage three to four times, (c) cuing students before reading to focus on a specific aspect such as speed or comprehension, and (d) providing corrective feedback during or after repeated reading.

Increasing the amount of reading. The NRP (NICHHD, 2000) also attempted to examine the effects of the instructional practice of increasing independent and recreational reading on fluency. Relatively few quality studies on this subject were identified. As a result of this, a meta-analysis was not conducted. The studies that were identified, however, examined the impact of independent reading on overall reading, rather than on reading fluency. In addition, most failed to identify a positive relationship. Moreover, few studies monitored the amount of reading students actually did, which was problematic in establishing the internal validity of the studies. Thus, the NRP's analysis did not establish evidence for the effectiveness of this practice in promoting fluency.

More recently, Mol and Bus (2011) conducted a meta-analysis to examine the association between print exposure and components of reading. Within this study, a total of 99 studies were selected (N = 7,669) that examined the effect of leisure reading on the reading skills of three groups of students: preschoolers and kindergartners; children in grades one through 12; and college students. The primary inclusion criterion involved the necessary incorporation of a print exposure checklist, which is a measure that is thought to be an

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objective indicator of reading volume. Twenty-nine (N = 2,168) of the studies involved preschool and kindergarten children, while 40 studies addressed children in grades one through 12 (N = 2,792). For the preschool/kindergarten group, effect sizes for the impact of print exposure on the *Basic Reading Composite* were moderate and ranged from 0.27 - 0.30; for alphabet knowledge, the ES was estimated at 0.26; and for phonological processing, the ES ranged from 0.27 - 0.28. All effect sizes were significant at p < .001. For the group in grades 1 – 12, overall, print exposure was moderately related to oral language skills (ES = 0.49), reading comprehension (ES = 0.38), basic reading skills (ES = 0.23), and word recognition (ES = 0.40).

Based on the results of this meta-analysis, and on Cohen's (1988) rules of thumb regarding effect size interpretation, it appears that print exposure, in the form of leisure reading, has a medium effect on word recognition – one of the basic components of fluency. Fluency as an outcome, however, was not specifically assessed.

Students with learning disabilities. Chard, Vaughn, and Tyler (2002) sought to determine the extent to which fluency interventions are beneficial to readers classified as having a learning disability, citing that despite evidence describing the effectiveness of interventions for the typically developing child, it is unclear how these pertain to those who struggle with reading. The authors reported findings spanning the last 25 years which were based upon the consideration of 24 studies. Selected studies included those in which students with learning disabilities were participants. Results suggested that effective fluency interventions for struggling readers include repeated reading opportunities, an explicit model of fluent reading, and established performance criteria for increasing text difficulty.

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Early Literacy Skills

Results from the NELP's 2008 meta-analysis suggested that six early literacy skills have medium to large correlations with later-developing conventional literacy skills, such as reading fluency. Those six skills are alphabet knowledge, phonological awareness, RAN of letters or digits, RAN of objects or colors, writing letters or writing one's name, and phonological memory.

Five additional skills were also moderately correlated with at least one measure of later literacy. These five, however, either did not maintain their predictive power when other variables were taken into consideration, or were not evaluated in this manner. These five include concepts about print, print knowledge, reading readiness, oral language, and visual processing. Taken together, "these 11 early literacy skills consistently predicted later literacy achievement for both preschoolers and kindergartners" (National Center for Family Literacy, 2008, p. vii).

Curriculum Based Measurements in the Assessment of ORF

Shinn (2008) reported that CBMs, such as those used to assess ORF, were developed by Stanley Deno and others more than 25 years ago to give teachers more simplistic tools with which to write goals and monitor progress. Since that time, use of CBM has expanded to incude both special education and general education instructors, and school psychologists, in particular, as indicated in *A Blueprint for Training and Practice* (Ysseldyke et al., 2006).

Currently, the recommended best practice for using CBM, in addition to individual use for problem-solving, is proactively for all children in benchmarking through universal screening to identify those at risk for academic failure or those with a potentially severe educational need, and for progress monitoring to assess educational

benefit from interventions and instruction (Shinn, 2008). Shinn also

states that, in contrast to previous years, "changes in knowledge and

changes in educational law and policies have made it a standard tool in

data-based decision making for all students in the basic skill areas"

(p. 258).

Because of such widespread adoption of these assessments, it is

difficult to know for sure how many schools across the country are

using R-CBMs. For example, the DIBELS R-CBM, are available for free

download and cannot, therefore, be tracked for usage data. The company

(Dynamic Measurement Group, 2012) has reported that at least one

district in each state in the U.S. is using DIBELS R-CBM, and some

states incude every district (K. Bravo Aguayo, personal communication,

August 15, 2012).

Summary of the Literature on Early Literacy Skills and ORF

Based on this review of the literature covering early literacy

skills and ORF, it is apparent that the converging evidence indicates

that no one variable is responsible for the development of basic

reading skills, but rather that the circumstances are better explained

by a multi-factorial etiology involving both personal, environmental,

and instructional variables.

In terms of early literacy, the literature has shown that these

six variables strongly correlate with later reading skills: alphabet

knowledge, phonological awareness, RAN of letters or digits, RAN of

objects or colors, writing letters or writing one's name, and

phonological memory. The following five were moderately correlated

with at least one measure of later reading: concepts about print,

print knowledge, reading readiness, oral language, and visual

processing. In terms of instruction, code-focused interventions had

the greatest impact on phonological awareness; shared reading

interventions had the largest impact on oral language; home and parenting programs had the largest impact on memory and cognitive ability; preschool and kindergarten programs had the greatest impact on reading readiness and print knowledge; and language-enhanced interventions had the greatest impact on cognitive ability and print knowledge.

In terms of ORF, expressive speech impairments have been moderately correlated with reading skills, especially when a child is below the 15th percentile rank on speech assessments. In terms of instructional practices, repeated oral reading has been shown to improve ORF both for typically developing students and those with learning disabilities. Print exposure, in the form of leisure reading, has been shown to improve word reading, one component of reading fluency. Effective fluency interventions for struggling readers include repeated reading opportunities, an explicit model of fluent reading, and established performance criteria for increasing text difficulty.

Analysis of the Journeys Reading Program

Overview

The Houghton Mifflin Harcourt (HMH) Journeys program, developed by Templeton, Fountas, Vogt, Chard, and Pikulski, is a comprehensive reading, writing, and language arts curriculum for kindergarten through grade six (Houghton Mifflin Harcourt, 2011). The reading series integrates the five critical components of reading (i.e., phonemic awareness, phonics, fluency, vocabulary, and comprehension) and reflects the Common Core Standards.

Core Program Materials

The key resource for teachers is the Teacher's Edition, a complete guide for whole group, small group, intervention, and English

language learner instruction. This manual also includes resources
needed for assessment and core instruction. It explains why, how, and
when to use the methods and strategies of the program. There are 30
lessons per grade level. The key resources for students in grades one
through six are the Student Book and the leveled readers. The Student
Book includes the core and paired reading selections, as well as
lessons for comprehension, grammar, writing skills/strategies, and
building collaboration and communication. Leveled readers are
selections that support each reading lesson. These stories include the
focused vocabulary words and targeted reading skills.

Early Literacy Instruction in Journeys

Journeys reading program materials address the following early
literacy skills on a daily and weekly basis: letter names, vocabulary
strategies, phonemic awareness, phonics, listening and speaking, print
exposure, and concepts of print.

The following are examples of how Journeys addresses these skills:

- Letter Names – preview the ABC's (e.g., alphabet songs or
  chants); teach/model (e.g., display letter cards); guided
  practice (e.g., hold up letter cards; have the children name the
  letters; apply (distribute letter cards to children; have
  children complete an activity with the cards)

- Vocabulary – use of oral vocabulary, high-frequency words,
  environmental print, and synonyms; teacher pauses to explain each
  vocabulary word; teacher discusses their meanings in the story

- Phonological/Phonemic awareness – using instruction of high-
  frequency words, the teacher uses cards with a word such as
  "like"; children say the word, spell the word aloud, write the
  word, and listen to each sound in the word; learning beginning

sounds; blending words; building words; segmenting
words/syllables/phonemes

- Phonics – teaching letter sounds (e.g., /m/)

- Listening/speaking – explain that asking questions while reading
  helps children understand what is being read; ask questions;
  allow children to respond; children predict, through classroom
  discussion, what they think the story is about; have children
  read silently and then choral read-aloud

- Print exposure - teacher reads aloud – story is different each
  week

- Concepts of print - understanding physical characteristics of
  books (e.g., left to right writing, etc.)

- Writing letters/name – writing words; leaving spaces between
  words; space-man; legible printing; guided writing; tracing
  letters; labeling images; shared writing; writing captions

Oral Reading Fluency Instruction in Journeys

Journeys reading program materials address ORF on a daily and
weekly basis. The following are examples of how Journeys addresses this
skill: Fluency – teacher models reading with expression, phrasing,
intonation; students practice reading with expression, accuracy,
intonation; teacher instructs students to pause for punctuation;
reminds the children to track the words from left to right; independent
silent reading; repeated oral reading; echo reading (i.e., read a
sentence or phrase to the student with fluency and expression and have
the student read the same section after the teacher finishes); and
partner reading.

Comparison of the Literature on Reading with Journeys

Early Literacy Instruction

A thorough review of the early literacy literature has indicated that the following six early skills correlate highly with later reading skills: alphabet knowledge, phonological awareness, RAN of letters or digits, RAN of objects or colors, writing letters or writing one's name, and phonological memory. The NELP found an additional five variables that were moderately correlated with at least one measure of later literacy: concepts about print, print knowledge, reading readiness, oral language, and visual processing. Taken together, these 11 variables consistently predict later conventional reading skills. A review of the Journeys program materials shows evidence of addressing many of these variables.

The following are a listing of 7 of the 11 aforementioned early literacy skills that have been shown to predict later reading, which are routinely taught or addressed in the Journeys daily or weekly lesson plans: alphabet knowledge, phonological awareness, writing letters/names, concepts about print, print knowledge, reading readiness, and oral language.

Those early skills which were shown to predict later reading, but are not addressed by the Journeys program include RAN of letters or digits, RAN of objects or colors, phonological memory, and visual processing. These four skills pertain more to psychological constructs/skills which are not easily instructed in the typical classroom.

Oral Reading Fluency

A thorough review of the literature on the essential characteristics of ORF instruction has indicated that the instructional method of repeated oral reading correlates highly with improved skill

in ORF for students with and without learning disabilities. The
Journeys program uses this strategy as an instructional tool to improve
students' ORF.

<div align="center">**Intervention Integrity Overview**</div>

Definition

Fidelity of implementation, or intervention integrity, has
historically been defined as the level of agreement between the actual
delivery of an intervention and the intended plan for that delivery.
Stated another way, it is the degree to which important components of
an intervention are actually present during delivery (Gearing et al.,
2011; Gresham & Gansle, 1993; U.S. Department of Health and Human
Services, 2002). The terms intervention (or treatment) integrity,
treatment fidelity, and procedural reliability are often used
interchangeably to describe this concept (Roach & Elliot, 2008).

Role of Intervention Integrity in Curriculum Intervention Research

O'Donnell (2008) and Mowbray, Holter, Teague, and Bybee (2003)
report that consideration of intervention integrity in program
evaluation dates back 30-35 years; however, it is a relatively recent
phenomenon in K-12 curriculum intervention research. Hagermoser-
Sanetti and Kratochwill (2005) report that documentation of
intervention integrity is supported by many groups, including the U.S.
federal government (U.S. Department of Education, 2001), consumer
groups, and insurance companies. It is not surprising, then, that
evaluation of this construct, and its subsequent linking to evaluation
outcomes, has come to be recognized as a best practice in the field of
school psychology (Roach & Elliot, 2008).

Fidelity of implementation assessment is a critical component of
curriculum research studies for several reasons. To begin, assessment
of intervention integrity in an effectiveness study, and empirically

relating it to outcomes, is necessary to ensure the study's internal validity (Hohmann & Shear, 2002; Mowbray et al., 2003; O'Donnell, 2008). If a study obtains negative or inconclusive outcomes, having information pertaining to the level of implementation of the intended model can help explain these findings and clarify whether they were the result of a "failed" program, or a failed implementation of the program (Mowbray et al., 2003). Likewise, well-developed measures of fidelity can promote external validity by providing documentation and guidelines for replication projects.

Furthermore, when comparing treatments, having fidelity data can reduce confounding by assuring the researchers that the treatment is really absent in the control condition. In this way, having fidelity data can provide a rationale for excluding sites that have deviated from the intended prescription (Mowbray et al., 2003). Moreover, having fidelity data can enhance the statistical power of a study (Mowbray et al., 2003).

Addditionally, a review of the literature has revealed a range of moderate correlations between the degree of intervention integrity and measured outcomes (Roach & Elliot, 2008). Gresham, Gansle, Noell, Cohen, and Rosenblum (1993), in a study of treatment integrity of school-based behavioral intervention studies between 1980 and 1990, found a significant relationship between effect size and percent treatment integrity (Pearson correlation coefficient, $r = 0.51$, $p < .05$). In a similar analysis, Noell et al. (2005) examined teachers' implementation of treatment plans following consultation. Results showed a moderate correlation ($r = 0.44$) between level of intervention integrity and student behavior change.

Finally, as the use of the Response to Intervention (RTI) model in the classification of Specific Learning Disabilities in the

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educational system becomes increasingly widespread, a foundational concern and diagnostic consideration is the extent to which research-based interventions were implemented as intended (Kovaleski, 2007). A child cannot be determined to have a Specific Learning Disability if it has not been shown that interventions were delivered with a high degree of fidelity to prescribed protocols.

Ignoring the Independent Variable

Although the literature has demonstrated the importance of intervention integrity assessment, and has shown a direct correlation between the level of implementation fidelity and intervention outcomes, strangely there exists a peculiar situation whereby the dependent variable in research studies in the social and educational sciences is closely attended to, and the independent variable is often fairly ignored. This noticeable bias has resulted in a loose, or even nil, consideration for adherence to the details of interventions.

Gresham et al. (1993) examined the treatment integrity of school-based behavioral interventions between 1980 and 1990. Of the 181 experimental studies examined, only 64 studies (35%) provided an operational definition of the treatment, and only 27 of the 181 (14.9%) systematically measured and reported fidelity data. The level of treatment integrity based on these 27 studies ranged from 75-100% (*M* = 96.92%; *SD* = 5.51%).

Similarly, Peterson, Homer, and Wonderlich (1982) examined articles in the Journal of Applied Behavior Analysis that were published from between 1968 and 1980. They reported that in the majority of their studies, when the independent variable was operationally defined, no accuracy checks were made to see that it was used as defined. The authors found that in 10-50% of the articles, operational definitions were not presented when necessary. Among the

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examined studies that did include operational definitions, only an average of 16% also performed some verification on the accuracy of the implementation of the independent variable. This number coincides with the 14.9% obtained by Gresham et al. (1993).

Establishing Intervention Integrity

A review of the intervention integrity literature reveals that both direct and indirect methods should be used to determine treatment fidelity in any program evaluation study (Hagermoser-Sanetti, 2008; Roach & Elliot, 2008). This can include a combination of direct classroom observation, teacher self-report, and permanent product reviews. These data should then be integrated to establish a comprehensive representation of intervention integrity (Roach & Elliot, 2008).

In their review of the public health literature, Dane and Schneider (1998) identify five facets that should be considered in any thorough assessment of treatment integrity: adherence, exposure, quality of delivery, participant responsiveness, and program differentiation. Direct classroom observations, teacher self-report, and permanent product review can address the fidelity issues described by these authors.

For example, the adherence issue, or "the extent to which specific program objectives are implemented" (Power et al., 2005, p. 497), can be directly observed in the classroom; exposure, or the number, length, frequency, or duration of the intervention sessions (Dane & Schneider, 1998), could be observed or asked of the teacher and then compared with the intention of the program materials; program differentiation, or "the extent to which essential program components are implemented and extraneous components are excluded during implementation" (Power et al., 2005, p. 497), could be accomplished by

examining the curriculum components and documenting them through observation, while confirming that unrelated components were excluded; quality of delivery, or "the quality of the interventionist's delivery of the program" (Power et al., 2005, p. 497) could be directly observed; and participant responsiveness, or "the level of participants' engagement in the intervention" (p. 497) could also be determined by direct observation.

If no program-specific fidelity checklists exist for the program under evaluation, researchers can create their own observation forms using guidelines from Gresham et al. (1993). These authors suggest the following:

1. Operationally define the specific components of the proposed intervention.

2. Use direct observation to measure the occurrence/nonoccurrence of each intervention component.

3. Determine the level of integrity by summing the number of components implemented correctly and dividing by the total number of components.

4. Use these data to produce two different estimates of integrity:

   a. Session integrity – the mean percentage of intervention components implemented during each observation session

   b. Component integrity – the percentage of observation sessions in which each distinct component is implemented correctly

In terms of interpreting treatment integrity data, Perepletchikova and Kazdin (2005) suggest two benchmarks for interpreting integrity of implementation: 80-100% of components = high level of integrity; below 50% = low integrity. Gresham (2009),

however, states that, "We have no reliable database to guide us in deciding what are the optimal levels of treatment integrity" (p. 537).

Although previous studies have found teacher self-reports of treatment integrity to be inflated when compared with actual practice, Hagermoser-Sanetti and Kratochwill (2009) in their study, found that teachers were highly accurate reporters of implementation. A combination of methods, is therefore, recommended.

A High Level of Fidelity

A review of the fidelity literature revealed certain aspects of curricular program adoption and implementation that have been shown to facilitate an increased adherence to the intended program components. Glover and DiPerna (2007) have reported that researchers have attempted to establish which factors are likley to promote or discourage the implementation of evidenced-based interventions in schools. The authors list three primary factors which have been recognized in the literature as being related to teachers' implementation of interventions. They include acceptability, training, and support.

Acceptability. Cowan and Sheridan (2003) cite Kazdin (1980) in their definition of treatment acceptability as the judgments about treatment procedures by consumers of treatment and treatment agents as to whether the treatment is fair, reasonable, or intrusive. This is the idea that if the implementing agent (i.e., teacher) does not accept the intervention, then treatment integrity may suffer (Cowan & Sheridan, 2003).

Glover and DiPerna (2007), however, suggest that although the notion of acceptability is intuitively appealing, the evidence for its relation to treatment integrity is based on analog studies. They have reported that a more significant concern regarding treatment integrity involves the training provided to the interventionist.

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Training. The manner in which the intervention agent is trained has an impact on the level of intervention implementation (Glover & DiPerna, 2007). In a study conducted by Sterling-Turner, Watson, Wildmon, Watkins, and Little (2001), clinicians demonstrated higher levels of treatment integrity when they were trained through direct training methods (i.e., modeling – the implementation was first demonstrated before use; rehearsal/feedback), when compared with clinicians trained by a didacdic method only (i.e., a verbal explanation of the intervention).

Support. The level of support provided to the interventionist is also thought to have an impact upon the level of implementation of an intervention (Glover & DiPerna, 2007). Noell et al. (2005) examined teachers' implementation of treatment plans following a consultative session. Three experimental conditions included: brief weekly interviews, weekly interviews combined with an emphasis on the commitment to implement the treatment, and performance feedback. When compared with the two other conditions, performance feedback was associated with superior treatment implementation (averaging around 80%). Performance feedback consisted of meeting briefly with the teacher, reviewing the intervention permanent products, graphing student behavior, and graphing and reviewing intervention implementation. The consultant provided positive feedback regarding steps that were completed, and identified steps that were omitted or incorrectly implemented. The consultant and teacher also discussed the importance of any skipped steps, talked about future implementation, and scheduled the next meeting.

The experimental condition that had the least impact, averaging approximately 40%, on intervention integrity involved weekly interviews. This involved a brief meeting between the consultant and

the teacher that included an interview in which the consultant asked about the extent to which the intervention was implemented that week, how much the student was improving, and if the teacher had any questions or concerns. Materials were not reviewed unless the teacher specifically asked for this, and no integrity information was reviewed.

Summary of the Research on Intervention Integrity

Intervention integrity has been defined as the degree to which important components of an intervention are actually present during delivery. Consideration of intervention integrity in program evaluation research has spanned approximately three decades; however, it is a relatively recent phenomenon in curriculum intervention research, even though it is considered by many professional organizations to be a critical component of, and best practice in, education.

There are many reasons why it is important to assess the fidelity of implementation of a curricular intervention. As has been discussed, having a high level of fidelity enhances the internal and external validity of the study; reduces confounding; enhances statistical power; improves outcomes; and is necessary in using Response to Intervention for classifying Specific Learning Disability. Unfortunately, evidence indicates that the independent variable in the educational and social sciences is often fairly ignored, resulting in a loose consideration for adherence to prescribed treatment details. More diligence must, therefore, be taken with regard to the assessment of this important construct. The literature has shown that both indirect and direct methods should be used to establish the integrity with which an intervention is carried out. Further, one should consider the facets of adherence, exposure, quality of delivery, responsiveness, and program differentiation. If no program-specific checklists exist, the

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researcher can create his or her own through guidelines given in the literature. The literature suggests that a high level of fidelity to the prescribed intervention can be produced when certain situations are created. These consist of teacher acceptability, proper training, and high quality support. Teachers should view the intervention as fair, reasonable, and non-intrusive; should be trained through direct methods such as modeling and rehearsal/feedback, as opposed to didactic methods (i.e., verbal explanation only); and should receive support that emphasizes performance feedback, such as graphing intervention implementation.

Journeys' Attempt to Ensure Fidelity

In a personal communication with the local Journeys sales representative (D. Stone, personal communication, August 25, 2012) it was noted that, Journeys customizes their training packages for each school district to meet their specific needs and requirements. Likewise, they partner with school districts to evaluate the curriculum, the instructional methods, the assessments/data collection methods and even delve into the population demographics to determine the needs of the students and staff. Journeys trainings, therefore, are a routine part of the purchasing of these materials.

Training Content

In a conversation with representative of the Journeys program, the following topics are routinely covered in training (D. Stone, personal communication, August 25, 2012):

1. Exploration of the Teacher's Edition and Teacher's Resources for:

    a. Lesson Planning

    b. Integrating Support Materials for Differentiation

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        c.   Assessments (both national and state standards and the Common Core enhancement package)

2.   Exploration of the Student Resources for:

     a.   Focusing the Lesson at individual reading levels

     b.   Motivating Students at their interest levels

     c.   Involving the Parents for in-home instruction

3.   Exploration of the Digital Resources:

     a.   How to access

     b.   How to navigate

     c.   How to use the management system

Additionally, Journeys provides online training as a follow-up to the initial training received by a district. The Journeys program provides a website (http://www.hmhelearning.com/reading/journeys/primary/ default.php) through which teachers can learn how to teach the lessons contained in the program materials, thus increasing program fidelity.

Linking the Research on Intervention Integrity

This section will discuss the manner in which the literature on fidelity of implementation corresponds with the present study design and the Journeys program.

Assessment of Fidelity

As discussed previously, the literature has shown that both indirect and direct methods should be used to establish the integrity with which an intervention is carried out. Further, one should consider the facets of adherence, exposure, quality of delivery, responsiveness, and program differentiation. If no program-specific checklists exist, the researcher can create his or her own through guidelines given in the literature. In the present study, program-specific checks did not exist; therefore, the researcher has created her own according to the guidelines set forth by Gansle et al. (1993).

That has included the following as suggested in the literature: operationally defining the specific components of the proposed intervention; using direct observation to measure the occurrence/nonoccurrence of each intervention component; determining the level of integrity by summing the number of components implemented correctly and dividing by the total number of components; and using the data to produce two different estimates of integrity: session integrity and component integrity

Enhancing Teachers' Adherence to the Prescribed Treatment

The literature suggests that a high level of fidelity to the prescribed intervention can be produced when certain situations are created. These consist of teacher acceptability, proper training, and support. Teachers should view the intervention as fair, reasonable, and non-intrusive; should be trained through direct methods such as modeling and rehearsal/feedback, as opposed to didactic methods only; and should receive support that emphasizes performance feedback, such as graphing intervention implementation.

Training in Journeys

In the summer of 2010, the experimental district, which is the focus of the present study, underwent two days of training by the HMH company. The first day included how to use the program materials, while the second day covered how to incorporate the assessments (C. McCauley, personal communication, August 26, 2012).

In terms of training method of delivery for the experimental school, the Journeys representative initially used a didactic approach to explain the program components and the corresponding ancillaries, subsequently modeling them for the teachers and discussing their relative importance to the program. There would have been ample time for discussion / teacher feedback to address issues specific to the

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school district. The teachers, however, did not have a major role in this training (i.e., demonstrating their knowledge of the program through role play or presenting a model lesson). The technology portion of the training was a hands-on exploration through set-up in a computer lab for a thorough review of ThinkCentral – the digital portal for Journeys (D. Stone, personal communication, August 25, 2012). The modes of training, therefore, incorporated didactic, modeling, and rehearsal/feedback methods.

Support for Using Journeys

The staff at the experimental school receives support for intervention implementation through online use of the Journeys Internet-based support system and also through periodic principal "walk-throughs". These walk-throughs, however, do not rise to the level of being considered "performance feedback" in that they do not contain a measure of implementation fidelity that is then shared with the teacher. The walk-throughs involve more of a brief classroom observation by the principal, and subsequent discussion with the teacher, whereby the principal asks questions regarding implementation of program components and questions about other classroom related issues. Thus, the support is more broadly supportive of the teacher and his or her needs, and less narrowly focused on supporting the curricular implementation.

<div align="center">Summary</div>

The foregoing discussion provided an overview of the research on early literacy skills and ORF and their prediction of future reading success. Also reviewed was the importance of treatment fidelity and its relation to study outcomes. More specifically, abundant research exists which explores both the early literacy skills and ORF of students and the relationship of these to later reading comprehension

outcomes, reading achievement, and performance on state assessments. Furthermore, the treatment integrity research suggests that having a high level of fidelity enhances the internal and external validity of the study; reduces confounding; enhances statistical power; improves outcomes; and is necessary in using Response to Intervention for classifying Specific Learning Disability. Furthermore, a thorough review of the literature has shown that a high level of fidelity to the prescribed intervention can be produced when particular situations are created.

CHAPTER III

METHODOLOGY

Introduction

The present study utilized archival student data to examine the effects of a core reading program on K-2 student reading achievement. This study also analyzed qualitative confidential teacher data in an assessment of intervention integrity. The AIMSweb Curriculum Based Measurements (CBMs) (AIMSweb, 2012) of early literacy skills and oral reading fluency (ORF) were employed as the outcome measures. These AIMSweb scores of the study sample were then compared to the AIMSweb 2012 National Norms, in terms of mean score and slope of improvement, to determine how the reading achievement of the sample instructed with the Journeys reading program compares with student achievement across the country.

The remainder of this chapter serves to illustrate the methods and procedures applied in this study. The setting, population, and sample are defined and sampling techniques are explicated. Additionally, research instrumentation involved in data analysis is explained, and the procedures used to obtain and analyze the data are discussed. Finally, research design and statistical analyses are presented.

Setting

The setting of the present study included one elementary school in a rural Midwestern Pennsylvania school district. This elementary school serves students in kindergarten through second grades.

Subjects

Population

The population of interest included elementary students in grades kindergarten through two. This age group was selected given the

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interest in ascertaining the manner in which the Journeys program impacts early reading development. In addition, this age range encompasses a pure sample of students in the sample who have been instructed only with the Journeys reading program and not with the program implemented by the school district in the year prior to Journeys' initial implementation (2010-2011).

The population of interest also included elementary school teachers of grades kindergarten through two. This population was selected given the purpose of assessing the fidelity with which the Journeys program was implemented in K-2 classrooms.

Student Sample

Students were identified for participation in the present study if they were (a) in grades k-2, and (b) receiving reading instruction via the Journeys reading program. All participating students were enrolled in a rural mid-western Pennsylvania elementary school. The census data from 2010 (City Data, 2011) provided the following statistics: the school town population was 989; estimated median household income for 2009 was $27,972 (a little more than half that of the state of Pennsylvania - $49,520); 99.3% of the population was Caucasian, with 0.3% being two or more races, 0.1% were Black only, 0.1% Asian only, and 0.1% Hispanic only; and 24.7% of adults had less than a high school degree (New Bethlehem, Pennsylvania, 2011).

The study sample consisted of 254 students from the school town and outskirts in kindergarten, 1st, and 2nd grades (as of the September 2012 pre-test date). One hundred thirty-one males (52%) and 123 females (48%) participated in the study. This compares with 51% and 49% male to female proportion in the first and second grade normative sample. Please refer to Figure 2 for a graphical representation of the student sample. Student ages ranged from five to six years old for

entering kindergarteners, six to seven years for first graders, and seven to eight years for second graders.
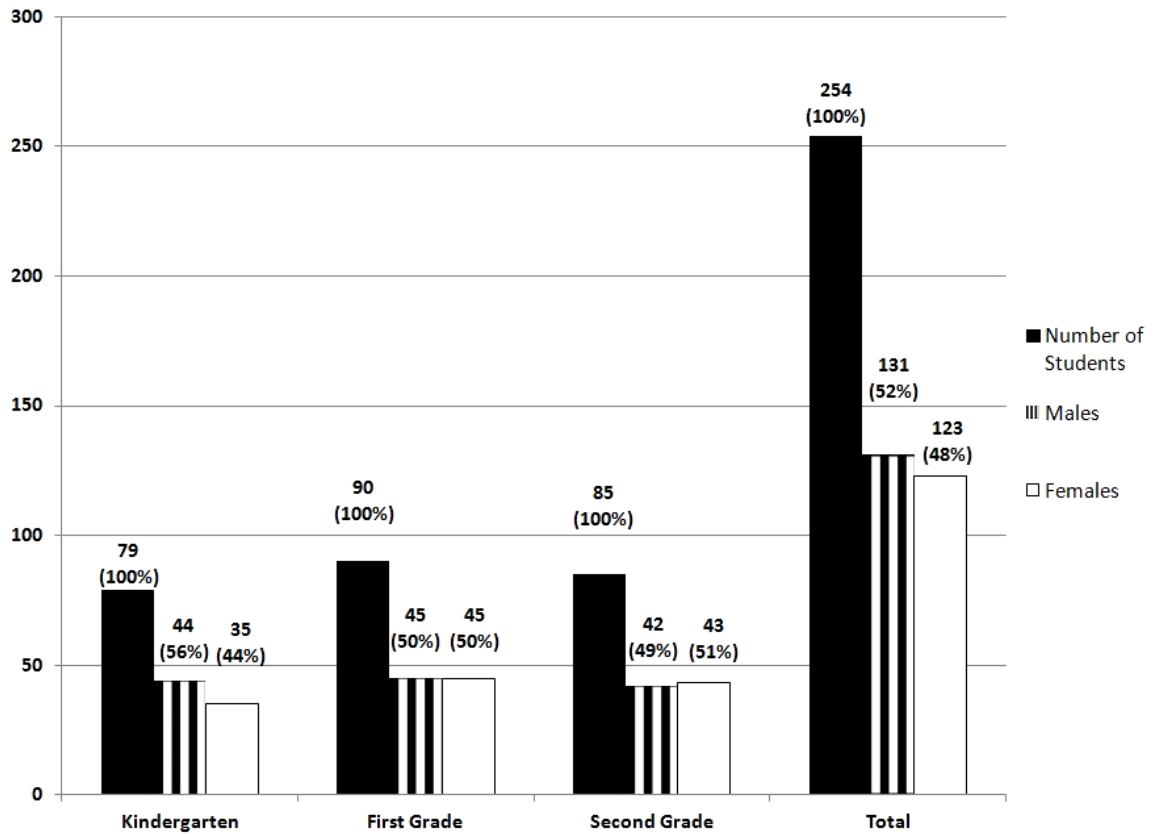
Figure 2. Student sample, number and percentages, by grade and sex.

All of the eligible students enrolled in kindergarten through second grades at the study site participated.

In terms of students receiving free or reduced lunch pricing, for grades K-2, a total of 100 students received a free lunch, while 17 students received a reduced-price lunch. The total number of students receiving a free or reduced price lunch was 117 or 46.1% of the total student population in grades K-2. This compares with 40% of students in first and second grade in the national normative sample receiving a free or reduced price lunch. Please refer to Figure 3 for a graphical representation of students receiving free or reduced-price lunches.
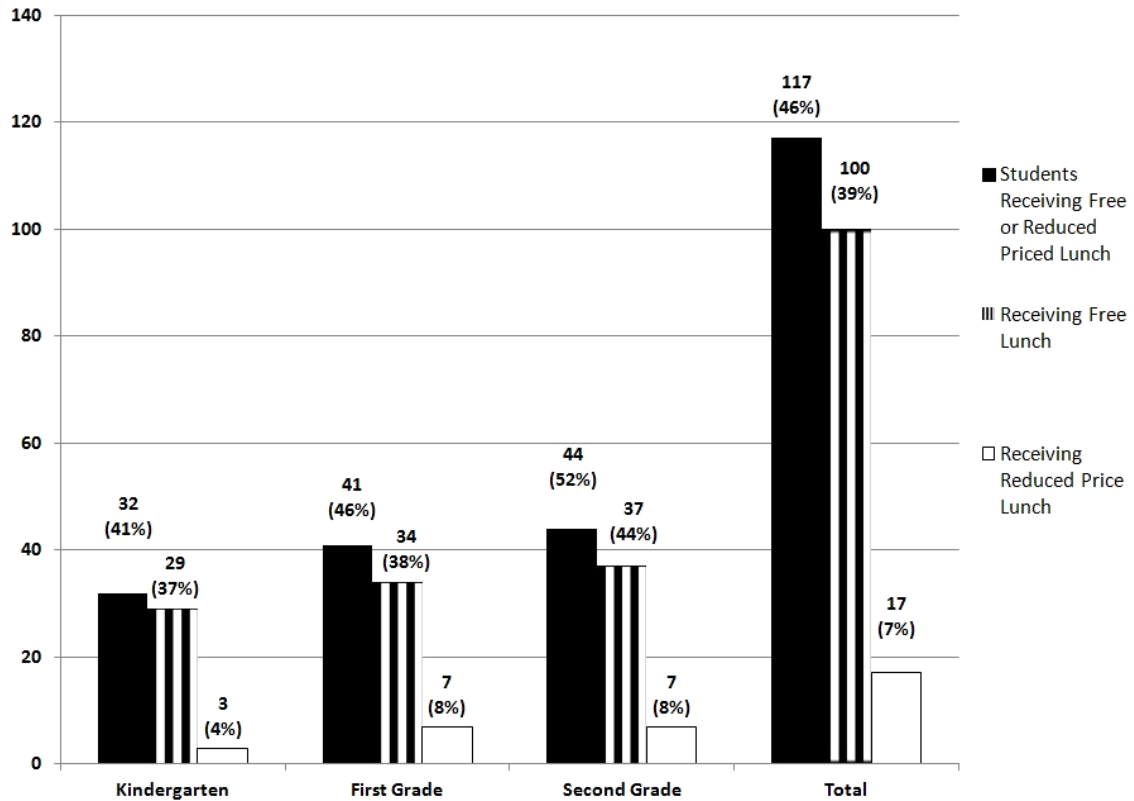
Figure 3. Students in the sample, by number/percentage and grade, receiving a free or reduced-price lunch.

Teacher Sample

Teachers were identified for participation in the present study if they (a) taught grades k-2, and (b) instructed students in reading with the Journeys program. Thirteen teachers taught the Journeys reading program to the K-2 student participants. This total included the following composition: four kindergarten teachers, five first grade teachers, and four second grade teachers. The mean years of teaching experience for grades K-2 was 20.25 (*SD* = 8.5; range = 9-34). The teachers' mean years of experience teaching reading was 20.25 (*SD* = 8.5; range = 9-34), as all teachers who taught in a given year also taught reading during that time. Four teachers reported having

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educational assistants in the classroom during the period of data
collection (i.e., 2012-2013 school year). These educational assistants
served in the four kindergarten classrooms. Please refer to Figure 4
for a graphical representation of K-2 teachers' mean years of teaching.

Mean Years of Teaching
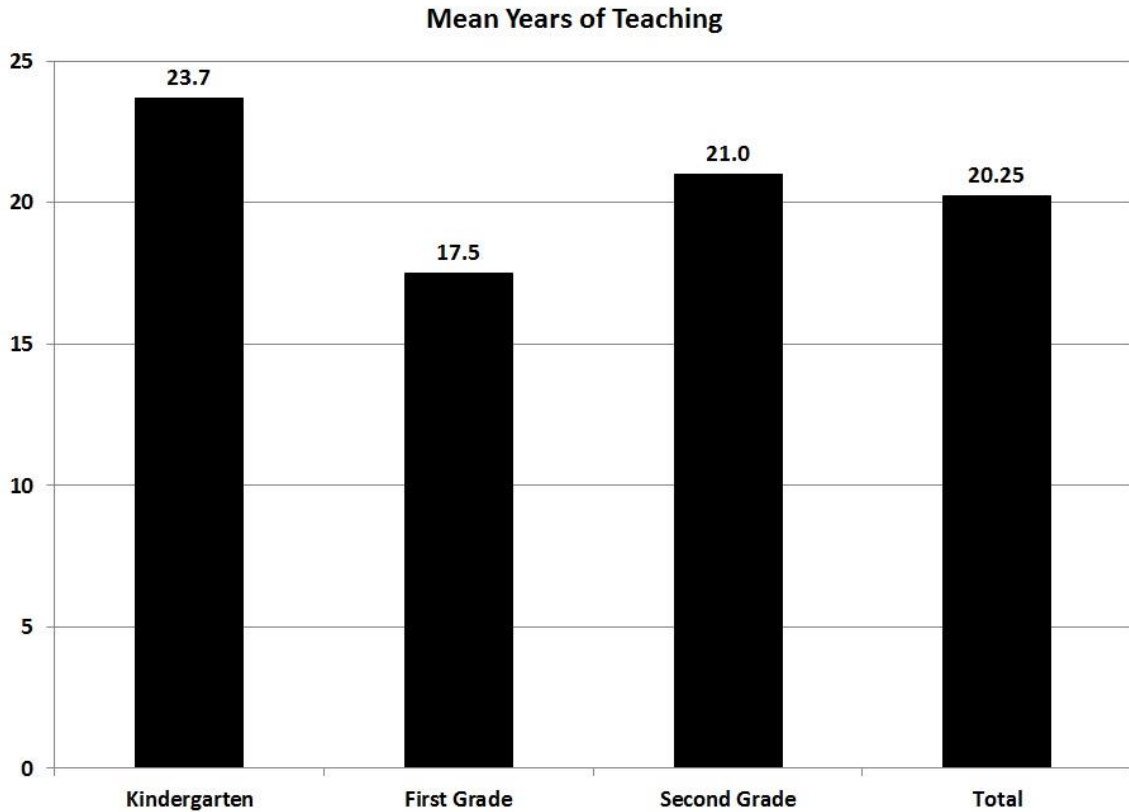
Figure 4. K-2 mean years of teaching.

The teachers of these K-2 classrooms were asked to voluntarily
participate in the research study through assisting the principal
investigator in the documentation of intervention integrity. They were
asked for their voluntary informed consent to allow the principal
investigator to conduct classroom-based observations, review teacher
lesson plans, and collect teacher self-report questionnaires. Four
teachers elected to participate in the documentation of each of these
three aspects of program fidelity out of a total of 13 teachers
(30.7%).

In terms of classroom observations, 4 teachers out of 13 (30.7%) agreed to allow the principal investigator to observe implementation of the Journeys reading program. Four out of 13 teachers allowed the principal investigator to review lesson plans as permanent product evidence of program implementation. Finally, regarding teacher self-report questionnaires, four teachers returned completed questionnaires. The range of respondents included adults between the ages of 28 and 45. Please refer to Figure 5.
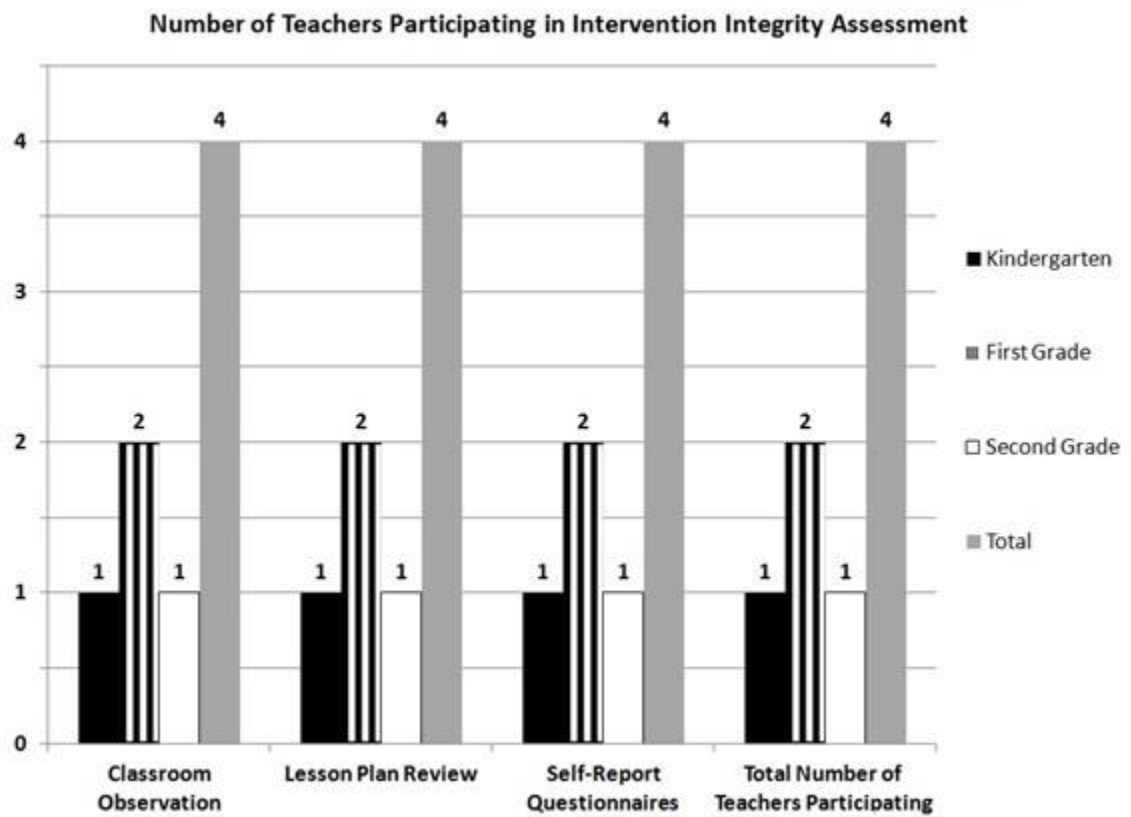
Figure 5. Number of teachers participating in assessment of intervention integrity.

Assignment

The student archival data used in this study involved use of a convenience sample. There was no random assignment of students to specific treatment groups. Students were selected for participation in

the study if they were in grades kindergarten through second, and were being taught with the Journeys reading program as their core instruction.

In terms of confidential teacher information collected pertaining to the documentation of treatment integrity, participants were selected based on their position as a kindergarten through second grade teacher. This method also constitutes a convenience sample with no random assignment.

Instruments

The instruments used to obtain measures of students' ORF and early literacy skills were the CBMs from the AIMSweb system (AIMSweb, 2012). The AIMSweb CBMs are a type of standardized assessment that measures student achievement level and progress in various skill domains (e.g., reading fluency, early literacy, reading comprehension, math calculation).

The AIMSweb early literacy measures of letter naming fluency (LNF), nonsense word fluency (NWF), and phoneme segmentation fluency (PSF); and the AIMSweb ORF measures were administered to the students in the study sample during the fall (baseline), winter (interim), and spring (post-assessment) of the 2012-2013 school year by trained teachers as part of the district's routine procedures. Figures 6 through 8 delineate the schedule of teacher-administered assessments by grade and season.

For the purposes of this study, the scores from the CBMs were used to analyze the students' early literacy and ORF skills to determine the effects of the instructional intervention (i.e., Journeys core reading program).

Figure 6. Schedule of kindergarten AIMSweb curriculum based measurements.

Figure 7. Schedule of first grade AIMSweb curriculum based measurements.

Figure 8. Schedule of second grade AIMSweb curriculum based measurements.

The AIMSweb CBMs provided the researcher with baseline information at the beginning of the school year, interim data in winter, and final scores in the spring. These data were then used to determine student mean achievement scores and growth rates in the areas of early literacy skills and ORF.

Testing and Scoring Process

Each assessment involved a set of standardized administration procedures (see Appendix A; Shinn & Shinn, 2002). The early literacy measures (LNF, PSF, and NWF) consisted of one minute probes administered to each student individually by a teacher to obtain a score represented as correct answers (i.e., letters, phonemes, or words) identified per minute. In terms of ORF measures, one minute probes were also administered to students individually to obtain a score indicating words read correctly per minute (WCPM). Assessment probes were scored by hand by the examining teacher. This

involved counting the number of correct answers. These data were then entered by the teachers into the secure AIMSweb online system where the data were then stored.

Reliability and Validity

CBMs have decades of research support in terms of their reliability and validity (Deno, 2003; Shinn, 1989). Specifically regarding AIMSweb, these R-CBMs are valid, reliable, and brief, and, therefore, well-suited for use in schools (Fuchs & Fuchs, n.d.).

Early literacy measures. In terms of AIMSweb Early Literacy measures, the National Center on Student Progress Monitoring's 2007 "Review of Progress Monitoring Tools" (National Center on Student Progress Monitoring, 2007) rated the measures as demonstrating sufficient evidence to meet the basic standard in terms of reliability and validity.

In terms of reliability, first grade data indicates alternate form reliability ranging from 0.97-0.97. For Letter Naming Fluency, test-retest ranged from 0.81-0.81 (National Center on Response to Intervention, n.d.).

Oral reading fluency measures. In terms of ORF measures, AIMSweb alternate form reliability for grade one ORF has a median of 0.91; and 0.81 for grade two (National Center on Response to Intervention, n.d.). Predictive validity for grade one was 0.76; for grade two, coefficients ranged from 0.72-0.73 (National Center on Response to Intervention, n.d.).

Assessment Fidelity

In terms of training in administration and scoring of the dependent measure – AIMSweb CBMs, the experimental group school teachers for grades K-2 underwent a two-day training session, with five hours of additional consultation, provided to them by an experienced, certified AIMSweb private on-site trainer in September 2009. This was provided to all elementary teachers in the district. The training

included the basics of administration and scoring, goal-setting, data interpretation, using data to drive instruction, software use, managing the online system for keeping track of data, graphing, and determining inter-rater agreement. The district Reading Specialist/AIMSweb manager, verbally reported to the principal investigator that she coached the teachers in continuing to learn to use the system after formal training had ended. Specifically, this specialist sat alongside the teachers for their first time administering the assessments, observing and coaching them through each administration.

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Procedures

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The researcher collected two different types of data: archived-anonymous student data, and confidential teacher data. These data collection procedures are described in detail below.

Archived-Anonymous Student Data

The AIMSweb outcome data (i.e., early literacy skills and ORF data) for grades K-2 were provided to the principal investigator by a district reading teacher who has access to the district AIMSweb data, via an Excel spreadsheet, on a password-protected disk, stripped of all student-identifying information. Each student was assigned a unique identification number by the reading teacher, which the teacher entered into a master list spreadsheet in lieu of personally identifiable data. This teacher maintained the master list of names and associated identification numbers, to which the principal investigator did not have access. In addition to the outcome data on the disk provided by the teacher, demographic information for each student was also listed (i.e., sex, free- or reduced-price lunch, grade, and classroom assignment). The school district superintendent, with approval of the district Board of Education, provided permission to the principal investigator to access this archived, anonymous student-level data by

means of a district reading teacher (please refer to this letter in Appendix B).

The principal investigator collected the following specific archived-anonymous student-level data: from kindergarten: AIMSweb measures of NWF, PSF, and LNF; from first grade: AIMSweb measures of NWF, PSF, LNF, and ORF; and from second grade: AIMSweb measures of ORF only. These data were collected during the 2012-2013 school year. These data were then analyzed to determine the mean scores and slopes of improvement, and compared with the data provided by the 2012 AIMSweb National Normative project.

Confidential Teacher Data

A fidelity of implementation checklist, specific to the Journeys program, did not exist at the time of this study. A system was, therefore, developed by the principal investigator in this study, incorporating both direct and indirect methods to assess the level of implementation fidelity of the Journeys program in the selected school. The resulting assessment materials included the development of a direct classroom observation form, a teacher self-report questionnaire, and a protocol for permanent product review (i.e., lesson plan review; please reference Appendix C).

These three instruments were sent to two individuals who are considered Journeys specialists in order to obtain a measure of face and construct validity for the instruments. The first individual was an HMH Journeys representative who sells the program to schools and trains on its use. This individual reviewed the fidelity instruments and verbally reported that they were valid tools for assessing implementation integrity of the Journeys reading program in K-2 classrooms. Example comments were that the instruments were "well planned out." The second individual was the experimental school's K-2 principal. This individual was involved in selecting, purchasing, and training teachers on use of the program. This

individual, likewise, found the fidelity instruments to be valid for their purpose. Comments were that "the checklists look good, and are a good representation of the Journeys program."

In order to assess the fidelity with which the Journeys program was implemented in the school during the 2012-2013 data collection year, teachers of grades kindergarten, one, and two were given a letter describing the present study and asking them to voluntarily provide their informed consent allowing the principal investigator to collect these data (see Appendix D).

Data collection. The classroom observations and lesson plan reviews were completed once each during the fall, winter, and spring of the 2012-2013 school year – for a total of three times per teacher. The self-reports were completed after the first and third marking periods of the 2012-2013 school year, obtaining a total of two self-reports per teacher.

Each self-report mailed out included a packet of tea and a mint. Each respondent was given the option of receiving a copy of the results, if interested, and informed that individual responses would be held in strict confidence. A follow-up letter was mailed to each participating teacher 14 days after the mailing of each self-report. This letter thanked respondents who completed and returned the self-report and served as a reminder to those who had not. Non-respondents were reminded that participation was strictly voluntary.

In accordance with federal regulations, all data will be maintained for three years from the date of project completion. Copies of the classroom observation form, teacher self-report form, and permanent product review are included in the appendices (please refer to Appendix C).

The data collected included classroom observations, teacher self-reports, and permanent product reviews. Fidelity data are considered confidential in nature given that teachers' names are associated with the data obtained.

Teachers were informed that the data obtained via their volunteered participation would not be shared with anyone other than the principal investigator. That is, fidelity data were not shared with any personnel from the school district or any other individual, with the exception of the principal investigator. Moreover, obtained fidelity data were aggregated in a manner intended to protect the confidence of volunteering subjects, thereby obtaining an overall indication of the implementation of the program when compared with the prescribed protocols for implementation. Please refer to the attached Informed Consent Form to teachers (see Appendix D).

In terms of the teacher data collected, the classroom observation form, teacher self-report, and permanent product rubrics begin with basic questions pertaining to the class in question, teacher, grade, date of rating, time of observation, and rater. The following includes descriptions of data collection procedures.

Classroom observations. The direct classroom observation form was created to help address fidelity of structure – one aspect of implementation fidelity (Dane & Schneider, 1998) — and was fashioned based on an in-depth examination of the kindergarten through second grade Journeys program materials – specifically, the Teacher's Guide for classroom instruction. The major program components identified in the Teacher's Guide were incorporated to create checklists allowing the observer to identify whether or not a component was observed within a particular lesson. Within the observation forms for each grade level (K-2), the items were first separated on the form by day (i.e., Monday through Friday) in accordance with the layout of the program materials; and were further subdivided by instructional focal areas during each day (i.e., letter names, phonemic awareness, phonics, vocabulary, fluency, comprehension, etc.). The observational period lasted for approximately 1.5 hours for each observation conducted. The teachers

were expected to address the major components included in a typical daily lesson.

In terms of content, the classroom observation forms include grade specific Journeys reading program components that would be expected in typical lessons. More specifically, the observation form lists those reading program components that are expected to be implemented Monday through Friday in a typical classroom. The principal investigator, with signed consent from teachers agreeing to participate in the study, observed K-2 reading lessons and checked off each expected program component as it was observed. Each observation lasted for the entire reading period, which averaged 45 minutes. After observations were completed, the principal investigator redacted the teacher's name and assigned an identification number to that protocol. The principal investigator maintained a master list of names and identification numbers in an Excel spreadsheet, on a password-protected computer at the residence of the principal investigator that only she could access. Additionally, the hardcopy observation forms were maintained in a locked filing cabinet at the residence of the principal investigator.

Teacher self-report. Teacher self-report questionnaires were designed to investigate teachers' ratings of their implementation of the Journeys program components. The teacher self-report, similar to the classroom observation form, also listed the expected Journeys program components; however, this form asked teachers to rate themselves on a Likert scale from one to five, according to how well they believed they implement each listed component. Teachers returned their self-reports to the principal investigator via inter-office mail. Upon receipt, the principal investigator then redacted names on self-reports and assigned each a number, which was the same number as that which was assigned to the particular teacher's observation form. This was

done so that names were not attached to the self-reports. Additionally, the hard copy self-reports were maintained in a locked filing cabinet at the residence of the principal investigator. This helped to ensure confidentiality. In the same manner as the observation forms, the principal investigator maintained the master list of names and identification numbers in an Excel spreadsheet, on a password-protected computer, at the residence of the principal investigator that only she could access.

Fidelity measures for the Journeys program do not exist; therefore, the principal investigator developed questionnaires for the purposes of this study. For this reason, there are no reliability or validity data on the instrument.

Permanent product review. The final piece of fidelity documentation was the permanent product review. Permanent product reviews involved the principal investigator examining a total of three weekly teacher lesson plans from randomly selected weeks to document evidence of the Journeys program components. This took the form of visually reviewing teacher lesson plans. The random number generator function in Excel identified three random weeks for each teacher participating in the study in which lesson plans were to be selected for comparison with the expected Journeys reading program components. During those weeks, the principal investigator visited the teachers voluntarily participating in this portion of the study and asked to see his or her weekly lesson plans. The principal investigator examined the lesson plans for comparison with what would be expected for the Journeys program. The principal investigator did not make photocopies of, or remove, teacher lesson plan books. This assisted in maintaining teacher confidentiality in that the permanent product raw data remained in the classroom only. Again, the teacher name on the lesson plan review form was redacted and replaced with each teacher's unique identification number from the master list. These hardcopy forms were also kept in a locked filing

cabinet at the residence of the principal investigator, which only she could access. All data will be kept for a period of three years and then destroyed by the principal investigator. Copies of the classroom observation form, teacher self-report forms, and permanent product reviews are included in Appendix C.

Follow-Up Letters Seeking Informed Consent

Two weeks after the mailing of the voluntary informed consent letter (see appendix D), a second follow-up letter was sent through inter-office mail reminding teachers to consider participation in the research study. Please refer to Appendix E.

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Protection of Human Subjects

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Permission to conduct the study was obtained through the Institutional Review Board for the Protection of Human Subjects of Indiana University of Pennsylvania (IUP-IRB). As part of the IUP-IRB process, the Human Subjects Review Protocol was completed, detailing the exact procedures of the study and explaining how the principal investigator will safeguard the well-being of individuals participating in the study. The study design and data collection procedures met the requirements for an expedited review at the academic institution. The approval letter by the IUP-IRB can be found in Appendix F.

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Research Design

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The data for this research project were collected as part of a problem-based, program evaluation research study using a quasi-experimental design involving two separate data sets – student and teacher. Random assignment was not executed, as the study involved a review of archived-anonymous student data, and confidential teacher data, whereby a sample of convenience was obtained.

This project involved an evaluation of the HMH Journeys Language Arts program during the third year of implementation in a Midwestern

Pennsylvania rural elementary school. The study was conducted as a
pre-test/post-test design to examine the effects of the Journeys
program on students' early literacy skills and ORF. Pre-tests were
conducted in September 2012; Interim tests in January 2013; and post-
tests in May 2013. Research methods included both quantitative and
qualitative procedures.

Statistical Analyses

The aim of this research study was to compare the early literacy
and ORF of students who were taught with the Journeys core reading
program, to those of students across the country, represented by
AIMSweb 2012 National Norms. Both the mean score and mean ROI, or
slope, were compared for students in kindergarten through second grades
in the sample.

Additionally, the study sought to determine whether females who
were instructed with the Journeys program outperformed males taught
with the program, and whether students from average and high
socioeconomic backgrounds outperformed those from low socioeconomic
backgrounds. Finally, the present study included both direct and
indirect measures of intervention integrity for the purpose of
determining the extent to which the intervention was implemented as
intended.

The IBM Statistical Package for Social Sciences (IBM SPSS – 20.0)
software and the Microsoft Excel 2010 electronic spreadsheet program
were employed for both descriptive and inferential statistical
procedures in order to describe the sample and respond to the research
questions. These programs are useful for both descriptive and
multivariate analyses necessary to meet the needs of this research
study.

Descriptive statistics were used to summarize characteristics of the study sample, specifically examining the distribution of scores in terms of central tendencies and measures of spread (e.g., means and standard deviations). Summaries of the data include tabulated descriptions and statistical commentary. Inferential statistics were used to permit generalizations about the population of interest, from which the sample was drawn. Table 7 outlines the research questions, dependent variables, and statistical analyses performed to answer each of the research questions.

Archived-Anonymous Student Data

The reading and pre-reading achievement data collected from each grade (i.e., ORF and early literacy skills for grades K-2), included individual student data in the form of raw scores for each student (i.e., correct answers per minute). Because comparisons were made between the sample raw data and the population means, a series of one-sample t-tests for each set were selected as the appropriate statistical analysis. One-sample t-tests compare the mean score of a sample to a known value, and are the proper tests given the data because the study included population means to which the sample data were being compared. These inferential analyses were completed for both the level of student achievement and ROI over time.

In terms of the rate of improvement for each assessment administered for each grade, comparisons were made between the rates of improvement of the sample and the AIMSweb National Norm ROI data using inferential statistics. ROI signifies the average gain (or loss) in correct answers per week.

Table 7

Summary of Research Questions, Dependent Variables, and Statistical

Analyses

Research Questions	Dependent Variables	Statistical Analyses
1. How do the early literacy skill levels and ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national norm sample, when data are disaggregated by grade?	• AIMSweb LNF • AIMSweb NWF • AIMSweb PSF	• Descriptive Statistics • One Sample t-tests
2. How do the ORF levels and ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national norm sample when data are disaggregated by grade?	• AIMSweb ORF	• Descriptive Statistics • One Sample t-tests
3. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the level or ROI differ for males versus females?	• AIMSweb LNF • AIMSweb NWF • AIMSweb PSF • AIMSweb ORF	• Descriptive Statistics • Independent Sample t-tests

(Table 7 continued)

4. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the level or ROI differ for those from low socioeconomic backgrounds when compared with those from average/high socioeconomic backgrounds	• AIMSweb LNF • AIMSweb NWF • AIMSweb PSF • AIMSweb ORF	• Descriptive Statistics • Independent Sample t-tests
5. What was the level of program implementation fidelity during the study?	• Observations • Teacher Self-Report • Permanent Product Review	• Descriptive Statistics; • CES Rubric

The ROI for the sample was computed the same way it is in the AIMSweb National Norms (i.e., the winter score minus the fall score, or interim-test minus pre-test, divided by 18 weeks, and spring minus fall sores divided by 36 weeks, or the number of weeks between pre- and interim or pre- and post-assessments). The ROIs of the sample were not estimated, but calculated according to the actual number of weeks between assessments.

For the early literacy measures, the ROI was operationalized as change in either letters named, phonemes identified, or nonsense words read per minute per week. Regarding the outcome measure of ORF, the rate of improvement was operationalized as the change in words read correctly per minute per week on a grade-level reading probe. An ROI for each measure was calculated for each of the subjects included in the sample. In SPSS, this is accomplished by computing a new variable. One-sample t-tests were then completed comparing the average ROIs in

the study sample to the AIMSweb 2012 National Norm average ROIs. Descriptive statistics were used to describe the group.

In terms of comparing males with females who were instructed with the Journeys program, and students from high socioeconomic environments with students from average and low socioeconomic environments who were also instructed with the program, independent-sample t-tests were used as the appropriate statistical procedure. Independent-sample t-tests compare the mean scores of two groups on a select variable.

Confidential Teacher Data

The confidential teacher data collected from each participating teacher represented both direct and indirect measures of intervention integrity. This was done in an attempt to document that the reading program was being implemented in the K-2 classrooms as intended by the publisher. Documentation of intervention integrity took the form of collecting individual teacher data from classroom observations and lesson plan reviews conducted by the principal investigator, and teacher self-report questionnaires inquiring about instructional practices.

Since no program-specific integrity assessments exist, the principal investigator developed her own assessments using guidelines presented by Gresham et al. (1993). These authors suggest the following:

1. Operationally define the specific components of the proposed intervention.
2. Use direct observation to measure the occurrence/nonoccurrence of each intervention component.
3. Determine the level of integrity by summing the number of components implemented correctly and dividing by the total number of components.

4. Use these data to produce two different estimates of
   integrity: (a) session integrity – the mean percentage of
   intervention components implemented during each observation
   session, and (b) component integrity – the percentage of
   observation sessions in which each distinct component is
   implemented correctly.

These data took the form of cumulative number of program
components observed or reported, divided by cumulative possible
components, which were then integrated to establish a comprehensive
representation of intervention, or overall, integrity (Roach & Elliot,
2008). This was completed using a method developed by Busse, Elliott,
and Kratochwill (2010) called Convergent Evidence Scaling (CES). This
method of CES provides a common metric for aggregating data. The
original design of CES was intended to assist in the integration of
multiple types of treatment outcome data. The current approach allowed
the principal investigator to integrate various assessments of
treatment integrity to obtain an overall integrity index which provided
an indication of how well the implemented intervention fit the
intervention model designated in program materials.

The utility of the CES is in its ability to converge a
substantial quantity of integrity evidence collected in a variety of
ways to generate these integrity indices. This process of integrating
multiple forms of treatment integrity evidence to a common metric and
then converting into an overall index score has numerous advantages.
It has been likened to converting raw scores to standard scores,
thereby providing an overall number on which to base decisions
regarding the level of implementation of an intervention. The CES
Intervention Integrity Rubric used in the present study is represented
in Table 8.

Table 8

Convergent Evidence Scaling Intervention Integrity Rubric

Level of intervention implementation integrity	Description of intervention implementation integrity	Evidence to be considered	Score
Level 5 – Highest	90-100% - All or nearly all of the intervention components were used consistently as designed and for the recommended amount of time and on the recommended schedule. Overall implementation was excellent.	• Classroom Observation • Self-Report Checklist • Permanent Product	5
Level 4	81-89% of the intervention components were used as designed and the schedule and time of use were very good. Overall implementation was very good.	• Classroom Observation • Self-Report Checklist • Permanent Products	4
Level 3	75-80% of the intervention components were used as designed and the schedule and time of use were good. Overall implementation was good.	• Classroom Observation • Self-Report Checklist • Permanent Products	3
Level 2	51-74% of the intervention components were used as designed and the schedule and time of use were somewhat below expectations.	• Classroom Observation • Self-Report Checklist • Permanent Products	2
Level 1 – Lowest	Fewer than 50% of the intervention components were routinely used and the amount of time and schedule of implementation was erratic. Overall implementation was poor.	• Classroom Observation • Self-Report Checklist • Permanent Products	1

*Adapted from Busse, Elliott, and Kratochwill (2010)

In terms of converging the intervention integrity data obtained from the present study (i.e., classroom observations, teacher self-reports, and lesson plan reviews), using the CES Rubric, the following procedures were implemented: for each piece of teacher integrity data (i.e., observation, self-report, and lesson plan review), the cumulative sum of the raw number of components observed or reported were divided by the cumulative sum of the possible components times 100 to obtain an integrity percentage for each instrument, by grade, and for the school as a whole. As an example using the observational data, for each grade (i.e., K, 1, and 2), the "Integrity Percentage" represents the overall classroom observation integrity percentage in each grade. This allowed the principal investigator to obtain an integrity percentage range (e.g., the classroom observation integrity of the kindergarten sample ranged from 85-90%). This same procedure was used to obtain an integrity percentage for Teacher Self-Reports and lesson plan reviews. In other words, for each Teacher Self-Report returned to the principal investigator, the sum of teacher's self-reported points were added together and divided by the total possible components (i.e., cumulative sum of the self-report possible points). This yielded a *Self-Report Integrity Percentage* range for the sample in by grade and by school (e.g., the kindergarten teacher self-report integrity of the sample ranged from 85-90%; the entire study sample ranged from 80-99%). Calculating component integrity, as recommended by Gresham et al. (1993), was not included as a calculation in the present study because program materials for each grade include different components with little continuity because of the need to target skills across a developmental reading continuum. In addition, the primary goal of the study in the domain of intervention integrity assessment was to determine a sample-level integrity index as opposed

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to only a grade-level, and with each grade targeting different skills, this would not have served the need for sample-level data. The research study CES Tally Sheet can be viewed in Appendix G.

In terms of interpreting treatment integrity data, Perepletchikova and Kazdin (2005) suggest two benchmarks for interpreting integrity of implementation: 80-100% of components = high level of integrity; below 50% = low integrity. Busse et al., (2010), in their CES rubric, suggest that a level of 75-80% of the intervention components used as designed suggests overall implementation was "good". Gresham (2009), however, states that, "We have no reliable database to guide us in deciding what are the optimal levels of treatment integrity" (p. 537).

Summary

The present study explored five research questions investigating the effects of the Journeys core reading program on students' ORF and early literacy skill achievement, as well as teachers' integrity in implementing the program in the classroom. Two sets of data were used in this study: archived-anonymous student achievement data; and confidential teacher data in the form of classroom observations, teacher self-report questionnaires, and lesson plan reviews. Descriptive statistics were completed to summarize characteristics of the study sample, specifically examining the distribution of scores in terms of central tendencies and measures of spread. Inferential statistics, in the form of one-sample t-tests and independent sample t-tests, were used to answer the research questions and permit generalizations about the population of interest, from which the sample was drawn. The CES technique was employed to assess the level of program implementation fidelity.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to evaluate the impact of an educational reading program entitled Journeys by Houghton-Mifflin Harcourt on the reading fluency and early literacy skills of students in grades kindergarten through two in a rural elementary school. Archived-anonymous student AIMSweb reading data from the elementary school were analyzed along with confidential teacher data. AIMSweb data in the form of early literacy skills assessments (i.e., letter naming fluency, nonsense word fluency, and phoneme segmentation fluency) and oral reading fluency (ORF) were analyzed and compared to the AIMSweb 2012 national normative sample – the control group. Concerning confidential teacher data, teachers were asked to provide their voluntary informed consent to participate in the documentation of intervention integrity for this study. Four teachers out of 13 elected to participate in this aspect of the study. These four teachers completed self-reports, allowed classroom observations to be conducted, and provided lesson plans in an attempt to assist in the documentation of the fidelity with which the reading program was implemented in the classrooms. The statistical package, IBM Statistical Package for the Social Sciences (SPSS) 20.0, was used to analyze the data.

Specifically, this research project addressed the following five questions and hypotheses:

1. How do the early literacy mean scores and mean ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national normative sample when data

are disaggregated by grade (i.e., kindergarten, first grade, and second grade)?

> Hypothesis 1: Students instructed with the Journeys reading program will show higher early literacy mean scores and mean ROIs when compared with the AIMSweb 2012 national normative sample.

2. How do the ORF mean scores and mean ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national normative sample when data are disaggregated by grade (i.e., kindergarten, first grade, and second grade)?

> Hypothesis 2: Students instructed with the Journeys reading program will show higher ORF mean scores and mean ROIs when compared with the AIMSweb 2012 national normative sample.

3. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for males versus females when data are aggregated across grade (i.e., kindergarten, first grade, and second grade)?

> Hypothesis 3: Female students instructed with the Journeys program will show higher ORF/early literacy mean scores and mean ROIs when compared with their male counterparts who were also instructed with Journeys.

4. For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for those from low socioeconomic environments when compared with those from average/high

socioeconomic environments when data are aggregated across grade (i.e., kindergarten, first grade, and second grade)?

Hypothesis 4: Students from low socioeconomic environments will have lower ORF/early literacy mean scores and mean ROIs when compared with students from average or high socioeconomic environments.

5. What was the level of program implementation fidelity during the study?

Hypothesis 5: It is hypothesized that treatment fidelity will be high with respect to implementation of the Journeys reading program in the classroom.

Statistical Analyses Summary of Archived-Anonymous Student Data Question 1: Early Literacy Skills and ROI

The first research question was, "How do the early literacy mean scores and mean ROIs of rural elementary students who are instructed with the Journeys reading program compare with those of elementary students who were included in the AIMSweb 2012 national normative sample when data are disaggregated by grade (i.e., kindergarten, first grade, and second grade)?" The hypothesis pertaining to this research question was that the mean scores and mean ROIs of students instructed with Journeys would be higher than those of students in the AIMSweb 2012 national normative sample.

The descriptive data for the early literacy scores and ROIs are found in Table 9 below.

Table 9

Descriptive Data for AIMSweb Early Literacy Skill Assessments and Rates

of Improvement

Grade	Assessment		National Group			Experimental Group		
			N	M	SD	N	M	SD
Kindergarten	NWF	Winter	42,104	27.00	19	77	34.00	11.00
		Spring	42,104	43.00	24	75	49.00	16.00
		ROI, W-S	42,104	0.89		75	0.86	0.91
	PSF	Winter	21,371	29.00	19	77	52.00	14.00
		Spring	21,371	46.00	20	75	71.00	13.00
		ROI, W-S	21,371	0.94		74	1.06	0.73
	LNF	Fall	32,597	22.00	16	78	18.00	13.00
		Winter	32,597	43.00	17	78	48.00	12.00
		Spring	32,597	52.00	18	75	57.00	12.00
		ROI, F-W	32,597	1.17		76	1.67	0.73
		ROI, W-S	32,597	0.50		75	0.51	0.46
		ROI, F-S	32,597	0.83		73	1.10	0.40
First Grade	NWF	Fall	25,099	39.00	25	91	40.00	25.00
		Winter	25,099	61.00	32	89	72.00	29.00
		Spring	25,099	75.00	35	88	92.00	36.00
		ROI, F-W	25,099	1.22		87	1.70	0.93
		ROI, W-S	25,099	0.78		88	1.14	0.99
		ROI, F-S	25,099	1.00		86	1.42	0.63
	PSF	Fall	39,310	39.00	17	91	53.00	12.00
		Winter	39,310	50.00	16	89	60.00	13.00
		ROI, F-W	39,310	0.61		87	0.38	0.68
	LNF	Fall	71,316	46.00	16	91	46.00	14.00

Note. NWF = Nonsense Word Fluency; PSF = Phoneme Segmentation Fluency;
LNF = Letter Naming Fluency; ROI = rate of improvement; F = fall; W =
winter; S = spring

The data for the national normative sample can be obtained through the

AIMSweb system at http://www.aimsweb.com/wp-content/uploads/AIMSweb-

National-Norms-Technical-Documentation.pdf. The ROI was calculated as

the ending score minus the beginning score divided by the number

of weeks (i.e., 18 weeks for fall to winter and winter to spring; and

36 weeks for fall to spring). In operation, the ROI is, thus,

interpreted as the gain in raw score per week (e.g., gain in letters

named correct per minute per week, etc.). Following these descriptive

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data are the results of the statistical analyses. Second grade students were not administered assessments of early literacy skills.

In terms of inferential statistics, the one sample t-test was applied as the appropriate statistical procedure as it is useful when comparing the mean score of a sample to a known value – usually the population average (Ruvid, 2011). The one sample t-test has three assumptions that must first be established in order to be used as an interpretable comparison statistic. Those assumptions are as follows: random sampling from a known population; interval or ratio scale data; and normality of distribution for the population data. The data for this study were drawn from a sample of convenience; therefore, the first assumption violation is a limitation in the study. The study used ratio-scale data which satisfies the second assumption. Finally, pertaining to normality of the population data distribution, this information was unavailable to the researcher; however, this assumption is considered robust and violation of it will, nevertheless, yield statistically informative results (Ruvid, 2011). In terms of sample data, review of skewness and kurtosis suggested relative normality of the data set. Because several t-tests were performed simultaneously, there is an increased likelihood of calculating a number of spurious positives, or making Type I errors. As an attempt to diminish the increased probability of making these errors, the Bonferroni Multiple Comparison Correction Method was applied to the statistical procedures (Weisstein, 2013). In this situation, the alpha level is lowered in order to account for the number of statistical comparisons. This statistical correction also supports the opinion of the principal investigator that Type I errors in this study would be of greater negative consequence than Type II errors.

Kindergarten.   The following information includes the results of the statistical tests performed on the kindergarten data for NWF, PSF, and LNF. This is reported for both mean level and mean ROI. Twelve one sample t-tests were calculated for this grade level. The Bonferroni method set the alpha value for the entire set of kindergarten comparisons at 0.004 (α = .05/12). Table 10 provides the statistical outcomes for these variables.

Table 10

T-test Outcomes for Kindergarten Early Literacy Mean Scores and Rates of Improvement

Grade	Assessment		*t*	*df*	*p*
Kindergarten	NWF	Winter	5.45	77	.000
		Spring	3.26	75	.002
		ROI, W-S	-3.14	75	.760
	PSF	Winter	14.05	77	.000
		Spring	16.60	75	.000
		ROI, W-S	1.43	74	.160
	LNF	Fall	-2.99	78	.004
		Winter	3.69	78	.000
		Spring	3.74	75	.000
		ROI, F-W	5.86	76	.000
		ROI, W-S	0.17	75	.868
		ROI, F-S	5.77	73	.000

NWF.   In terms of NWF, the kindergarten groups did not assess this skill in the fall. Statistical analyses suggest that the groups were statistically different at the winter assessment point, $t(77)$ = 5.45, p < .0001, with the experimental group receiving higher scores than the control group.

Regarding the ROI of NWF from winter to spring, statistical analyses suggested no statistically significant difference in mean ROI between the groups from winter to spring.

PSF.   In terms of PSF, the kindergarten groups were not assessed on this skill in the fall. Regarding winter and spring, statistical analyses showed that winter and spring mean score differences between groups were significant, $t(77) = 14.050$, $p < .0001$ and $t(75) = 16.596$, $p < .0001$, respectively, with the experimental group receiving higher scores.

Regarding the ROI of PSF from winter to spring, statistical analyses suggested no significant difference between the groups on this measure.

LNF. In terms of LNF, for the fall, statistical analyses resulted in a significant difference, $t(78) = -2.99$, $p < .004$, with the control group scoring significantly higher than the experimental group. Statistical analyses for winter and spring also indicated a significant difference between groups, $t(78) = 3.694$, $p < .0001$ and $t(75) = 3.744$, $p < .0001$, respectively, with the experimental group scoring significantly higher than the control group.

In terms of the ROI of LNF mean scores from fall to winter, statistical analyses indicated a significant difference between group, $t(76) = 5.862$, $p < .0001$, with the experimental group scoring higher than the control group.

In terms of the ROI of LNF mean scores from winter to spring, statistical tests of significance provided results that were not statistically significant.

In terms of LNF ROI mean scores from fall to spring, statistical tests of significance indicated significant differences between groups, $t(73) = 5.765$; $p < .0001$, with the experimental group scoring higher than the control group.

Early literacy kindergarten summary of findings. Table 11 represents the statistical significance for the early literacy outcome

measures and designates the direction in which the variables were
significant for kindergarten.

Table 11

*Significance Levels and Direction for Kindergarten Early Literacy Mean
Scores and Mean Rates of Improvement*

Grade	Assessment		Experimental Group Higher	Control Group Higher
Kindergarten	NWF	Winter	***	
		Spring	*	
		ROI		
	PSF	Winter	***	
		Spring	***	
		ROI		
	LNF	Fall		*
		Winter	***	
		Spring	***	
		ROI, F-W	***	
		ROI, W-S		
		ROI, F-S	***	

$* = p < .004; ** = p < .001; *** = p < .0001$

    The following components were found to be significant in the
expected direction: NWF, winter and spring; PSF, winter and spring;
LNF, winter and spring; and ROI LNF fall to winter and fall to spring.
The following component was significant in favor of the control group:
LNF Fall. The following components were not statistically significant:
ROI NWF; ROI PSF; and ROI LNF winter to spring. Of all the comparisons
for kindergarten, the majority were significant in the expected
direction (i.e., 8 out of 12). The hypothesis is, therefore, partially
accepted for kindergarten depending on the outcome measure.

    First grade. The following information includes the results of
the statistical tests performed on the first grade data for NWF, PSF,
and LNF. These results are reported for both mean score and mean ROI.
Thirteen one sample t-tests were calculated for this grade level. The

Bonferroni Multiple Comparison Correction Method set the alpha value

for the entire set of first grade comparisons at 0.004 (α = .05/13).

Table 12 provides the statistical outcomes for these variables.

Table 12

T-test Outcomes for First Grade Early Literacy Mean Scores and Mean

Rates of Improvement

Grade	Assessment		*t*	*df*	*p*
First Grade	NWF	Fall	0.37	90	.710
		Winter	3.49	88	.001
		Spring	4.59	87	.000
		ROI, F-W	4.86	86	.000
		ROI, W-S	3.39	87	.001
		ROI, F-S	6.23	85	.000
	PSF	Fall	11.26	90	.000
		Winter	7.23	88	.000
		ROI, F-W	-3.17	86	.002
	LNF	Fall	-0.03	90	.980

NWF. In terms of NWF, for the fall, statistical analyses showed

that the groups were not significantly different. Winter and spring

scores were significantly different, *t*(88) = 3.49, *p* < 0.001 and *t*(88)

= 4.59, *p* < .0001, respectively, with the experimental group receiving

higher scores than those of the control.

In terms of the ROI of NWF scores from fall to winter, winter to

spring, and fall to spring, statistical analyses indicated significant

differences between the groups for all three variables, *t*(86) = 4.86, *p*

< .0001; *t*(87) = 3.39, *p* < .001; and *t*(86) = 6.23, *p* < .0001,

respectively, with the experimental group receiving higher scores than

those of the control.

PSF. In terms of PSF, statistical analyses indicated significant

results for both fall and winter scores, *t*(90) = 11.26, *p* < .0001 and

t(88) = 7.23, *p* < .0001, respectively, with the experimental group

receiving higher scores than those of the control.

In terms of the ROI of PSF mean scores from fall to winter, statistical analyses indicated significant results, $t(86) = -3.17$, $p < 0.004$, with the control group receiving higher scores than those of the experimental group.

LNF. In terms of LNF in the fall, statistical analyses were completed; however, results were not significant.

Early literacy skills first grade findings. The following table represents the levels of significance for the outcome measures and indicates the direction in which direction the variables were significant for first grade analyses of early literacy skills.

Table 13

Significance Levels and Direction for First Grade Early Literacy Mean Scores and Mean Rates of Improvement

Grade	Assessment		*Experimental Group Higher*	*Control Group Higher*
First Grade	NWF	Fall		
		Winter	**	
		Spring	***	
		ROI, F-W	***	
		ROI, W-S	**	
		ROI, F-S	***	
	PSF	Fall	***	
		Winter	***	
		ROI, F-W		*
	LNF	Fall		

* = p < .004; ** = p < .001; *** = p < .0001

The following components were found to be significant in the expected direction: NWF, winter and spring; ROI for NWF, fall to winter, winter to spring, and fall to spring; and PSF, fall and winter. The following component was significant in favor of the control group: ROI of PSF, fall to winter. The following components were not statistically significant: NWF fall and LNF fall. Of all the comparisons, the majority were significant in the expected direction

(i.e., 7 out of 12). The hypothesis pertaining to this question for
first grade comparisons is, therefore, partially accepted depending on
the early literacy outcome measure.

Question 2: ORF Levels and Rates of Improvement

The second research question was, "How do the ORF mean scores and
mean ROIs of rural elementary students who are instructed with the
Journeys reading program compare with those of elementary students who
were included in the AIMSweb 2012 national normative sample when data
are disaggregated by grade (i.e., kindergarten, first grade, and second
grade)?" The hypothesis pertaining to this research question was that
students instructed with the Journeys reading program would show higher
ORF mean scores and mean ROIs when compared with the AIMSweb 2012
national normative sample. First and second grade data on the ORF
measure were collected. Kindergarten students were not assessed on
this measure in either the control or experimental groups. The
descriptive data for the two groups are found in Table 14 below. Table
14 represents the first and second grade descriptive statistics,
including mean scores and mean ROIs for ORF, for both the experimental
and control groups.

Table 14

Descriptive Data for ORF Mean Scores and Mean Rates of Improvement

Grade	Assessment		National Group			Experimental Group		
			N	*M*	*SD*	*N*	*M*	*SD*
First Grade	ORF	Winter	55,158	47.00	36	89	42.00	28.00
		Spring	55,158	71.00	40	88	74.00	30.00
		ROI, W-S	55,158	1.33		88	1.72	0.72
Second Grade	ORF	Fall	38,282	64.00	37	86	53.00	35.00
		Winter	38,282	90.00	38	82	85.00	38.00
		Spring	38,282	106.00	38	82	105.00	40.00
		ROI, F-W	38,282	1.44		82	1.81	0.79
		ROI, W-S	38,282	0.89		81	1.18	0.66
		ROI, F-S	38,282	1.17		81	1.49	0.52

In terms of inferential statistics, the one sample t-test was again applied as the appropriate statistical procedure. As in research question one, the Bonferroni Multiple Comparison Correction Method set the alpha value for the entire set of first grade comparisons at 0.004 (α = .05/13). Six t-tests were calculated for the set of second grade data. The Bonferroni method set the alpha for second grade at 0.008 (α = .05/6).

First grade. Table 15 provides the results of the statistical analyses for ORF mean scores and mean ROI for first grade.

Table 15

T-test Outcomes for First Grade ORF Mean Scores and Mean Rates of Improvement

Grade	Assessment		*t*	*df*	*p*
First Grade	ORF	Winter	-1.59	88	.120
		Spring	0.78	87	.440
		ROI, W-S	5.04	87	.000

In terms of ORF mean scores, analyses indicated no significant difference between the groups on either the ORF winter or spring measures.

In terms of ORF ROI mean scores from winter to spring, analyses indicated a significant difference, $t(87) = 5.043$, $p < .0001$, with the experimental group receiving a higher score than that of the control group.

Second grade. Table 16 provides the results of the statistical analyses for ORF mean scores and mean ROI for second grade.

Table 16

T-test Outcomes for Second Grade ORF Mean Scores and Mean Rates of Improvement

Grade	Assessment		*t*	*df*	*p*
Second Grade	ORF	Fall	-2.97	85	.004
		Winter	-1.13	81	.260
		Spring	-0.13	81	.900
		ROI, F-W	4.29	81	.000
		ROI, W-S	3.92	80	.000
		ROI, F-S	5.60	80	.000

In terms of ORF mean scores, statistical analyses compared the fall, winter, and spring scores for the two groups. Results indicated a significant difference in the fall, *t*(85) = -2.971, *p* < .01, with the control group receiving a higher mean score than that of the experimental group. Winter and spring differences were not significant.

In terms of ORF ROI mean scores, statistical analyses indicated significant differences for each variable, fall to winter, winter to spring, and fall to spring, *t*(81) = 4.286, *p* < .0001; *t*(80) = 3.921, *p* < .0001; *t*(80) = 5.600, *p* < .0001, respectively, with the experimental group receiving higher scores than those of the control group.

ORF summary of findings. Table 17 represents the levels of significance for the outcome measures and indicates the direction in which the variables were significant. The following components were found to be significant in the expected direction: first grade ROI for ORF; and second grade ROI for ORF, fall to winter, winter to spring, and fall to spring.

Table 17

Significance Levels and Direction for First and Second Grade ORF Mean Scores and Mean Rates of Improvement

			Experimental Group Higher	Control Group Higher
First Grade	ORF	Winter		
		Spring		
		ROI	****	
Second Grade	ORF	Fall		**
		Winter		
		Spring		
		ROI, F-W	****	
		ROI, W-S	****	
		ROI, F-S	****	

* = *p* < .008; ** = *p* < .004; *** = *p* < .001; **** = *p* < .0001

The following component was significant in favor of the control group: first grade ORF for fall. The following components were not statistically significant: first grade ORF (fall and winter) mean scores; and second grade ORF (fall, winter, and spring) mean scores. Of all the comparisons, all the ROIs (four out of nine comparisons) were significant in the expected direction. The hypothesis for this research question is, therefore, partially accepted depending on whether mean scores or mean ROIs were compared.

Question 3: Sex Differences

The third research question was, "For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for males versus females when data are aggregated across grade (i.e., kindergarten, first grade, and second grade)?" The hypothesis pertaining to the research question was that female students in the experimental group would show higher early literacy/ORF mean scores and mean ROIs when compared with their male counterparts in the experimental group, who were also instructed

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with Journeys. The descriptive data for males and females are found in
Table 18 below.

Table 18

Descriptive Statistics for Males and Females – Early Literacy and ORF

			Males			Females		
			N	*M*	*SD*	*N*	*M*	*SD*
Kindergarten	NWF	Winter	42	33.00	12.00	36	34.00	11.00
		Spring	41	45.00	13.00	35	53.00	18.00
		ROI	41	0.69	0.81	35	1.06	0.97
	PSF	Winter	43	51.00	14.00	35	52.00	15.00
		Spring	41	69.00	13.00	35	72.00	13.00
		ROI	41	0.98	0.53	34	1.16	0.91
	LNF	Fall	43	18.00	14.00	36	17.00	13.00
		Winter	43	48.00	11.00	36	48.00	13.00
		Spring	41	56.00	12.00	35	58.00	11.00
		ROI, F-W	42	1.67	0.80	35	1.67	0.69
		ROI, W-S	41	0.45	0.46	35	0.58	0.46
		ROI, F-S	40	1.08	0.43	34	1.13	0.38
First Grade	NWF	Fall	48	41.00	28.00	43	39.00	20.00
		Winter	48	75.00	31.00	41	68.00	26.00
		Spring	48	99.00	39.00	40	85.00	30.00
		ROI, F-W	46	1.79	0.94	41	1.60	0.92
		ROI, W-S	48	1.34	0.92	40	0.89	1.03
		ROI, F-S	46	1.57	0.65	40	1.25	0.56
	PSF	Fall	48	52.00	12.00	43	54.00	12.00
		Winter	48	59.00	14.00	41	62.00	12.00
		ROI, F-W	46	0.38	0.62	41	0.38	0.74
	LNF	Fall	48	48.00	15.00	43	44.00	12.00
	ORF	Winter	48	40.00	26.00	41	45.00	30.00
		Spring	48	72.00	29.00	40	75.00	32.00
		ROI, W-S	48	1.76	0.76	40	1.67	0.68
Second Grade	ORF	Fall	42	49.00	32.00	44	56.00	37.00
		Winter	40	82.00	37.00	42	89.00	38.00
		Spring	40	101.00	41.00	42	109.00	38.00
		ROI, F-W	40	1.70	0.83	42	1.92	0.74
		ROI, W-S	39	1.20	0.67	42	1.15	0.66
		ROI, F-S	39	1.44	0.51	42	1.54	0.52

In terms of inferential statistics, the independent samples t-
test was applied as the appropriate statistical procedure. There are
three assumptions of the independent samples t-test that are

established in order for the results to be considered valid (Ruvid, 2011). They are as follows: groups are independent of each other; a person or case may appear in only one of the groups; and there should be homogeneity of variances (i.e., the population variances are approximately the same). Ruvid also states that when the groups are similar in size, there is no reason to test for this third assumption. The first two assumptions are established in this study. The third assumption was not tested, as the groups were similar in size. As in research questions one and two, due to the multiple t-tests, the Bonferroni method was used to set the alpha values in order to correct for the increased chance of making a Type I error, or the chance of accepting the hypothesis when it is, in fact, inaccurate. Results of the Bonferroni multiple comparison calculation set the alpha value for the sex comparisons at 0.004 (α = .05/12) for kindergarten; 0.004 (α = .05/13) for first grade; and 0.008 (α = .05/6) for second grade. No statistically significant differences were established in terms of sex.

Kindergarten. Kindergarten scores for NWF and PSF were higher for females, however, not significant at p < .004. Female scores on LNF were higher than those of males on three of the six variables; males scored higher on one measure; and the sexes scored the same on two. None of these differences, however, reached the required .004 level of significance. In summary, 9 out of the 12 outcomes were in the expected direction, however, significance was not established.

First grade. Four out of the 13 outcomes were in the expected direction, with female mean scores higher than those of males; however, none of these reached the .004 required level of significance.

Second grade. Five out of the six outcomes were in the expected direction, with females obtaining higher mean scores than males; however, none of these reached the .008 required level of significance.

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Sex differences summary of findings. No statistically significant differences were found for sex across grade level. In some cases males scored higher and in some cases females scored higher, but in no cases were the differences large enough to conclude that population from which the sample was drawn included significant differences. The hypothesis for this research question is, therefore, rejected.

Question 4: Socioeconomic Differences

The fourth research question was, "For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for those from low socioeconomic environments when compared with those from average/high socioeconomic environments when data are aggregated across grade (i.e., kindergarten, first grade, and second grade)?" The hypothesis pertaining to the research question was that students from low socioeconomic environments would have lower ORF/early literacy mean scores and mean ROIs when compared with students from average or high socioeconomic environments. Low SES was operationalized as students receiving a free or reduced priced lunch at the attending school. Table 19 represents the descriptive statistics for students from low socioeconomic environments when compared with those from average or high socioeconomic environments in terms of early literacy and ORF mean scores and mean ROIs.

Table 19

Descriptive Statistics for Low SES and Average/High SES – Early

Literacy and ORF

Grade	Assessment		Free or Reduced Priced Lunch			Regular Priced Lunch		
			N	M	SD	N	M	SD
Kindergarten	NWF	Winter	29	31.00	9.00	49	36.00	12.00
		Spring	28	46.00	19.00	48	51.00	14.00
		ROI	28	0.85	1.01	48	0.86	0.85
	PSF	Winter	29	51.00	12.00	49	52.00	16.00
		Spring	28	71.00	12.00	48	70.00	13.00
		ROI	28	1.12	0.77	47	1.03	0.70
	LNF	Fall	29	17.00	13.00	50	18.00	14.00
		Winter	29	44.00	13.00	50	50.00	11.00
		Spring	28	54.00	14.00	48	59.00	10.00
		ROI, F-W	29	1.52	0.66	48	1.75	0.79
		ROI, W-S	28	0.52	0.49	48	0.50	0.45
		ROI, F-S	28	1.02	0.43	46	1.15	0.38
First Grade	NWF	Fall	37	35.00	14.00	54	44.00	29.00
		Winter	36	62.00	21.00	53	79.00	32.00
		Spring	36	79.00	31.00	52	102.00	36.00
		ROI, F-W	36	1.48	0.73	51	1.86	1.03
		ROI, W-S	36	0.97	0.94	52	1.25	1.01
		ROI, F-S	36	1.23	0.62	50	1.56	0.60
	PSF	Fall	37	53.00	13.00	54	53.00	11.00
		Winter	36	57.00	16.00	53	62.00	11.00
		ROI, F-W	36	0.25	0.73	51	0.47	0.63
	LNF	Fall	37	42.00	12.00	54	49.00	14.00
	ORF	Winter	36	34.00	21.00	53	48.00	31.00
		Spring	36	65.00	27.00	52	80.00	31.00
		ROI, W-S	36	1.69	0.72	52	1.73	0.72
Second Grade	ORF	Fall	39	39.00	25.00	47	65.00	37.00
		Winter	39	69.00	31.00	43	100.00	37.00
		Spring	40	90.00	35.00	42	121.00	38.00
		ROI, F-W	39	1.67	0.73	43	1.94	0.82
		ROI, W-S	39	1.21	0.62	42	1.15	0.70
		ROI, F-S	39	1.44	0.53	42	1.54	0.51

In terms of inferential statistics, the independent samples t-test was applied as the appropriate statistical procedure. As stated in research question four, there are three assumptions of the

independent samples t-test that are established in order for the

results to be considered valid (Ruvid, 2011). The first two

assumptions for this research question were established with groups

that are independent of each other and individual cases appearing in

only one of the groups. The third assumption was tested, as the groups

were dissimilar in size. Results showed that equal variances are

assumed for each grade level across the majority of the comparisons.

As in research questions one and two, the Bonferroni method was used to

set the alpha values in order to reduce the chance of making a Type I

error, or the chance of accepting the hypothesis when it is, in fact,

inaccurate. Results of the Bonferroni method set the alpha value for

the SES comparisons at 0.004 (α = .05/12) for kindergarten; 0.004 (α =

.05/13) for first grade; and 0.008 (α = .05/6) for second grade. The

following table delineates the t values, degrees of freedom, and the

significance levels obtained. Statistically significant differences

were established in terms of SES for first and second grades; however,

the majority of comparisons were not significant. There were no

significant differences for kindergarten comparisons.

Table 20

Statistical Outcomes for Low SES and Average/High SES – Early Literacy and ORF

Grade	Assessment		*t*	*df*	*p*
Kindergarten	NWF	Winter	1.87	76	.070
		Spring	1.24	74	.220
		ROI, W-S	-0.03	74	.980
	PSF	Winter	0.14	76	.890
		Spring	-0.20	74	.850
		ROI, W-S	0.51	73	.610
	LNF	Fall	0.31	77	.760
		Winter	2.10	77	.040
		Spring	1.84	74	.070
		ROI, F-W	-1.31	75	.200
		ROI, W-S	0.19	74	.850
		ROI, F-S	-1.27	72	.210
First Grade	NWF	Fall	1.71	89	.090
		Winter	2.99	87	**.004
		Spring	3.01	86	**.003
		ROI, F-W	-2.00	85	.050
		ROI, W-S	-1.32	86	.190
		ROI, F-S	-2.52	84	.010
	PSF	Fall	0.19	89	.850
		Winter	1.47	87	.150
		ROI, F-W	-1.56	85	.120
	LNF	Fall	2.36	89	.020
	ORF	Winter	2.48	87	.020
		Spring	2.36	86	.020
		ROI, W-S	0.29	86	.770
Second Grade	ORF	Fall	3.80	81	****.000
		Winter	4.11	80	****.000
		Spring	3.84	80	****.000
		ROI, F-W	1.61	80	.110
		ROI, W-S	-0.40	79	.690
		ROI, F-S	0.91	79	.360

* = *p* < .008; ** = *p* < .004; *** = *p* < .001; **** = *p* < .0001

Kindergarten. No statistically significant differences were established for kindergarten in terms of SES.

First grade. Mean scores for NWF winter and spring were statistically significant, *t*(2.99), *p* = .004; and *t*(3.01); *p* < .004,

respectively. All other first grade comparisons were not statistically significant at the corrected alpha of .004.

Second grade. All mean score comparisons (fall, winter, and spring) were statistically significant, $t(3.80)$, $p < .0001$; $t(4.11$; $p < .0001$; and $t(3.84)$, $p < .0001$, respectively, at p < .008. Mean ROI comparisons were not statistically significant at the corrected alpha of .008.

SES differences summary of findings. Table 21 represents the statistical significance for the outcome measures and indicates the direction in which the variables were significant. The following components were found to be significant in the expected direction: first grade NWF (winter and spring); and second grade ORF (fall, winter, and spring).

The conclusion, therefore, is a cautious probability that SES differences exist in the population. The hypothesis for this research question is, therefore, partially accepted depending on whether mean scores or mean ROIs were compared and depending on grade.

Table 21

Statistical Significance and Direction for SES Differences

Grade	Assessment		Full Priced Lunch Scoring Higher	Free/Reduced Lunch Scoring Higher
Kindergarten	NWF	Winter		
		Spring		
		ROI, W-S		
	PSF	Winter		
		Spring		
		ROI, W-S		
	LNF	Fall		
		Winter		
		Spring		
		ROI, F-W		
		ROI, W-S		
		ROI, F-S		
First Grade	NWF	Fall		
		Winter	**	
		Spring	**	
		ROI, F-W		
		ROI, W-S		
		ROI, F-S		
	PSF	Fall		
		Winter		
		ROI, F-W		
	LNF	Fall		
	ORF	Winter		
		Spring		
		ROI, W-S		
Second Grade	ORF	Fall	****	
		Winter	****	
		Spring	****	
		ROI, F-W		
		ROI, W-S		
		ROI, F-S		

$*$ = $p < .008$; $**$ = $p < .004$; $***$ = $p < .001$; $****$ = $p < .0001$

Analyses Summary of Confidential Teacher Data

Question 5: Treatment Integrity

The fifth research question was, "What was the level of program implementation fidelity during the study?" The hypothesis pertaining

to this research question was that treatment fidelity would be high with respect to teacher implementation of the Journeys reading program. This was assessed via three diverse methods: teacher self-report, direct classroom observation, and lesson plan review. Four out of 13 teachers of grades k-2 elected to voluntarily participate in this aspect of the study. The composition of teacher participation was as follows: one kindergarten teacher, two first grade teachers, and one second grade teacher. All four teachers participated in each of the three aforementioned methods of treatment fidelity assessment. For each of the three separate assessment methods, the points possible, points received, and mean percentage adherence were calculated, providing an indication of the degree of program adherence for the particular assessment method. The following paragraphs describe each of the three fidelity measures and how they were applied in this study.

Teacher self-report. In terms of teacher self-report data, questionnaires were collected from teachers after the first and third marking periods of the 2012-2013 school year, for a total of two per teacher, or a combined total of eight self-reports.

Direct classroom observation. In terms of direct classroom observations, data were collected during the fall, winter, and spring seasons of the 2012-2013 school year, for a total of three classroom observations per teacher, or a combined total of 12 observations.

Lesson plan review. In terms of review of teacher lesson plans, data were collected during the fall, winter, and spring seasons of the 2012-2013 school year. One full week of lesson plans were reviewed by the principle investigator for each of the three assessment points, for a total of three weeks of lesson plans per teacher, or a combined total of 12 weeks of lesson plans. Lesson plan weeks were randomly selected through use of the Excel Random Generator function.

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Overall, during examination of the data collected for the three grade levels pertaining to implementation integrity of the Journeys reading program, it was discovered that kindergarten had the lowest fidelity scores when compared with first and second grades. This finding was evident across all three assessment measures, especially with regard to teacher self-report.

Inferential statistics. In terms of inferential statistics, a confidence interval (CI) approach to hypothesis testing was applied to this research question. This involved using the sample means to estimate the population means via the creation of confidence intervals. A 95% confidence interval for the sample means was selected, and is interpreted as a 95% probability that the true population mean value lies within the CI obtained. The margin of error for the 95% CI is calculated as the sample mean percentage of program components implemented +/- [1.96 * standard error of measurement (SEM)]. For each of the eight measurements, means, SEMs, and 95% CIs were calculated for the four teachers (N = 4). Table 22 represents this information.

Table 22

Confidence Interval Calculations for the Eight Fidelity Measures of the Sample

Assessment	Time Pd.	N	Mean Percentage	SEM	Standard Deviation	95% CI Lower Bound	Upper Bound
Observation	Fall	4	83.89	3.35	6.7	77.32	90.46
	Winter	4	80.65	4.86	9.7	71.12	90.18
	Spring	4	86.70	4.63	9.3	77.63	95.77
Self-Report	1st Period	4	81.26	2.13	4.3	77.09	85.43
	3rd Period	4	67.94	4.00	8.0	60.10	75.78
Lesson Plan	Fall	4	96.14	1.52	3.0	93.16	99.12
	Winter	4	91.25	3.27	6.5	84.84	97.66
	Spring	4	93.33	3.14	6.3	87.18	99.48

Convergent evidence scaling. Convergent Evidence Scaling (CES)

(Busse, Elliott, & Kratochwill, 2010) provides a common metric for

aggregating data. This methodology allowed the principal investigator

to integrate the data collected from the classroom observations, self-

reports, and lesson plan reviews to obtain an overall integrity index

which provided an indication of how well the implemented intervention

fit the intervention model designated in the program materials. Figure

9 is a chart representing the CES numerical values and corresponding

qualitative descriptions.

Intervention integrity level	*Description of intervention integrity*
Level 5 – Highest	90-100% - All or nearly all of the intervention elements were managed consistently as designed and for the recommended time and schedule. The overall implementation was excellent.
Level 4	81-89% of intervention components were implemented as designed and the schedule and time were very good. The overall implementation was very good.
Level 3	75-80% of the intervention elements were implemented as designed and the schedule and time were good. The overall implementation was good.
Level 2	51-74% of the intervention elements were implemented as designed and the schedule and time were rather below expectations.
Level 1 - Lowest	Fewer than 50% of the intervention elements were used routinely and the amount of time and schedule of use was inconsistent. The overall implementation was poor.

Figure 9. CES values and qualitative descriptions.

     Table 23 represents the attributed CES numerical values and

explanatory classifications for each of the eight fidelity assessments.

Based on these data, it appears that the highest level of program implementation was found within the teacher lesson plans (i.e. CES numerical range = 4 - 5), suggesting a *very good* to *excellent* adherence to program components. Direct classroom observations yielded CES descriptions ranging from *somewhat below expectations* to *excellent* adherence (i.e., CES numerical range = 2 - 5). Lastly, teacher self-report data suggested program adherence ranging from *somewhat below expectations* to *very good* (i.e., CES numerical range = 2 – 4).

Table 23

Ascribed CES Levels and Qualitative Descriptions for the Eight Fidelity Measures of the Sample

Assessment	Time Pd.	95% CI Lower Bound	95% CI Upper Bound	CES Level	Qualitative Description
Observation	Fall	77.32	90.46	3 – 5	Good to excellent
	Winter	71.12	90.18	2 – 5	Somewhat Below to Excellent
	Spring	77.63	95.77	3 – 5	Good to excellent
Self-Report	1st Period	77.09	85.43	3 – 4	Good to Very Good
	3rd Period	60.10	75.78	2 – 3	Somewhat Below to Good
Lesson Plan	Fall	93.16	99.12	5	Excellent
	Winter	84.84	97.66	4 – 5	Very Good to Excellent
	Spring	87.18	99.48	4 – 5	Very Good to Excellent

Figure 10 provides a visual format to demonstrate the 95% CI range of the discrete mean percentages for each of the eight variables in terms of the CES numbering system.

In terms of overall convergence of the data as a whole, for the purpose of this study, a global extent of implementation was calculated using the mean percentage scores for all four teachers on the eight variables. The maximum CES score is equal to 40, while the minimum score is equal to 8. Interpretation of these scores is as follows: 1-8 = Overall implementation was *poor*; 9-16 = Implementation was *somewhat*

below expectations; 17-24 = Overall implementation was *good*; 25-32 = Overall implementation was *very good*; 33-40 = Overall implementation was *excellent*. The sum of the CES levels ascribed to the mean percentages for each of the eight variables is equal to 33, suggesting an overall *excellent* adherence to program components.
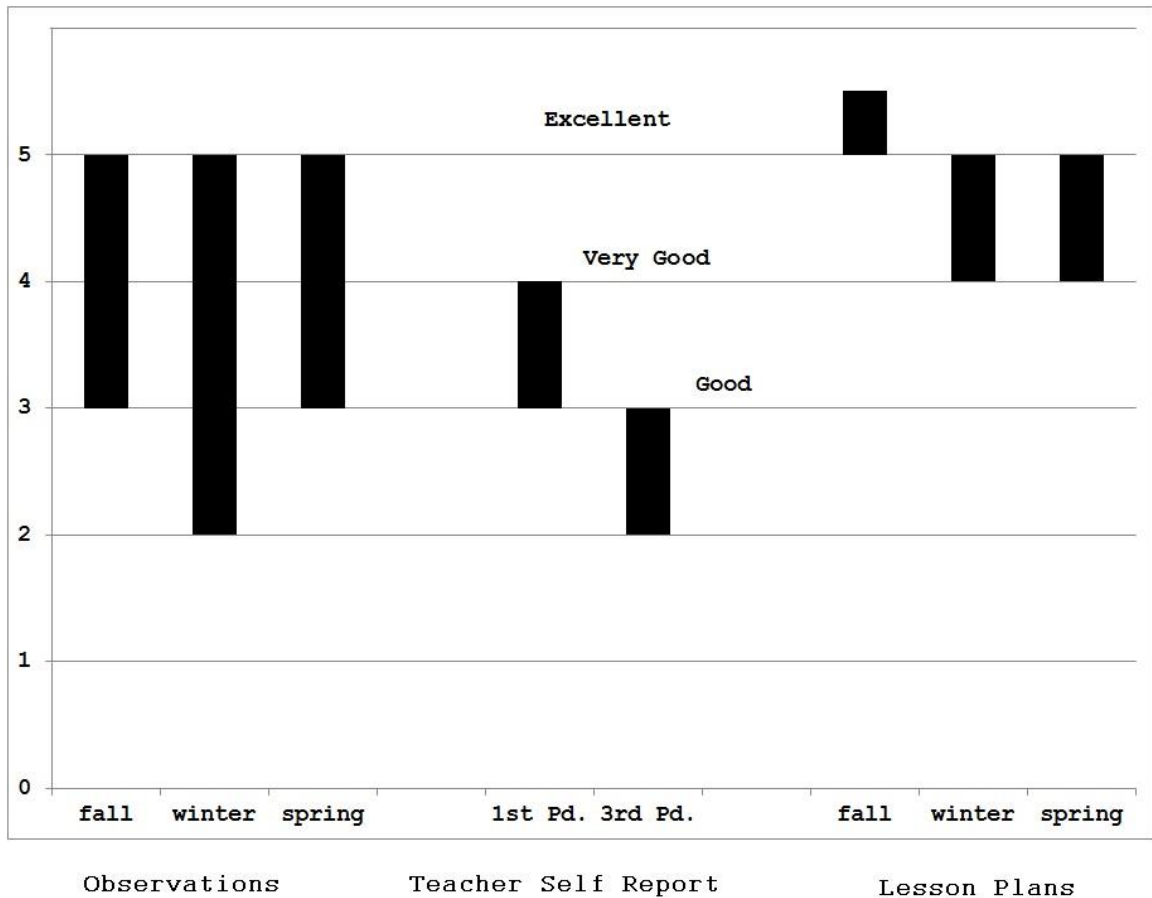
Figure 10. Ninety-five percent CES confidence intervals for the eight intervention integrity assessment variables. This figure illustrates the CES ascribed numerical values for the 95% CI of the sample percentage adherence means scores. The majority of the eight variables fall within the range of 3 – 5, or good to excellent.

In summary, these data suggest that, when using the sample mean percentages, the fidelity assessment data converges to a level considered *excellent*. When using the 95% CIs of the mean percentages,

the data converges to a level ranging from *somewhat below expectations* to *excellent*, with the majority concentrating in the range of *very good* to *excellent* in terms of overall intervention integrity.

Summary of Results

Results of the statistical analyses performed on the obtained data have been demarcated in the preceding paragraphs in order to answer the five research questions set forth in this study. The results indicated that the group instructed with the Journeys core reading program received scores that were superior to those of the control group (i.e., 2012 AIMSweb national normative sample) for the majority of the measures.

In terms of early literacy skills, the experimental group outperformed the control group overall in kindergarten, in terms of both mean score and mean ROI. The kindergarten control group scores exceeded the experimental group on only 1 of the 12 analyses. For first grade early literacy skills, the experimental group outperformed the control group on the majority of both mean score and mean ROI. The first grade control group outperformed the experimental on only 1 of the 10 analyses performed. The hypothesis for this research question is, therefore, largely accepted.

In terms of ORF, the experimental group outperformed the control group overall in both first and second grades, in terms of both mean score and mean ROI. The ORF control group scores exceeded the experimental group in only one of the nine analyses, which was the fall first grade measure. The experimental group outperformed the control group on four of the nine analyses, which were all ROIs. The hypothesis for this research question is, therefore, largely accepted, especially with respect to ROI.

Sex differences in the experimental group were not statistically significant. The hypothesis for this research question is, therefore, rejected.

In terms of SES, no differences were found for kindergarten. For first grade, students receiving a full priced lunch scored higher on only one of the four variables – NWF (winter and spring). Second grade differences were found for ORF in fall, winter, and spring mean scores. In no cases were differences found for ROI, and in no case did those receiving a free or reduced price lunch score higher on any variable. The hypothesis for this research question is, therefore, partially accepted.

In terms of treatment integrity, a confidence interval approach to hypothesis testing was used along with CES to determine the extent to which intervention components were implemented as intended. The confidence interval approach using the eight assessment variables yielded a 95% CI range of 60.10 – 99.48% adherence to intervention components. The CES method provided a total score of 33 out of a possible 40 points suggesting an overall excellent adherence to program components. Lesson plan reviews received the highest scores, followed by observations, and finally teacher self-reports. The hypothesis for this research question is, therefore, accepted.

CHAPTER V

DISCUSSION

Overview

The present study sought to investigate the effects of the use of a core reading program entitled Journeys, by Houghton Mifflin Harcourt, on the early literacy skills and oral reading fluency (ORF) of a group of approximately 270 students in kindergarten through second grade attending a rural elementary school in mid-western Pennsylvania. The study occurred during the third year of implementation of the program. In terms of formal reading instruction in the classroom, all students participating in the study had been exposed only to the Journeys reading program. Additionally, the study sought to determine whether sex and socioeconomic status (SES) differences exist for the sample of students instructed with Journeys, as the literature review suggested it should. Finally, treatment integrity was assessed using three methods: direct observation, teacher self-report, and lesson plan review. This was completed to address the fidelity with which the teachers in the study sample implemented the Journeys program in the classroom. The 2012 AIMSweb national normative data pertaining to early literacy skills and ORF were used as the control group in an attempt to determine whether the group instructed with only the Journeys program fared better on the outcome measures than the control group.

With the purpose of answering the proposed research questions, student archived-anonymous and confidential teacher data were analyzed to provide insight into the impact of the Journeys reading program on early literacy skills and ORF in grades K-2. While considering the limitations discussed later in this chapter, the results of this

quantitative research study provide interesting findings about this innovative and widely adopted reading program.

Summary of the Findings on Journeys' Effectiveness

To answer the research questions, archived-anonymous student data and confidential teacher data were utilized. The results from analyzing these sources of data were evaluated to aid in determining the effectiveness of the Journeys reading program on the early literacy skills and ORF of students in grades K-2. More specifically, the archived-anonymous student data in the form of AIMSweb early literacy and ORF assessments were used to answer research questions one through four, while confidential teacher data was used to answer research question five.

Research Question 1: Early Literacy Skills

The results of this study supported the literature review theories that the instructional elements incorporated into the Journeys reading program would significantly impact early literacy skills. The National Early Literacy Panel (NELP) meta-analysis identified six strong predictors that have medium to large correlations with later developing conventional literacy skills. They are alphabet knowledge, phonological awareness, rapid automatic naming (RAN) of letters or digits, RAN of objects or colors, writing or writing one's name, and phonological memory. Specifically, the NELP study analyzed five interventions that are typical in reading instruction. Four of those five elements are incorporated into Journeys' reading instruction. They are code-focused interventions, shared reading interventions, kindergarten programs, and language-enhanced interventions. These four interventions, as indicated by NELP, had moderate to large effects on early literacy skills. Code-focused interventions, especially phonological awareness training, had a large effect on phonological

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awareness, assessed by AIMSweb through the PSF measure. Phonological

awareness training and phonics had a large effect on alphabetic

knowledge and the alphabetic principle, assessed by AIMSweb through

Letter Naming Fluency (LNF) and Nonsense Word Fluency (NWF),

respectively. Shared reading interventions had a moderate effect on

print knowledge, which is assessed via AIMSweb's LNF and NWF, and on

early decoding, assessed via AIMSweb's NWF. Kindergarten programs had

a large impact on reading readiness and print knowledge, assessed via

AIMSweb's LNF and NWF. Finally, language-enhanced interventions (e.g.,

vocabulary development) had a moderate to large effect on print

knowledge, phonological awareness, and reading readiness, assessed via

AIMSweb's LNF, NWF, and Phoneme Segmentation Fluency (PSF).

Results of the present study show that these findings held for

the experimental group. The first research question was, "How do the

early literacy mean scores and mean ROIs of rural elementary students

who are instructed with the Journeys reading program compare with those

of elementary students who were included in the AIMSweb 2012 national

normative sample when data are disaggregated by grade (i.e.,

kindergarten, first grade, and second grade)?" The hypothesis

pertaining to this research question was that the mean scores and mean

ROIs of students instructed with Journeys would be higher than those of

students in the AIMSweb 2012 national normative sample.

Kindergarten. Of all the comparisons for kindergarten, the

majority were significant in the expected direction (i.e., 8 out of

12). The control group received higher scores only on the fall LNF

measure. This could be considered a major finding since this was the

only fall kindergarten measure. This suggests that the experimental

group was markedly different (i.e., weaker) in a key literacy skill

before they were even exposed to the Journey's program. This has

implications for all additional analyses. In other words, those fall

differences were likely due to a variety of factors, but not due to the

impact of the program, and the experimental group was disadvantaged in

terms of LNF prior to program exposure. Being that LNF for the

experimental group was higher than the control in the winter and

spring, it is suggestive that the Journeys program produced more growth

on this measure. LNF showed the strongest effects of the three early

literacy measures with two out of the assessed three ROIs higher for

the experimental group. This suggests the experimental group was

behind to begin with upon entering kindergarten and then, not only

equaled but, surpassed control group students in subsequent

assessments.

The kindergarten experimental group was higher than the control

in winter and spring on NWF and PSF; however, the ROI was not

significantly different between the groups. The three kindergarten

comparisons that did not show any significant differences were solely

ROIs. It may be that a ceiling effect occurred in these situations

(i.e., NWF and PSF), especially since the experimental group was

already significantly stronger at the winter assessment than the

control group. That the ROIs were not different between the groups,

and the experimental group continued to score higher at both assessment

points suggests that the control group growth was not ambitious enough

to catch up with the experimental group.

First grade. Seven of the ten comparisons were significant in the

expected direction with the experimental group receiving higher scores

than those of the control group. Two comparisons were not

significantly different – NWF and LNF Fall, meaning that the two groups

were comparable on this measure at the beginning. Only on the PSF fall

to winter ROI did the control group outscore the experimental group.

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Although the control group growth rate was superior, it was not enough to catch them up with the scores of the experimental group. Clearly, the first grade experimental group outperformed the control group in terms of early literacy skills.

Research Question 2: Oral Reading Fluency

One of the major findings pertaining to one's fluency development relates to the instructional components. Although there are individual child-related factors, such as minority status and SES, which also influence one's development of reading fluency, instruction is the one factor that can be modified. It was determined that repeated oral reading as an intervention had the strongest impact on a child's reading fluency (Kostewicz, 2012; National Institute of Child Health and Human Development, 2000; Therrien, 2004). The Journeys program uses this as a primary instructional component. This finding of the impact of repeated oral reading was supported in this study.

First and second grades. All mean ORF ROIs were statistically significant in favor of the experimental group irrespective of their initial achievement level. Only one ORF skill mean score difference was found to be significant; the second grade control group ORF mean score started out higher in the fall. This could have explained the ROI differences for second grade. In other words, if a group score is lower at an initial assessment point, the group needs to demonstrate a more ambitious rate of growth in order to equate itself with expected benchmarks. The experimental group did not end up significantly higher on any ORF mean skill time-point assessment; however, their ROIs were all significantly higher, suggesting that the program may have the potential to produce sufficiently ambitious ROIs for the purpose of catching up students whose skill levels are lower in first and second grade ORF. Again, this has significant implications. The groups did

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not differ at fall, winter, or spring ORF (with one exception of fall 2nd grade). Thus, the groups were statistically the same. Their growth, however, was the distinguishing factor between the two groups. In other words, ground was regained by the experimental group.

Research Question 3: Sex Differences

The results of this study did not find statistically significant differences in terms of sex for either early literacy skills or ORF. This finding is significant as the literature review predicted that sex differences should have occurred based on international and national assessments involving higher scoring on reading assessments for females. The Journeys program does not differentially address the sexes; however, since no sex differences were found, whatever contributes to females outscoring males in reading may be eliminated or moderated in some way in this program. The answer to that question is currently unknown. Perhaps there are specific skill deficits toward which males have a tendency, and the program is further accelerated in quality or activity in that domain. The Journeys program may be a good choice for schools that seem to have large sex differences in their reading scores.

Research Question 4: SES Differences

The fourth research question was, "For rural elementary students instructed with the Journeys program, in terms of ORF/early literacy skills, does the mean score or mean ROI differ for those from low socioeconomic environments when compared with those from average/high socioeconomic environments when data are aggregated across grade (i.e., kindergarten, first grade, and second grade)?"

Kindergarten. Results indicated no SES differences in kindergarten. This may be due to the fact that, for many children who come from low SES backgrounds, early intervention programs, such as

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HeadStart, are offered, and families must meet income guidelines in order for their preschoolers to participate. These programs typically take place five days per week and some are full day programs. They often include meals and transportation and emphasize school readiness skills and precursor literacy skills. For this reason, SES differences in the early grades may be more difficult to detect or may not be present at all.

First grade. For first grade, the only SES difference found was for NWF in the winter and spring, in favor of those not eligible for the federal school lunch program (i.e., the expected direction). This may be due to the findings that early intervention programs are initially effective; however, these effects decrease over time.

Second grade. Second grade results showed that fall, winter, and spring mean scores for students not eligible for the federal school lunch program were higher than those of their counterparts. It may be that early intervention effects have started to wane and literacy issues stemming from living in lower income homes are starting to emerge due to the lack of monetary benefit. For example, children from low SES backgrounds often do not have the ability to participate in after-school activities, as their parents may not have the gas money or a car in which to provide their transportation. Tutoring and other programs are often offered after school, and children need rides home in order to participate. These findings propose that SES may be a significant factor in literacy and ORF as a child becomes older. These findings coincide with current literature which suggests that early literacy programs have an initial positive impact on the reading achievement of young children; however, the preschool academic influence begins to decrease over time and children who are economically disadvantaged begin to lose ground in reading and the gap

becomes increasingly wider (Judge, 2013; U.S. Department of Health and Human Services, 2010; U.S. Department of Health and Human Services, 2012).

Research Question 5: Treatment Integrity

The fifth research question was, "What was the level of program implementation fidelity during the study?" The results of the confidence interval hypothesis testing procedure and Convergent Evidence Scaling suggest an overall very good to excellent adherence to program components. Teacher lesson plans had the highest scores suggesting that teachers spent time attempting to incorporate instruction as intended by the program. The second highest adherence scores were the direct observations. This may have been due to the fact that during the process of actual teaching, it is difficult to manage all the program materials, student behavior, and one's lesson plan book. It also may have been that the observer, although trained in these observations, missed some of the components because she was not as familiar with the program as were the teachers. Lastly, teacher self-reports had the lowest ratings. This was a very interesting finding since previous research has suggested that teachers either over rate themselves or rate themselves quite accurately (Hagermoser-Sanetti & Kratochwill, 2009). In this study, however, teacher ratings did not correspond well with either direct observations or lesson plans. It is possible that the teachers in the experimental group are overly critical of themselves, have higher expectations for themselves, or felt like the program required things they could not figure out how to incorporate well or thoroughly.

<div align="center">

Limitations

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Several limitations were evident in the present study. Two assumptions of the one-sample t-test were violated; however, this

statistical procedure is considered robust, meaning that results can still be useful even with assumption violation.

Second, while this was a sample of convenience, and generalizations must be made with caution, the subjects in the sample were representative of the population of students in the school district in which the study took place.

Third, the Bonferroni Multiple Comparison Correction method was used to lessen the chance of making Type I errors, or accepting the hypothesis when it is, in fact, erroneous. This correction method resulted in an especially small alpha value. This resulted in an increased chance of making Type II errors, or rejecting the hypothesis when it is, in fact, veritable. We, therefore, have a situation whereby some differences were not statistically significant due to the higher alpha value, when, in fact, they may have been true differences. It may be that the differences were undetected because of the higher standard set for accepting the hypotheses. There is no good solution to this limitation. One must contemplate whether a Type I or Type II error in this study is more risky and consider the results in light of this.

Furthermore, the investigators in this study were unable to obtain information pertaining to the training of control group assessment administrators and their administrative practices. It is unknown whether the control group assessors used the standard AIMSweb protocol for test administration and at what level they were trained.

In addition, it is unknown whether the experimental or control groups received any kind of instruction or practice during the summer that may have led to different results.

Finally, another limitation related to how ROI was operationalized. While the method used to calculate slope or ROI in

this study was appropriate for the present purposes, or for measuring difference scores within and between large groups, Fall-Winter, Winter-Spring, and Fall-Spring calculations are likely not an appropriate manner by which to calculate improvement for individual students. Ardoin and Christ (2008) and Christ, Monaghen, Zopluoglu, and Van Norman (2013) suggest that more growth is expected in ROI scores between fall and winter assessments than between the winter and spring assessments, proposing that these methods may be unreasonable for evaluating the growth of individual students within a progress monitoring framework.

Implications for the Practice of School Psychology

The foregoing research project has several implications for the professional practice of school psychology. As suggested, one of the most essential implications pertains to the research standpoint. Specifically, additional program evaluations are needed within the practice of school psychology. The article, *A Blueprint for Training and Practice* emphasizes this importance of program evaluation among practicing psychologists. Unfortunately, all too often, there is not enough time or resources to take on such an endeavor. The unfortunate aspect of this is that schools often adopt programs or interventions that have no Level III studies and are only loosely based upon research. In other words, programs are adopted with only the hope that they will be effective as cohesive packages or for groups of individuals in standard environments such as schools. There is a need for evaluations of programs and interventions when brought to scale, as treatments can differ widely when presented in a controlled environment as opposed to a typically operating environment. The present study can be useful in the field in demonstrating the manner in which program evaluation can effectively and efficiently be incorporated into the

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conventional practice of a school psychologist. This study is a practical example of Level III research that can be modeled in the field of practicing school psychologists. This is a valuable contribution as program evaluation is often not a widely employed practice. It provides a protocol for using one's local data to evaluate the effectiveness of a specific program.

Finally, this study provides information specific to a very popular reading program. It provides a unique contribution and extends the current evidence regarding the effectiveness of this program. This study provides a distinct comparison of sample data to national normative data that had not been previously accomplished. School psychologists can use this information to assist administrators and curriculum directors in selecting effect programs and interventions, rather than relying solely on the opinions of "experts" who are compensated to sell their specific products.

Recommendations for Future Research

Given the limitations of the present study, further follow-up and research is recommended. Some important directions for future research may include some of the following propositions. For example, the present study used a sample of convenience; however, further studies may incorporate use of a randomly-selected sample to increase external validity.

Additionally, the current study only examined program differences in the sample in terms of sex and SES. Future studies could examine whether the Journeys program is differentially effective for children in Title I reading, special education, general education only, or a combination of these. In other words, when compared with a control group, does the Journeys program do a better job at helping students with reading disabilities close the achievement gap? This could

include examining the students' current ROIs and comparing those with what is needed in order to meet benchmarks. In other words, as a possible future research question, "are students who are instructed with the Journeys reading program more likely to catch up to non-disabled peers in reading than a control group of students who are not instructed with this program?"

As previous research has suggested sex differences in early reading skills (Organization for Economic Co-operation and Development, n.d.; Chiu & McBride-Chang, 2006; and Rutter, et al., 2007), suggestions for future research may also include using the data from males and females, submitting their scores to national normative comparison data and investigating further the non-significant sex differences in this study and what it might be about the program that may be responsible for these effects. As a suggestion for future research, studies might incorporate whether Journeys is robust enough to overcome initial sex differences. In contrast, more recent findings have suggested no sex differences in early literacy (Below, Skinner, Fearrington, & Sorrell, 2010; Limbrick, Wheldall, & Madelain, 2012; and Wang, Algozzine, Wen, & Porfeli, 2011). The present results are consistent with these more recent findings.

Since CBM is a strong predictor of performance on state assessments, future investigative efforts could include examining whether students who are instructed with the Journeys reading program score higher on state assessments than a control group of students not instructed with the Journeys program. In a similar vein, comparisons using the TerraNova as an outcome measure might be logical given the literature discussed earlier in this study. Correspondingly, further studies could include the strength of the Journeys program in

predicting reading comprehension and overall achievement given the review of the literature on these topics, as well.

It is also recommended to incorporate into an evaluation of the Journeys program other aspects of reading approaches, not only those recommended by the NRP (2000). An example of this might include assessments of student and teacher program interest level, or likeability, of the Journeys program. There was some evidence, as the principal investigator was conducting observations, that the some of the teachers in the experimental group perceived the program as "boring". This was especially true for the kindergarten observation, which may be one reason for some of the lower fidelity scores.

Furthermore, since there were no program-specific fidelity checklists prior to this study, the principal investigator created her own. For this reason, no reliability or validity data existed on these checklists. Future research could include studies attempting to document the reliability and/or validity of these checklists.

Moreover, because the focus was on overall intervention integrity in this study, it might be helpful to ascertain whether there are certain program components that are implemented with greater or lesser fidelity. This can be accomplished through the determination of component integrity – the percentage of observation sessions in which each distinct component is implemented correctly. This would provide information into ways to increase the intervention integrity, which has been correlated with increased intervention success.

Additionally, it might be prudent to further examine the finding of lower fidelity scores within the kindergarten section. For example, if low program fidelity is established in kindergarten, what implications might this have for later achievement? Additionally,

future research might involve a determination of the possible reasons for lower fidelity at this grade level.

In a similar vein, since differences were observed between the results of the fidelity assessment measures (i.e., highest level of fidelity reported for lesson plan review), a suggestion for future research might involve determining which method of intervention integrity is a more superior method or accurate determination of such. This is topic that is understudied.

Finally, as this study involved calculating the ROI based upon fall, winter, and spring measures only, future research might involve an examination of potential differences in outcome based upon use of this ROI calculation method versus other suggested methods, such as having a more reliable data set (e.g., 14-16 data points) with which to perform calculations.

<div align="center">**Summary**</div>

This section dealt with the implications of the five research questions set forth in this study. They included investigating the effect of the Journeys core reading program on the early literacy skills and ORF of rural elementary students in grades K-2; assessing potential differences between males and females and SES; and evaluating the degree of intervention integrity. The results revealed higher scores for both early literacy and ORF assessments for the experimental group. No differences were found for sex. SES differences were most prominent as the students increased in grade level. No SES differences were found for kindergarten. The limitations of the study, implications for school psychology, and future directions for research were all discussed.

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AIMSweb CBM Administration Directions

CBM Directions for One-Minute Administration (Shinn & Shinn, 2002):

1. Place the unnumbered copy in front of the student.

2. Place the numbered copy in front of you so that the student cannot see what you record.
3. Say, "When I say begin, start reading aloud at the top of this page. Read across the page (demonstrate by pointing). Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions? (Pause)
4. Say, "Begin" and start your stopwatch when the student says the first word. If the student fails to say the first word of the passage after three seconds, tell them the word, mark it as incorrect, then start your stopwatch.
5. Follow along on your copy. Put a slash (/) through words read incorrectly.
6. At the end of one minute, put a bracket (]) after the last word and say, "Stop".
7. Score and summarize by writing WRC/errors

REDBANK VALLEY SCHOOL DISTRICT

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November 8, 2011

Dear Christina L. Smith and Indiana University of Pennsylvania:

It is the intent of the Redbank Valley School District (RVSD) to support the proposed research efforts of Christina L. Smith, Doctoral Student of Educational and School Psychology at the Indiana University of Pennsylvania (IUP). With approval from IUP's Institutional Review Board, Ms. Smith will have access to the following archival data regarding the cohort of K-2nd grade students who are enrolled at RVSD during the 2012-2013 academic year:

AIMSweb Early Literacy data and *AIMSweb Oral Reading Fluency* data administered during the 2012-2013 school year by the teachers as part of routine, ongoing progress monitoring. Additionally, Ms. Smith will conduct brief classroom observations in K-2 classrooms to document the fidelity with which the reading program is being implemented. Teachers will be asked to complete brief self-report questionnaires asking about their adherence to the district core reading program, and a review of permanent products in the form of lesson plans, etc. will be conducted. Permission to use the classroom observations, self-report questionnaires, and permanent product reviews will be obtained through informed consent letters which the teachers can voluntarily sign or choose not to sign. This information will be maintained in strict confidence as outlined in the consent letters.

RVSD will create reports with the student curriculum based measurement data, and will remove students' names, assigning each student an identifying number before giving the data to Ms. Smith. *Ms. Smith will not have access to the students' names.* The district will maintain the master list of codes and names.

The student codes will correspond to the following data provided by the RVSD:
o Age, grade, sex, race, free/reduced lunch status, and special education eligibility or Title I (if applicable).

It is important to clarify that these archived anonymous data are gathered and maintained as part of standard district practices. Presently, Ms. Smith is requesting only to access existing archival student data for analytic purposes. All student information collected will be anonymous. At no time will the students' names be associated with raw data.

Mr. Drzewiecki
District Superintendent
Redbank Valley School District

The Redbank Valley School District is an equal opportunity education institution

Intervention Integrity Documentation: Classroom Observation Checklist,

Teacher Self-Report Questionnaire, and Lesson Plan Review Form

Houghton Mifflin Harcourt, *Journeys*, Kindergarten "Teacher's Edition": Program Fidelity Checklist – Direct Observation Form

Observer Name: _____   Teacher Name/ID: _____

School District: _____   Class: _____

Date of Observation: _____   Total Time of Observation: _____

*** *Observer Instructions: Place a checkmark in the box if the program component is observed during the reading lesson.*

Day 1: (Monday)

- ***Opening Routines***

  - ☐ o Teacher reads - usually a brief reading (e.g., poem, etc.)
  - ☐ o Teacher tells the children what they will be learning about
  - ☐ o Have children tell something (e.g., share their ideas or experiences)
  - ☐ o Daily phonemic awarenes (e.g., beginning sounds)
  - ☐ o Daily high-frequency words (e.g., introduce; post the high-frequency word card)
  - o Vocabulary boost

    - ☐ ▪ Display the read aloud card
    - ☐ ▪ Briefly introduce children to the Oral Vocabulary Words
    - ☐ ▪ Tell the children they will encounter and learn about these words this week

- ***Teacher read aloud (story will be different each week)***

  - ☐ o Teacher gives the story summary

  - o ***Preview the story***

    - ☐ ▪ Display the cover and read the title aloud
    - ☐ ▪ Ask the children to predict what the selection will be about
    - ☐ ▪ Point to items on the cover and discuss them

  - ☐ o ***Teacher Models fluency***

- *Listening Comprehension*

  - ☐ ▪ Explain that asking questions while reading helps children understand what is being read
  - ☐ ▪ Ask questions

  - *Introduce oral vocabulary*

    - ☐ ▪ Pause to explain each vocabulary word
    - ☐ ▪ Discuss their meanings in the story

- *Phonemic Awareness/Phonics*

  - ☐ Teach/Model (e.g., beginning sounds)
  - ☐ Guided Practice/Apply (teacher displays the "Flip Chart"

- *Letter Names* (this is not done every time)

  - ☐ Preview the ABC's (e.g., alphabet songs or chants)
  - ☐ Teach/Model (display letter cards; cheer for any child whose name begins with...)
  - ☐ Guided Practice (hold up letter cards; have the children name the letters)
  - ☐ Apply (distribute letter cards to children; have the do an activity with the cards)

- *Introduce Words to Know*

  - ☐ Teach/Model – (display and discuss "vocabulary in context" cards)
  - ☐ Guided practice (display flip chart)
  - ☐ Apply (give students the "vocabulary in context" cards; have them complete the "Talk it Over" activity for the card during the week)

Total Components Possible = __26__
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 26 x 100) = _____

Day 2: (Tuesday)

- *Opening Routines*

  - ☐ Essential question
  - ☐ Connect to the essential question
  - ☐ Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)
  - ☐ Daily high frequency words

- ☐ ▪ Introduce
- ☐ ▪ "High Frequency Word Cards"
- ☐ ▪ Game (e.g., flashlight, blastoff, word train, etc.)
- ☐ o Daily vocabulary boost (review the oral vocabulary words and their explanations)

- *Phonemic Awareness/Phonics*

  - ☐ o Teach/model
  - ☐ o Guided practice/apply

- *Letter Names* (not always done)

  - ☐ o Preview the ABCs
  - ☐ o Teach/model (display letter cards; cheer for any child whose name begins with...)
  - ☐ o Guided practice (hold up letter cards; have the children name the letters)
  - ☐ o Apply (distribute letter cards to children; have the do an activity with the cards)

- *Introduce the Big Book*

  - ☐ o Develop background (introduce the concept of ... whatever the story is about)
  - ☐ o Comprehension skill (e.g., understanding characters, story structure, or text/graphic features, etc.)
  - ☐ o Comprehension strategies (e.g., infer/predict, monitor/clarify, analyze/evaluate, etc.

    - ☐ ▪ Use strategy projectable

  - ☐ o Set Purpose (explain that good readers set a purpose for reading)

- *Read the Big Book*

  - ☐ o Essential question (remind children of the big idea)

    - o Set purpose
      - ☐ ▪ Display the big book
      - ☐ ▪ Read aloud the title, etc.
      - ☐ ▪ Model setting a reading purpose

- *Develop Comprehension*

  - ☐ o Concepts of print
  - ☐ o Understanding the characters
  - ☐ o Strategy use (infer/predict, monitor/clarify, analyze/evaluate, etc.)

- *Wrap up the Big Book*

☐ o "Your Turn" – students complete activities related to the story
☐ o Concepts of print (e.g., directionality, letters and words, capitalization, etc.)
  o Retelling

  ☐ ▪ Display the flip chart and follow directions on it to retell the story
  ☐ ▪ Display the "retelling cards" and read aloud the prompts to the children

Total Components Possible = __29__
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 29 x 100) = _____

Day 3: Wednesday

- ***Opening Routines***

  ☐ o Essential question
  ☐ o Connect to the essential question
  ☐ o Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)
  o Daily high frequency words

  ☐ ▪ Introduce
  ☐ ▪ "High Frequency Word Cards"

  o Daily vocabulary boost

  ☐ ▪ Ask the children the following questions…
  ☐ ▪ Record their answers on the board
  ☐ ▪ Ask the children to explain some of the vocabulary words in their own words

- ***Phonemic awareness/phonics/fluency*** (e.g., words in oral sentences, beginning sounds)

  ☐ o Teach/model (e.g., sound spelling cards; sort or segment phonemes)
  ☐ o Guided practice/apply (e.g., students write on white board)

- ***Letter Names*** (not always done – check teacher's guide)

  ☐ o Preview the ABCs
  ☐ o Teach/model (display letter cards; cheer for any child whose name begins with…)
  ☐ o Guided practice (hold up letter cards; have the children name the letters)
  ☐ o Apply (distribute letter cards to children; have the do an activity with the cards, for example, find a partner and match upper and lower case)

- *__Decodable reader__*

  ☐ ○   Read the story

- *__Fluency__*

  ☐ ○   Retelling – have the children retell what is happening in the story on each page and in complete sentences

- *__Comprehension__*

  ☐ ○   Teach/model (academic language)
  ☐ ○   Guided practice – Turn and Talk
  ☐ ○   Apply ("Write about Reading")

Total Components Possible = _19_
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 19 x 100) = _____

Day 4: (Thursday)

- *__Opening Routines__*

  ☐ ○   Ask the essential question
  ☐ ○   Connect to the essential question
  ☐ ○   Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)

  ○   Daily high frequency words

      ☐ ▪   Introduce
      ☐ ▪   "High Frequency Word Cards"
      ☐ ▪   Game (e.g., Cheer and Chant, Word Jar, Pass the Word…)

  ○   Daily vocabulary boost

      ☐ ▪   Ask the children the following questions…
      ☐ ▪   Record their answers on the board
      ☐ ▪   Ask the children to explain some of the vocabulary words in their own words

- *__Letter Names __* (not always done on day 4 – check Teacher's Guide)

  ☐ ○   Preview the ABCs/Letter matching

- [ ] ○ Teach/model (display letter cards; cheer for any child whose name begins with...)

    ○ Guided practice

      - [ ] ▪ Hold up letter cards; have the children name the letters
      - [ ] ▪ Then display each card

- [ ] ○ Apply (distribute letter cards to children; have name the letter on their card)

- *Decodable reader/fluency* (not always done on day 4, check the Teacher's Guide)

- [ ] ○ Read the story

- *Vocabulary Strategies*

- [ ] ○ Teach/model (e.g., academic language)
- [ ] ○ Guided Practice (e.g., display the projectable)
- [ ] ○ Apply (activities vary)

- *Making Connections*

- [ ] ○ Connect to (e.g., social studies, science, poetry, traditional tales, etc.)

Total Components Possible = 19
Total Components Implemented (# checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 19 x 100) = _____

Day 5: (Friday)

- *Opening Routines*

- [ ] ○ Ask the essential question
- [ ] ○ Connect to the essential question
- [ ] ○ Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)

    ○ Daily high frequency words

- [ ] ▪ Introduce
- [ ] ▪ "High Frequency Word Cards"
- [ ] ▪ Game, class choice (e.g., Cheer and Chant, Word Jar, Word Train, Pass the Word…)

- o Daily vocabulary boost

- [ ] ▪ Reread the read aloud story
- [ ] ▪ Review the vocabulary words in the story as they appear

- *Letter Names* (not always done on day 5 – check Teacher's Guide)

- [ ] o Preview the ABCs/Letter matching
- [ ] o Teach/model (display letter cards; cheer for any child whose name begins with…)

- o Guided practice

- [ ] ▪ Hold up letter cards; have the children name the letters
- [ ] ▪ Then display each card

- [ ] o Apply (distribute letter cards to children; have name the letter on their card)

- *Connect and Extend*

- [ ] o Make connections to this week's reading (e.g., may use student "practice book", "reading log" and/or "listening log")

Total Components Possible = __14__
Total Components Implemented (# checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 14 x 100) = _____

Calculating "Component Integrity":

Components	A — Opportunities to Implement the Component (For the days on which observations occurred, count the number of times the component should have been addressed. Sum these and enter the number in this column.)	B — # of Times Component was Implemented (For the days on which observations occurred, count the number of times the component was actually addressed. Sum these and enter the number in this column.)	Component Integrity Index (B ÷ A x 100)
Opening Routines			
Teacher read aloud			
Listening Comprehension			
Introduce Vocabulary			
Phonemic Awareness/Phonics			
Decodable Reader			
Develop Background			
Introduce Comprehension			
Introduce Selection			
Read the selection			
Wrap up the Selection			
Develop Comprehension			
Deepen Comprehension			
Fluency			
Making Connections			

Vocabulary Strategies			
Letter Names			
Progress Monitoring/Assessments			

Session Integrity Summary Sheet (by class)

Class Observed: _____

Day(s) of Observations	% Session Integrity
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Total Direct Observation Integrity % (sum the raw number of components observed during observation days and ÷ by sum of possible number of components x 100)	

Houghton Mifflin Harcourt, *Journeys*, Kindergarten "Teacher's Edition": Program Fidelity Checklist – Teacher Self-Report

Teacher Name/ID: _____   School District: _____

Class: _____   Date of Rating: _____

*** Instructions: *Please rate the degree to which you implement the following Journeys components (listed below) during a typical five day school week. Place your numerical rating in the box to the left of each component. Please use the following rating scale:*

1 = <u>Never or Almost Never</u>   2 = <u>Rarely</u>   3 = <u>Sometimes</u>   4 = <u>Often</u>   5 = <u>Always or Almost Always</u>

Day 1: (Monday)

- **_Opening Routines_**

  - ☐ ○ Teacher reads - usually a brief reading (e.g., poem, etc.)
  - ☐ ○ Teacher tells the children what they will be learning about
  - ☐ ○ Have children tell something (e.g., share their ideas or experiences)
  - ☐ ○ Daily phonemic awarenes (e.g., beginning sounds)
  - ☐ ○ Daily high-frequency words (e.g., introduce; post the hig-frequency word card)

  - ○ Vocabulary boost

    - ☐ ▪ Display the read aloud card
    - ☐ ▪ Briefly introduce children to the Oral Vocabulary Words
    - ☐ ▪ Tell the children they will encounter and learn about these words this week

- **_Teacher read aloud (story will be different each week)_**

  - ☐ ○ Teacher gives the story summary

  - ○ **_Preview the story_**
    - ☐ ▪ Display the cover and read the title aloud
    - ☐ ▪ Ask the children to predict what the selection will be about
    - ☐ ▪ Point to items on the cover and discuss them

  - ☐ ○ **_Teacher Models fluency_**

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1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

    ○   **_Listening Comprehension_**

- ☐ ▪ Explain that asking questions while reading helps children understand what is being read
- ☐ ▪ Ask questions

    ○   **_Introduce oral vocabulary_**

- ☐ ▪ Pause to explain each vocabulary word
- ☐ ▪ Discuss their meanings in the story

- **_Phonemic Awareness/Phonics_**

- ☐ ○ Teach/Model (e.g., beginning sounds)
- ☐ ○ Guided Practice/Apply (teacher displays the "Flip Chart"

- **_Letter Names_** (this is not done every time)

- ☐
- ☐ ○ Preview the ABC's (e.g., alphabet songs or chants)
- ☐ ○ Teach/Model (display letter cards; cheer for any child whose name begins with...)
- ☐ ○ Guided Practice (hold up letter cards; have the children name the letters)
- ☐ ○ Apply (distribute letter cards to children; do an activity with the cards)

- **_Introduce Words to Know_**

- ○ ☐ Teach/Model – (display and discuss "vocabulary in context" cards)
- ○ ☐ Guided practice (display flip chart)
- ○ ☐ Apply (give students the "vocabulary in context" cards; have them complete the "Talk it Over" activity for the card during the week)

For Principal Investigator Use Only:
Total Points Possible Day 1= _130_
Total Self-Report Score (sum the teacher's ratings) = _____

1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

Day 2: (Tuesday)

- **_Opening Routines_**
  - ☐ o Essential question
  - ☐ o Connect to the essential question
  - ☐ o Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)

  - o Daily high frequency words

    - ☐ ▪ Introduce
    - ☐ ▪ "High Frequency Word Cards"
    - ☐ ▪ Game (e.g., flashlight, blastoff, word train, etc.)

  - ☐ o Daily vocabulary boost (review the oral vocabulary words and their explanations)

- **_Phonemic Awareness/Phonics_**

  - ☐ o Teach/model
  - ☐ o Guided practice/apply

- **_Letter Names_** (not always done)

  - ☐ o Preview the ABCs
  - ☐ o Teach/model (display letter cards; cheer for any child whose name begins with…)
  - ☐ o Guided practice (hold up letter cards; have the children name the letters)
  - ☐ o Apply (distribute letter cards to children; have the do an activity with the cards)

- **_Introduce the Big Book_**

  - ☐ o Develop background (introduce the concept of … whatever the story is about)
  - ☐ o Comprehension skill (e.g., understanding characters, story structure, or text/graphic features, etc.)
  - ☐ o Comprehension strategies (e.g., infer/predict, monitor/clarify, analyze/evaluate, etc.

    - ☐ ▪ Use strategy projectable

  - ☐ o Set Purpose (explain that good readers set a purpose for reading)

- **_Read the Big Book_**

  - ☐ o Essential question (remind children of the big idea)

1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

- ○ Set purpose
  - ▪ Display the big book
  - ▪ Read aloud the title, etc.
  - ▪ Model setting a reading purpose

- **_Develop Comprehension_**

  - ○ Concepts of print
  - ○ Understanding the characters
  - ○ Strategy use (infer/predict, monitor/clarify, analyze/evaluate, etc.)

- **_Wrap up the Big Book_**

  - ○ "Your Turn" – students complete activities related to the story
  - ○ Concepts of print (e.g., directionality, letters and words, capitalization, etc.)

  - ○ Retelling

    - ▪ Display the flip chart and follow directions on it to retell the story
    - ▪ Display the "retelling cards" and read aloud the prompts to the children

For Principal Investigator Use Only:
Total Points Possible Day 2= 145
Total Self-Report Score (sum the teacher's ratings) = _____

Day 3: Wednesday

- **_Opening Routines_**

  - ○ Essential question
  - ○ Connect to the essential question
  - ○ Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)

  - ○ Daily high frequency words

    - ▪ Introduce
    - ▪ "High Frequency Word Cards"

  - ○ Daily vocabulary boost

    - ▪ Ask the children the following questions…
    - ▪ Record their answers on the board
    - ▪ Ask the children to explain some of the vocabulary words in their own words

1 = Never or Almost Never   _2 = Rarely_   _3 = Sometimes_   _4 = Often_   _5 = Always or Almost Always_

- _**Phonemic awareness/phonics/fluency**_ (e.g., words in oral sentences, beginning sounds)

  - ☐ ○   Teach/model (e.g., sound spelling cards; sort or segment phonemes)
  - ☐ ○   Guided practice/apply (e.g., students write on white board)

- _**Letter Names**_ (not always done – check teacher's guide)

  - ☐ ○   Preview the ABCs
  - ☐ ○   Teach/model (display letter cards; cheer for any child whose name begins with...)
  - ☐ ○   Guided practice (hold up letter cards; have the children name the letters)
  - ☐ ○   Apply (distribute letter cards to children; have the do an activity with the cards, for example, find a partner and match upper and lower case)

- _**Decodable reader**_

  - ☐ ○   Read the story

- _**Fluency**_

  - ☐ ○   Retelling – have the children retell what is happening in the story on each page and in complete sentences

- _**Comprehension**_

  - ☐ ○   Teach/model (academic language)
  - ☐ ○   Guided practice – Turn and Talk
  - ☐ ○   Apply ("Write about Reading")

**For Principal Investigator Use Only:**
Total Points Possible Day 3= _95_
Total Self-Report Score (sum the teacher's ratings) =_____

Day 4: (Thursday)

- _**Opening Routines**_

  - ☐ ○   Ask the essential question
  - ☐ ○   Connect to the essential question
  - ☐ ○   Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)
  - ○   Daily high frequency words
    - ☐ ▪   Introduce

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1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

- ▪ "High Frequency Word Cards"
- ▪ Game (e.g., Cheer and Chant, Word Jar, Pass the Word...)

o Daily vocabulary boost

- ▪ Ask the children the following questions...
- ▪ Record their answers on the board
- ▪ Ask the children to explain some of the vocabulary words in their own words

- **_Letter Names_** (not always done on day 4 – check Teacher's Guide)

  o Preview the ABCs/Letter matching
  o Teach/model (display letter cards; cheer for any child whose name begins with...)

  o Guided practice

  - ▪ Hold up letter cards; have the children name the letters
  - ▪ Then display each card

  o Apply (distribute letter cards to children; have name the letter on their card)

- **_Decodable reader/fluency_** (not always done on day 4, check the Teacher's Guide)

  o Read the story

- **_Vocabulary Strategies_**

  o Teach/model (e.g., academic language)
  o Guided Practice (e.g., display the projectable)
  o Apply (activities vary)

- **_Making Connections_**
  o Connect to (e.g., social studies, science, poetry, traditional tales, etc.)

For Principal Investigator Use Only:
Total Points Possible Day 4= _95_
Total Self-Report Score (sum the teacher's ratings) = _____

Day 5: (Friday)

- **_Opening Routines_**

1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

- ○ Ask the essential question
- ○ Connect to the essential question
- ○ Phonemic awareness (e.g., beginning sounds; words in oral sentences, etc.)

  - ○ Daily high frequency words

    - ▪ Introduce
    - ▪ "High Frequency Word Cards"
    - ▪ Game, class choice (e.g., Cheer and Chant, Word Jar, Word Train, Pass the Word...)

  - ○ Daily vocabulary boost

    - ▪ Reread the read aloud story
    - ▪ Review the vocabulary words in the story as they appear

- • _Letter Names_ (not always done on day 5 – check Teacher's Guide)

  - ○ Preview the ABCs/Letter matching
  - ○ Teach/model (display letter cards; cheer for any child whose name begins with...)

  - ○ Guided practice

    - ▪ Hold up letter cards; have the children name the letters
    - ▪ Then display each card

  - ○ Apply (distribute letter cards to children; have name the letter on their card)

- • _Connect and Extend_

  - ○ Make connections to this week's reading (e.g., may use student "practice book", "reading log" and/or "listening log")

Houghton Mifflin Harcourt, *Journeys*, Kindergarten "Teacher's Edition": Program Fidelity Checklist

Permanent Product Review: Teacher Lesson Plans

Rater Name: _____   Teacher Name/ID: _____

School District: _____   Class: _____

Date of Observation: _____   Lesson Plan Selected from week: _____ to _____

*** *Rater Instructions: Review Kindergarten, first grade, and second grade teacher lesson plans from three randomly selected weeks during the 2012-2013 school year. Place a checkmark in the box if the program component is reflected in the lesson plan.*

Day 1: (Monday)

- ☐ • Opening Routines
- ☐ • Teacher read aloud (story will be different each week)
- ☐ • Phonemic Awareness/Phonics
- ☐ • Letter Names
- ☐ • Introduce Words to Know

Total Components Possible = 5
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 2: (Tuesday)

- ☐ • Opening Routines
- ☐ • Phonemic Awareness/Phonics
- ☐ • Letter Names
- ☐ • Introduce the Big Book
- ☐ • Read the Big Book
- ☐ • Develop Comprehension
- ☐ • Wrap up the Big Book

Total Components Possible = 7
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 3: Wednesday

- □ • Opening Routines
- □ • Phonemic Awareness/Phonics
- □ • Fluency
- □ • Letter Names
- □ • Decodable reader
- □ • Fluency
- □ • Comprehension

Total Components Possible = __7__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 4: (Thursday)

- □ • Opening Routines
- □ • Letter Names
- □ • Decodable reader/fluency
- □ • Vocabulary Strategies
- □ • Making Connections

Total Components Possible = __5__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 5: (Friday)'

- □ • Opening Routines
- □ • Letter Names
- □ • Connect and Extend

Total Components Possible = __3__
Total Components Implemented (# checks) = _____

"Permanent Product Integrity"

Total components possible = 27
Total Checkmarks = _____

% Integrity = # checkmarks ÷ possible components x 100 = _____

Houghton Mifflin Harcourt, *Journeys*, First Grade "Teacher's Edition": Program Fidelity Checklist – Direct Observation Form

Observer Name: _____   *Teacher Name/ID:* _____

School District: _____   *Class:* _____

Date of Observation: _____   *Total Time of Observation:* _____

*** Observer Instructions: Place a checkmark in the box if the program component is observed during the reading lesson.

Day 1: (Monday)

- ***Opening Routines***
  - ☐ ○ Essential question
  - ☐ ○ Connect to the essential question
  - ☐ ○ Phonemic awareness (e.g., beginning sounds; final sounds, etc.)

  - ○ Daily high frequency words
    - ▪ Introduce
      - ☐ • Point to the "words to know" on the "Focus Wall"
      - ☐ • Use "Instructional Routine"
      - ☐ • Use "High Frequency Word Cards"

  - ☐ ○ Daily vocabulary boost
    - ☐ ▪ Guide the children to interact with the previous week's Oral Vocabulary Words (the children may work together to explain the meaning of the words)

- ***Teacher read aloud (story will be different each week)***

- ☐ ○ Teacher reads the story aloud

- ☐ ○ *Teacher Models fluency*

  - ☐ ▪ Tell the children things that good readers do (e.g., read each word correctly, attend to punctuation, etc.)

  - ○ *Introduce oral vocabulary*

    - ☐ ▪ Use "instructional routines" to define each highlighted oral vocabulary word
    - ☐ ▪ Discuss the meaning of each word as it is used in the story

  - ○ *Listening Comprehension*

    - ☐ ▪ Ask the children questions about the story/poem

- ***Introduce Words to Know***

  - ○ Teach

    - ▪ Materials:

      - ☐ • Display and discuss "Vocabulary in Context" cards

      - ☐ • See also "Instructional Routine"

      - ☐ • Direct children to use the "Student Book"

    - ▪ Steps:

      - ☐ • Read and pronounce the word

      - ☐ • Explain the word

      - ☐ • Discuss vocabulary in context

      - ☐ • Engage with the word

  - ○ Practice/Apply

    - ☐ ▪ Give partners or small groups one or two "vocabulary in context" cards

- ☐ Have them complete the "Talk it Over" activity for each card
- ***Phonemic Awareness/Phonics***

  - ☐ Phonemic awareness warm-up (guide the children to listen for certain things; e.g., short /o/ sound, etc.)

  - ○ Teach/Model
    - ☐ "Sound/Spelling Cards" (display the card; name the picture; say the sound and give the spelling)

  - ○ Guided Practice
    - ☐ "Sound-by-sound blending routine" (display letter card, add cards, blend sounds)

  - ○ Apply
    - ☐ Have children use letter cards to take turns building and reading words (often done in partners)

- ***Phonics/Spelling***

  - ○ Teach/Model
    - ☐ Connect sounds to spelling
    - ☐ Review "Sound/Spelling Cards"
    - ☐ Use "Instructional Routine"
    - ☐ Model how to spell the words
  - ○ Guided Practice
    - ☐ Connect sounds to writing

  - ○ Apply
    - ☐ Read decodable sentences for the children to write

- ***Decodable Reader***

  - ☐ Teacher reads the story

- ☐ ○ Review sounds and words to know
- ☐ ○ Preview and predict what will happen
- ☐ ○ Model fluency, phrasing, accuracy, intonation, etc.
- ☐ ○ Remind the children to track the words from left to right

Total Components Possible = __38__
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 38 x 100) = _____

Day 2: (Tuesday)

- **_Opening Routines_**

  - ☐ ○ Essential question

  - ☐ ○ Connect to the essential question

  - ☐ ○ Phonemic awareness (e.g., beginning sounds; final sounds, etc.)

  - ☐ ○ Daily high frequency words

    - ☐ ▪ Introduce

      - ☐ • Point to the "high frequency word cards"

  - ☐ ○ Daily vocabulary boost

    - ☐ ▪ Review the oral vocabulary words and their definitions with the children

      - ☐ • remind them that they heard these words in yesterday's read aloud

    - ☐ ▪ Recall with children the story events and then guide them to interact with each word's meaning

- **_Phonemic Awareness/Phonics_**

  - ☐ ○ Phonemic awareness warm-up (e.g., teacher says "Let's play a game. I'll say some sounds and you blend the sounds into a word.")

  - ○ Teach/Model

    - ☐ ▪ "Sound by Sound Blending Routine"

- ☐ • Use "Instructional Routine" to model blending a word using "letter cards"

- ☐ • Write words and sentences from teacher manual

- ☐ • Call on individuals to blend and read one or more words and to read the sentence.

  - o Guided Practice

    - ☐ ▪ Build words

  - o Apply

    - ☐ ▪ Have children use letter cards to take turns building and reading words (often done in partners)

- ***Decodable Reader***

  - ☐ o Teacher reads the story
  - ☐ o Review sounds and words to know
  - ☐ o Preview and predict what will happen
  - ☐ o Model fluency, phrasing, accuracy, intonation, etc.
  - ☐ o Remind the children to track the words from left to right and top to bottom
  - ☐ o Responding – children respond

- ***Develop Background***

  - o Teach/model
    - ☐ ▪ Explain a little bit about the book
    - ☐ ▪ Page through the book with the children

  - o Guided practice
    - ☐ ▪ Together with children, read sentences in "Student Book".
    - ☐ ▪ Ask the children questions in the Teacher's Guide

  - o Apply
    - ☐ ▪ Usually partners working together on something (e.g., answering questions or writing)

  - o Selection Vocabulary

- ☐ ▪ Tell the children they may see words they do not recognize as they read the story.
- ☐ ▪ Share the explanations of the selection vocabulary with the children.

- **_Introduce Comprehension_**

  - ○ Teach/model

    - ☐ ▪ Academic language (e.g., characters)
    - ☐ ▪ Read and discuss with children "student book" pg.___
    - ☐ ▪ Display projectable

  - ☐ ○ Guided Practice
  - ☐ ○ Apply (e.g., usually having the children copy something, or asking them to work in partners to discuss a topic, etc.)

- **_Introduce the Selection_**

  - ☐ ○ Read aloud "Student Book" pg. ___

  - ☐ ○ Have the students identify the genre (e.g., fantasy, realistic fiction, etc.)

  - ☐ ○ Read aloud and discuss the essential question in the Student Book(remind children of the big idea)

  - ○ Set purpose

    - ☐ ▪ Read aloud the title, authors' names, illustrators, etc.

    - ☐ ▪ Model setting a reading purpose

    - ☐ ▪ Have the children page through the selection and tell their purpose for reading it.

    - ☐ ▪ Have them record their purposes in their journals.

- **_Develop Comprehension_**

  - ☐ ○ Teacher asks questions that address some or all of the following: identify cause and effect; infer to understand characters; infer/predict;

determine the sequence of events; develop oral vocabulary; analyze text and graphic features; interpret text and graphic features; infer story structure; main ideas and details; author's purpose;

Total Components Possible = __43__
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 43 x 100) = _____

Day 3: Wednesday

- *Opening Routines*

  - ☐ ○ Essential question

  - ☐ ○ Connect to the essential question

  - ☐ ○ Phonemic awareness (e.g., blending phonemes, identifying initial sounds, etc.)

  - ☐ ○ Daily high frequency words

    - ☐ ▪ Introduce

      - ☐ • Point to the "high frequency word cards"

  - ☐ ○ Daily vocabulary boost

    - ☐ ▪ Guide the children to interact with the oral vocabulary words by asking the following questions: _____

      - ☐ • Remind them to speak clearly when participating in discussion

    - ☐ ▪ Ask children to work together to explain the vocabulary in their own words

- *Phonemic Awareness/Phonics*

  - ☐ ○ Phonemic awareness warm-up (e.g., children listen for and blend words)

  - ○ Teach/Model

    - ☐ ▪ Introduce words with certain letters

      - ☐ • Display the "sound/spelling cards" for those words

      - ☐ • Write and read the words with those letters

  - ○ Guided Practice

    - ☐ ▪ Sound by sound blending routine

- ☐ • Display a letter card
- ☐ • Add a letter card
- ☐ • Blend the sounds
- ☐ • Decoding: call on individuals to blend one or more words and to read the sample sentences
  - ○ Apply
    - ☐ ▪ Have children use letter cards to take turns building and reading words (often done in partners)

- *Fluency*
  - ○ Teach/Model
    - ☐ ▪ Tell the children things that good readers do (e.g., read by paying attention to punctuation, read for meaning, can make the words they read sound like conversation, etc.)
    - ☐ ▪ Display the "Projectable"
  - ○ Guided Practice
    - ☐ ▪ Children participate in "projectable" through various activities (e.g., choral reading, etc.)
  - ○ Apply
    - ☐ ▪ Have pairs practice reading the sentences together (from the projectable) several times

- *Decodable reader*

  - ☐ ○ Read the story
  - ☐ ○ Review sounds and/or letters
  - ☐ ○ Review "words to know"
  - ☐ ○ Preview the story
  - ☐ ○ Children predict what they think the story is about
  - ☐ ○ Teacher models fluency
  - ☐ ○ Read (have children read silently and then choral read-aloud)
  - ☐ ○ Teacher coaches children to read fluently

- ☐ ○ Respond (children respond in some way, often taking turns to retell story to a partner)

- • ***Deepen Comprehension***

  - ○ Teach/model

    - ☐ ▪ Academic language

    - ☐ ▪ Use "projectable"

  - ○ Guided practice

    - ☐ ▪ "Turn and Talk"

  - ○ Apply

    - ☐ ▪ "Write about Reading"

      - ☐ • Have children draw or write their answers to the Turn and Talk question

Total Components Possible = __38__
Total Components Implemented (sum the # of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 38 x 100) = _____

Day 4: (Thursday)

- • ***Opening Routines***

  - ☐ ○ Ask the essential question

  - ☐ ○ Connect to the essential question

  - ☐ ○ Phonemic awareness (e.g., blending phonemes, etc.)

  - ☐ ○ Daily high frequency words

    - ☐ ▪ Introduce

      - ☐ • Point to the "high frequency word cards"

- ○ Daily vocabulary boost
  - ▪ Guide the children to interact with the oral vocabulary words by asking the following questions: _____
    - • Remind them to speak clearly when participating in discussion
  - ▪ Ask children to work together to explain the vocabulary in their own words

- ***Phonemic Awareness/Phonics***

  - ○ Phonemic awareness warm-up (e.g., tell the children that you will say a word and then ask them to say a word that rhymes with that word and begins with the sound you name)

  - ○ Make and read words

  - ○ Grouping words by sound

- ***Decodable reader***

  - ○ Read the story

  - ○ Review sounds and/or letters

  - ○ Review "words to know"

  - ○ Preview the story

  - ○ Teacher models fluency

  - ○ Read (have children read silently and then choral read-aloud)

  - ○ Respond (children respond in some way, often taking turns to retell story to a partner)

- ***Making Connections***

  - ○ Connect to (e.g., social studies, science, poetry, readers' theater, traditional tales, etc.)

  - ○ Use the "Student Book"

- o   Daily vocabulary boost
  - ☐ ▪   Guide the children to interact with the oral vocabulary words by asking the following questions: _____
    - ☐ •   Remind them to speak clearly when participating in discussion
    - ☐ ▪   Ask children to work together to explain the vocabulary in their own words

- **_Phonemic Awareness/Phonics_**
  - ☐ o   Phonemic awareness warm-up (e.g., tell the children that you will say a word and then ask them to say a word that rhymes with that word and begins with the sound you name)
  - ☐ o   Make and read words
  - ☐ o   Grouping words by sound

- **_Decodable reader_**
  - ☐ o   Read the story
  - ☐ o   Review sounds and/or letters
  - ☐ o   Review "words to know"
  - ☐ o   Preview the story
  - ☐ o   Teacher models fluency
  - ☐ o   Read (have children read silently and then choral read-aloud)
  - ☐ o   Respond (children respond in some way, often taking turns to retell story to a partner)

- **_Making Connections_**
  - ☐ o   Connect to (e.g., social studies, science, poetry, readers' theater, traditional tales, etc.)
  - ☐ o   Use the "Student Book"

□ ▪ Have the children look through the "Decodable Reader" and review this week's stories

□ ▪ Have the children read independently for a period of time

□ ○ Extend through research

□ ○ Listening and speaking (e.g., ask children to share information)

□ • ***Progress Monitoring (assess)***

Total Components Possible = __16__
Total Components Implemented (# checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 16 x 100) = _____

Calculating "Component Integrity":

Components	A Opportunities to Implement the Component (For the days on which observations occurred, count the number of times the component should have been addressed. Sum these and enter the number in this column.)	B # of Times Component was Implemented (For the days on which observations occurred, count the number of times the component was actually addressed. Sum these and enter the number in this column.)	Component Integrity Index (B ÷ A x 100)
Opening Routines			
Teacher Read Aloud			
Introduce words to know			
Phonemic Awareness/Phonics			
Phonics/spelling			
Decodable Reader			
Develop background			
Introduce comprehension			
Introduce the selection			
Develop comprehension			
Fluency			
Deepen Comprehension			
Making Connections/Connect and Extend			
Vocabulary Strategies			
Progress Monitoring/Assess			

Session Integrity Summary Sheet (by class)

Class Observed: _____

Day(s) of Observations	% Session Integrity
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Total Direct Observation Integrity (across all observation days)% (sum the raw number of components observed during observation days and ÷ by sum of possible number of components x 100)	

Houghton Mifflin Harcourt, *Journeys*, Grade One "Teacher's Edition": Program Fidelity Checklist – Teacher Self-Report

Teacher Name/ID: _____   *School District:* _____

Class: _____   *Date of Rating:* _____

*** Instructions: *Please rate the degree to which you implement the following Journeys components (listed below) during a typical five day school week. Place your numerical rating in the box to the left of each component. Please use the following rating scale:*

1 = <u>Never or Almost Never</u>   2 = <u>Rarely</u>   3 = <u>Sometimes</u>   4 = <u>Often</u>   5 = <u>Always or Almost Always</u>

Day 1: (Monday)

- ***Opening Routines***

  - ☐ o Essential question

  - ☐ o Connect to the essential question

  - ☐ o Phonemic awareness (e.g., beginning sounds; final sounds, etc.)

  - o Daily high frequency words

    - ▪ Introduce

      - ☐ • Point to the "words to know" on the "Focus Wall"

      - ☐ • Use "Instructional Routine"

      - ☐ • Use "High Frequency Word Cards"

  - ☐ o Daily vocabulary boost

    - ☐ ▪ Guide the children to interact with the previous week's Oral Vocabulary Words (the children may work together to explain the meaning of the words)

- ***Teacher read aloud (story will be different each week)***

  - ☐ o Teacher reads the story aloud

1 = <u>Never or Almost Never</u>   2 = <u>Rarely</u>   3 = <u>Sometimes</u>   4 = <u>Often</u>   5 = <u>Always or Almost Always</u>

- ☐ ○ ***<u>Teacher Models fluency</u>***
    - ☐ ▪ Tell the children things that good readers do (e.g., read each word correctly, attend to punctuation, etc.)
  - ○ ***<u>Introduce oral vocabulary</u>***
    - ☐ ▪ Use "instructional routines" to define each highlighted oral vocabulary word
    - ☐ ▪ Discuss the meaning of each word as it is used in the story
  - ○ ***<u>Listening Comprehension</u>***
    - ☐ ▪ Ask the children questions about the story/poem

- ● ***<u>Introduce Words to Know</u>***
  - ○ Teach
    - ▪ Materials:
      - ☐ • Display and discuss "Vocabulary in Context" cards
      - ☐ • See also "Instructional Routine"
      - ☐ • Direct children to use the "Student Book"
    - ▪ Steps:
      - ☐ • Read and pronounce the word
      - ☐ • Explain the word
      - ☐ • Discuss vocabulary in context
      - ☐ • Engage with the word
  - ○ Practice/Apply
    - ☐ ▪ Give partners or small groups one or two "vocabulary in context" cards

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☐ ▪ Have them complete the "Talk it Over" activity for each card

- **_Phonemic Awareness/Phonics_**

  ☐ o Phonemic awareness warm-up (guide the children to listen for certain things; e.g., short /o/ sound, etc.)

  o Teach/Model

  ☐ ▪ "Sound/Spelling Cards" (display the card; name the picture; say the sound and give the spelling)

  o Guided Practice

  ☐ ▪ "Sound-by-sound blending routine" (display letter card, add cards, blend sounds)

  o Apply

  ☐ ▪ Have children use letter cards to take turns building and reading words (often done in partners)

- **_Phonics/Spelling_**

  o Teach/Model

  ☐ ▪ Connect sounds to spelling

  ☐ ▪ Review "Sound/Spelling Cards"

  ☐ ▪ Use "Instructional Routine"

  ☐ ▪ Model how to spell the words

  o Guided Practice

  ☐ ▪ Connect sounds to writing

  o Apply

  ☐ ▪ Read decodable sentences for the children to write

- **_Decodable Reader_**

1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

☐ ○ Teacher reads the story

☐ ○ Review sounds and words to know

☐ ○ Preview and predict what will happen

☐ ○ Model fluency, phrasing, accuracy, intonation, etc.

☐ ○ Remind the children to track the words from left to right

For Principal Investigator Use Only:

Total Points Possible Day 1= __190__

Total Self-Report Score (sum the teacher's ratings) = _____

Day 2: (Tuesday)

- **_Opening Routines_**

  ☐ ○ Essential question

  ☐ ○ Connect to the essential question

  ☐ ○ Phonemic awareness (e.g., beginning sounds; final sounds, etc.)

  ☐ ○ Daily high frequency words

    ☐ ▪ Introduce

      ☐ • Point to the "high frequency word cards"

  ☐ ○ Daily vocabulary boost

    ☐ ▪ Review the oral vocabulary words and their definitions with the children

      ☐ • Remind them that they heard these words in yesterday's read aloud

☐ ▪ Recall with children the story events and then guide them to interact with each word's meaning

- ***Phonemic Awareness/Phonics***

  ☐ ○ Phonemic awareness warm-up (e.g., teacher says "Let's play a game. I'll say some sounds and you blend the sounds into a word.")

  ○ Teach/Model

  ☐ ▪ "Sound by Sound Blending Routine"

  ☐ • Use "Instructional Routine" to model blending a word using "letter cards"

  ☐ • Write words and sentences from teacher manual

  ☐ • Call on individuals to blend and read one or more words and to read the sentence.

  ○ Guided Practice

  ☐ ▪ Build words

  ○ Apply

  ☐ ▪ Have children use letter cards to take turns building and reading words (often done in partners)

- ***Decodable Reader***

  ☐ ○ Teacher reads the story

  ☐ ○ Review sounds and words to know

  ☐ ○ Preview and predict what will happen

  ☐ ○ Model fluency, phrasing, accuracy, intonation, etc.

  ☐ ○ Remind the children to track the words from left to right and top to bottom

  ☐ ○ Responding – children respond

- ***Develop Background***

  - Teach/model

    - ☐ ▪ Explain a little bit about the book

    - ☐ ▪ Page through the book with the children

  - Guided practice

    - ☐ ▪ Together with children, read sentences in "Student Book".

    - ☐ ▪ Ask the children questions in the Teacher's Guide

  - Apply

    - ☐ ▪ Usually partners working together on something (e.g., answering questions or writing)

  - Selection Vocabulary

    - ☐ ▪ Tell the children they may see words they do not recognize as they read the story.

    - ☐ ▪ Share the explanations of the selection vocabulary with the children.

- ***Introduce Comprehension***

  - Teach/model

    - ☐ ▪ Academic language (e.g., characters)

    - ☐ ▪ Read and discuss with children "student book" pg.___

    - ☐ ▪ Display projectable

  - ☐ Guided Practice

  - ☐ Apply (e.g., usually having the children copy something, or asking them to work in partners to discuss a topic, etc.)

- ***Introduce the Selection***

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1 = *Never or Almost Never*   2 = *Rarely*   3 = *Sometimes*   4 = *Often*   5 = *Always or Almost Always*

- ☐ ○ Read aloud "Student Book" pg. ____

- ☐ ○ Have the students identify the genre (e.g., fantasy, realistic fiction, etc.)

- ☐ ○ Read aloud and discuss the essential question in the Student Book (remind children of the big idea)

  - ○ Set purpose

    - ☐ ▪ Read aloud the title, authors' names, illustrators, etc.

    - ☐ ▪ Model setting a reading purpose

    - ☐ ▪ Have the children page through the selection and tell their purpose for reading it.

    - ☐ ▪ Have them record their purposes in their journals.

- **Develop Comprehension**

  - ☐ Teacher asks questions that address some or all of the following: identify cause and effect; infer to understand characters; infer/predict; determine the sequence of events; develop oral vocabulary; analyze text and graphic features; interpret text and graphic features; infer story structure; main ideas and details; author's purpose;

For Principal Investigator Use Only:

Total Points Possible Day 2= 215

Total Self-Report Score (sum the teacher's ratings) = _____

Day 3: Wednesday

- **Opening Routines**

  - ☐ ○ Essential question

  - ☐ ○ Connect to the essential question

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1 = *Never or Almost Never*   2 = *Rarely*   3 = *Sometimes*   4 = *Often*   5 = *Always or Almost Always*

- ☐ ○ Phonemic awareness (e.g., blending phonemes, identifying initial sounds, etc.)

- ☐ ○ Daily high frequency words

  - ☐ ▪ Introduce

    - ☐ • Point to the "high frequency word cards"

- ☐ ○ Daily vocabulary boost

  - ☐ ▪ Guide the children to interact with the oral vocabulary words by asking the following questions: _____

    - ☐ • Remind them to speak clearly when participating in discussion

  - ☐ ▪ Ask children to work together to explain the vocabulary in their own words

- ● ***Phonemic Awareness/Phonics***

  - ☐ ○ Phonemic awareness warm-up (e.g., children listen for and blend words)

  - ○ Teach/Model

    - ☐ ▪ Introduce words with certain letters

      - ☐ • Display the "sound/spelling cards" for those words

      - ☐ • Write and read the words with those letters

  - ○ Guided Practice

    - ☐ ▪ Sound by sound blending routine

      - ☐ • Display a letter card

      - ☐ • Add a letter card

      - ☐ • Blend the sounds

      - ☐ • Decoding: call on individuals to blend one or more words and to read the sample sentences

- o   Apply

  - ☐ ▪ Have children use letter cards to take turns building and reading words (often done in partners)

- **Fluency**

  - o   Teach/Model

    - ☐ ▪ Tell the children things that good readers do (e.g., read by paying attention to punctuation, read for meaning, can make the words they read sound like conversation, etc.)

    - ☐ ▪ Display the "Projectable"

  - o   Guided Practice

    - ☐ ▪ Children participate in "projectable" through various activities (e.g., choral reading, etc.)

  - o   Apply

    - ☐ ▪ Have pairs practice reading the sentences together (from the projectable) several times

- **Decodable reader**

  - ☐ o   Read the story

  - ☐ o   Review sounds and/or letters

  - ☐ o   Review "words to know"

  - ☐ o   Preview the story

  - ☐ o   Children predict what they think the story is about

  - ☐ o   Teacher models fluency

  - ☐ o   Read (have children read silently and then choral read-aloud)

  - ☐ o   Teacher coaches children to read fluently

☐ o   Respond (children respond in some way, often taking turns to retell story to a partner)

- **Deepen Comprehension**

    o   Teach/model

      ☐ ▪   Academic language

      ☐ ▪   Use "projectable"

    o   Guided practice

      ☐ ▪   "Turn and Talk"

    o   Apply

      ☐ ▪   "Write about Reading"

        ☐ •   Have children draw or write their answers to the Turn and Talk question

For Principal Investigator Use Only:

Total Points Possible Day 3= _190_

Total Self-Report Score (sum the teacher's ratings) = _____

Day 4: (Thursday)

- **Opening Routines**

  ☐ o   Ask the essential question

  ☐ o   Connect to the essential question

  ☐ o   Phonemic awareness (e.g., blending phonemes, etc.)

  ☐ o   Daily high frequency words

     ☐ ▪   Introduce

☐ • Point to the "high frequency word cards"

☐ ○ Daily vocabulary boost

☐ ▪ Guide the children to interact with the oral vocabulary words by asking the following questions: _____

☐ • Remind them to speak clearly when participating in discussion

☐ ▪ Ask children to work together to explain the vocabulary in their own words

- ***Phonemic Awareness/Phonics***

☐ ○ Phonemic awareness warm-up (e.g., tell the children that you will say a word and then ask them to say a word that rhymes with that word and begins with the sound you name)

☐ ○ Make and read words

☐ ○ Grouping words by sound

- ***Decodable reader***

☐ ○ Read the story

☐ ○ Review sounds and/or letters

☐ ○ Review "words to know"

☐ ○ Preview the story

☐ ○ Teacher models fluency

☐ ○ Read (have children read silently and then choral read-aloud)

☐ ○ Respond (children respond in some way, often taking turns to retell story to a partner)

- ***Making Connections***

☐ ○ Connect to (e.g., social studies, science, poetry, readers' theater, traditional tales, etc.)

1 = Never or Almost Never   _2 = Rarely_   _3 = Sometimes_   _4 = Often_   _5 = Always or Almost Always_

☐ ○   Use the "Student Book"

- **_Vocabulary Strategies_**

☐ ○   Teach/model (e.g., academic language)

☐ ○   Guided Practice (e.g., display the projectable)

☐ ○   Apply (activities vary; deals with the "projectable")

For Principal Investigator Use Only:

Total Points Possible Day 4= _125_

Total Self-Report Score (sum the teacher's ratings) = _____

Day 5: (Friday)

- **_Opening Routines_**

☐ ○   Ask the essential question

☐ ○   Connect to the essential question

☐ ○   Phonemic awareness (e.g., beginning sounds, blending phonemes, etc.)

☐ ○   Daily high frequency words

☐ ▪   Introduce

☐ •   Point to the "high frequency word cards"

○   Daily vocabulary boost

☐ ▪   Reread the selection to the children

☐ ▪   As you reach each vocabulary word, have a volunteer explain or describe its meaning

☐ ▪   After reading, review the oral vocabulary words and their definitions

☐ ▪   Challenge the children to use the words in their everyday speech

1 = _Never or Almost Never_   2 = _Rarely_   3 = _Sometimes_   4 = _Often_   5 = _Always or Almost Always_

- **_Connect and Extend_**
  - ☐ ○ Connect the text to the world
  - ○ Independent reading
    - ☐ ▪ Have the children look through the "Decodable Reader" and review this week's stories
    - ☐ ▪ Have the children read independently for a period of time
  - ☐ ○ Extend through research
  - ☐ ○ Listening and speaking (e.g., ask children to share information)

- ☐ **_Progress Monitoring (assess)_**

For Principal Investigator Use Only:

Total Points Possible Day 5= __80__

Total Self-Report Score (sum the teacher's ratings) = _____

Total Self-Report Possible Points (sum of the possible points for each day) = _800_

Teacher Total (sum of the teacher ratings for days 1-5) = _____

Self-Report Fidelity Percentage (teacher score ÷ 800 x 100) = _____

***Please return to Christy Smith in the envelope provided when finished. Thank you for your time. Mrs. Smith will send your $5 when she receives this completed self-report.

_(ph.) 814/758-3143_
c.l.smith4@iup.edu

Houghton Mifflin Harcourt, *Journeys*, First Grade "Teacher's Edition": Program Fidelity Checklist

Permanent Product Review: Teacher Lesson Plans

Rater Name:_____   Teacher Name/ID:_____

School District:_____   Class:_____

Date of Observation: _____   Lesson Plan Selected from week: _____ to _____

*** *Rater Instructions: Review Kindergarten, first grade, and second grade teacher lesson plans from three randomly selected weeks during the 2012-2013 school year. Place a checkmark in the box if the program component is reflected in the lesson plan.*

Day 1: (Monday)

☐ • Opening Routines

☐ • Teacher read aloud (story will be different each week)

☐ • Introduce Words to Know

☐ • Phonemic Awareness/Phonics

☐ • Phonics/Spelling

☐ • Decodable Reader

Total Components Possible = __6__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 2: (Tuesday)

☐ • Opening Routines

☐ • Phonemic Awareness/Phonics

☐ • *Decodable Reader*

☐ • *Develop Background*

☐ • *Introduce Comprehension*

☐ • *Introduce the Selection*

☐ • *Develop Comprehension*

Total Components Possible = __7__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 3: Wednesday

☐ • *Opening Routines*

☐ • *Phonemic Awareness/Phonics*

☐ • *Fluency*

☐ • *Decodable reader*

☐ • *Deepen Comprehension*

Total Components Possible = __5__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 4: (Thursday)

☐ • *Opening Routines*

☐ • *Phonemic Awareness/Phonics*

☐ • *Decodable reader*

☐ • *Making Connections*

☐ • *Vocabulary Strategies*

Total Components Possible = __5__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

☐ •   _Opening Routines_

☐ •   _Connect and Extend_

☐ •   _Progress Monitoring (assess)_

_Total Components Possible =   3 _
_Total Components Implemented (# checks) = _____

"Permanent Product Integrity"

Total components possible = <u>26</u>

Total Checkmarks = _____

% Integrity = # checkmarks ÷ possible components x 100 = _____

Houghton Mifflin Harcourt, *Journeys*, Grade Two "Teacher's Edition": Program Fidelity Checklist – Direct Observation Form

Observer Name: _____   Teacher Name/ID: _____

School District: _____   Class: _____

Date of Observation: _____   Total Time of Observation: _____

*** Observer Instructions: Place a checkmark in the box if the program component is observed during the reading lesson.*

Day 1: (Monday)

- ### *Opening Routines*

  - ☐ ○ Essential question (this is different for each lesson/week) – connect to the essential question

  - ☐ ○ Daily phonemic awareness

  - ☐ ○ Daily high-frequency words (e.g., focus wall)

  - ☐ ○ Vocabulary boost – "vocabulary in context cards"

- ### *Teacher read aloud (story will be different each week)*

  - ☐ ○ Teacher models fluency

- ### *Listening Comprehension*

  - ☐ ○ Preview the target skill

  - ☐ ○ Read aloud the passage

  - ☐ ○ Explain each highlighted vocabulary word

- ### *Introduce Vocabulary*

  - ☐ ▪ Display and discuss the "vocabulary in context cards"

- ### *Phonics*

  - ☐ ○ Teach/Model – "Sound/Spelling cards"

- ☐ ○ Guided practice
- ☐ ○ Apply

- • ___Decodable Reader (changes each week/lesson)___
  - ☐ ○ Preview the decodable reader (have children read the title, browse beginning pages, and discuss what they believe the story is about)
  - ☐ ○ Fluency: Accuracy and word recognition

Total Components Possible = __14__
Total Components Implemented (sum the #of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 14 x 100) = _____

Day 2: (Tuesday)

- • ___Opening Routines___
  - ☐ ○ Essential question – connect to the essential question

- • ___Phonics:___
  - ☐ ○ Teach/Model – continuous blending routine
  - ☐ ○ Guided Practice – build words
  - ☐ ○ Apply – usually involves writing
  - ☐ ○ Practice fluency (read the decodable reader)

- • ___Develop Background (target vocabulary)___
  - ☐ ○ Teach/model (vocabulary in context cards and student book)
  - ☐ ○ Guided practice (asking the students questions that include the vocabulary words)
  - ☐ ○ Apply (partners read the "Background" passages to one another")

- • ___Introduce comprehension___
  - ☐ ○ Teach/model (defining academic language)
  - ☐ ○ Guided practice (various activities, involves "Turn and Talk")

- ☐ ○ Apply (various activities the children complete)
  - *Introduce the selection*
    - ☐ ○ Essential Question
    - ☐ ○ Set Purpose (explain that good readers set a purpose for reading)
  - ☐ *Develop Comprehension* (includes various questions to further develop students' understanding; this can include compare/contrast; story structure; understanding characters; target vocabulary; infer/predict; cause/effect; conclusions; author's purpose; and text/graphic features, etc.)

Total Components Possible = __14__
Total Components Implemented (sum the #of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 14 x 100) = _____

Day 3: Wednesday

- *Opening Routines*
  - ☐ ○ Essential question – connect to the essential question
  - ☐ ○ Daily phonemic awareness (e.g., sort or segment phonemes)
  - ☐ ○ Daily high-frequency words (e.g., high frequency word cards; focus wall; say the word, spell the word, write the word, check the word)
  - ☐ ○ Vocabulary boost – "vocabulary in context cards" (teacher guides students to interact with the vocabulary words by asking them questions)

- *Phonics*
  - ☐ ○ Phonemic Awareness Warm-Up
  - ☐ ○ Teach/model
  - ☐ ○ Guided practice – continuous blending routine
  - ☐ ○ Apply

- *Fluency*
  - ☐ ○ Teach/model
  - ☐ ○ Guided practice- student book

- [ ] ○   Apply – have pairs practice
- [ ] •   **_Decodable reader_** (Not done with every lesson, check the Teacher's Guide)
  - •   **_Deepen comprehension_**
  - [ ] ○   Teach/model (academic language)
  - [ ] ○   Guided practice
  - [ ] ○   Apply ("Write about Reading" – have children write their responses to a 'Deepen Comprehension' question, usually #3)

Total Components Possible = __15__
Total Components Implemented (sum the #of checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 15 x 100) = _____

Day 4: (Thursday)
- •   **_Opening Routines_**
  - [ ] ○   Essential question
  - [ ] ○   Phonemic awareness
  - [ ] ○   High-frequency words
  - [ ] ○   Vocabulary boost ("Vocabulary in Context" Cards)
- •   **_Phonics_**
  - [ ] ○   Phonemic Awareness Warm-Up
- •   **_Connect to…(making connections)_**
  - [ ] ○   (e.g., social studies, science, traditional tales, poetry…etc.)
- •   **_Vocabulary Strategies_**
  - [ ] ○   Teach/model (academic language)
  - [ ] ○   Guided Practice
  - [ ] ○   Apply (practice book)

Total Components Possible = __9__
Total Components Implemented (# checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 9 x 100) = _____

Day 5: (Friday)

- ***Opening Routines***

  ☐ ○ Essential question

  ☐ ○ Phonemic awareness

  ☐ ○ High frequency words

  ☐ ○ Vocabulary boost ("Vocabulary in Context" cards)

- ***Connect and Extend***

  ☐ ○ Make connections to the week's reading

  ☐ ○ Read to connect ("I can make a connection between…")

  ☐ ○ Independent reading (teacher monitors children as they read)

  ☐ ○ Extend through research (formulating questions)

  ☐ ○ Listening and speaking

  ☐ • ***Progress Monitoring Assessments (e.g., vocabulary test, phonics, comprehension, fluency scoring rubrics, etc.)***

Total Components Possible = __10__
Total Components Implemented (# checks) = _____
Percentage "Session Integrity" (Components Implemented ÷ 10 x 100) = _____

Calculating "Component Integrity":

Components	A Opportunities to Implement the Component (For the days on which observations occurred, count the number of times the component should have been addressed. Sum these and enter the number in this column.)	B # of Times Component was Implemented (For the days on which observations occurred, count the number of times the component was actually addressed. Sum these and enter the number in this column.)	Component Integrity Index (B ÷ A x 100)
Opening Routines			
Teacher read aloud			
Listening Comprehension			
Introduce Vocabulary			
Phonics			
Decodable Reader			
Develop Background			
Introduce Comprehension			
Introduce Selection			
Develop Comprehension			
Deepen Comprehension			
Fluency			
Making Connections			
Vocabulary Strategies			
Progress Monitoring/Assessments			

Session Integrity Summary Sheet (by class)

<u>Class Observed:</u> _____

Day(s) of Observations	% Session Integrity
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Total Direct Observation Integrity % (sum the raw number of components observed during observation days and ÷ by sum of possible number of components x 100)	

Houghton Mifflin Harcourt, *Journeys*, Grade Two "Teacher's Edition": Program Fidelity Checklist – Teacher Self-Report

Teacher Name:/ID _____   School District: _____

Class: _____   Date of Rating: _____

*** Instructions: *Please rate the degree to which you implement the following* Journeys *components (listed below) during a typical five day school week. Place your numerical rating in the box to the left of each component. Please use the following rating scale:*

1 = <u>Never or Almost Never</u>   2 = <u>Rarely</u>   3 = <u>Sometimes</u>   4 = <u>Often</u>   5 = <u>Always or Almost Always</u>

Day 1: (Monday)

- ***Opening Routines***
  - ☐ ○ Essential question (this is different for each lesson/week) – connect to the essential question
  - ☐ ○ Daily phonemic awareness
  - ☐ ○ Daily high-frequency words (e.g., focus wall)
  - ☐ ○ Vocabulary boost – "vocabulary in context cards"

- ***Teacher read aloud (story will be different each week)***
  - ☐ ○ Teacher models fluency

- **<u>Listening Comprehension</u>**
  - ☐ ○ Preview the target skill
  - ☐ ○ Read aloud the passage
  - ☐ ○ Explain each highlighted vocabulary word

- ***Introduce Vocabulary***
  - ☐ ▪ Display and discuss the "vocabulary in context cards"

- ***Phonics***
  - ☐ ○ Teach/Model – "Sound/Spelling cards"

☐ ○   Guided practice

☐ ○   Apply

- **_Decodable Reader (changes each week/lesson)_**

    ☐ ○   Preview the decodable reader (have children read the title, browse beginning pages, and discuss what they believe the story is about)

    ☐ ○   Fluency: Accuracy and word recognition

For Principal Investigator Use Only:
Total Points Possible Day 1= __70__
Total Self-Report Score (sum the teacher's ratings) = _____

Day 2: (Tuesday)

- **_Opening Routines_**

    ☐ ○   Essential question – connect to the essential question

- **_Phonics:_**

    ☐ ○   Teach/Model – continuous blending routine

    ☐ ○   Guided Practice – build words

    ☐ ○   Apply – usually involves writing

    ☐ ○   Practice fluency (read the decodable reader)

- **_Develop Background (target vocabulary)_**

    ☐ ○   Teach/model (vocabulary in context cards and student book)

    ☐ ○   Guided practice (asking the students questions that include the vocabulary words)

    ☐ ○   Apply (partners read the "Background" passages to one another")

- **_Introduce comprehension_**

    ☐ ○   Teach/model (defining academic language)

☐ ○   Guided practice (various activities, involves "Turn and Talk")

☐ ○   Apply (various activities the children complete)

- ### _Introduce the selection_

  ☐ ○   Essential Question

  ☐ ○   Set Purpose (explain that good readers set a purpose for reading)

☐ - ### _Develop Comprehension_ (includes various questions to further develop students' understanding; this can include compare/contrast; story structure; understanding characters; target vocabulary; infer/predict; cause/effect; conclusions; author's purpose; and text/graphic features, etc.)

For Principal Investigator Use Only:
_Total Points Possible Day 2= __70___
_Total Self-Report Score (sum the teacher's ratings) = _____

Day 3: Wednesday

- #### _Opening Routines_

  ☐ ○   Essential question – connect to the essential question

  ☐ ○   Daily phonemic awareness (e.g., sort or segment phonemes)

  ☐ ○   Daily high-frequency words (e.g., high frequency word cards; focus wall; say the word, spell the word, write the word, check the word)

  ☐ ○   Vocabulary boost – "vocabulary in context cards" (teacher guides students to interact with the vocabulary words by asking them questions)

- #### _Phonics_

  ☐ ○   Phonemic Awareness Warm-Up

  ☐ ○   Teach/model

  ☐ ○   Guided practice – continuous blending routine

1 = <u>Never or Almost Never</u>   2 = <u>Rarely</u>   3 = <u>Sometimes</u>   4 = <u>Often</u>   5 = <u>Always or Almost Always</u>

- ☐ ○ Apply

- • ***Fluency***
  - ☐ ○ Teach/model
  - ☐ ○ Guided practice- student book
  - ☐ ○ Apply – have pairs practice

- ☐ • ***Decodable reader*** (Not done with every lesson, check the Teacher's Guide)

- • ***Deepen comprehension***
  - ☐ ○ Teach/model (academic language)
  - ☐ ○ Guided practice
  - ☐ ○ Apply ("Write about Reading" – have children write their responses to a 'Deepen Comprehension' question, usually #3)

<u>**For Principal Investigator Use Only:**</u>
Total Points Possible Day 3= __75__
Total Self-Report Score (sum the teacher's ratings) = _____

<u>**Day 4: (Thursday)**</u>

- • ***Opening Routines***
  - ☐ ○ Essential question
  - ☐ ○ Phonemic awareness
  - ☐ ○ High-frequency words
  - ☐ ○ Vocabulary boost ("Vocabulary in Context" Cards)

- • ***Phonics***
  - ☐ ○ Phonemic Awareness Warm-Up

- • ***Connect to…(making connections)***

☐ ○   (e.g., social studies, science, traditional tales, poetry…etc.)

- ***Vocabulary Strategies***
  - ☐ ○   Teach/model (academic language)
  - ☐ ○   Guided Practice
  - ☐ ○   Apply (practice book)

For Principal Investigator Use Only:
Total Points Possible Day 4= __45__
Total Self-Report Score (sum the teacher's ratings) = _____

Day 5: (Friday)

- ***Opening Routines***
  - ☐ ○   Essential question
  - ☐ ○   Phonemic awareness
  - ☐ ○   High frequency words
  - ☐ ○   Vocabulary boost ("Vocabulary in Context" cards)

- ***Connect and Extend***
  - ☐ ○   Make connections to the week's reading
  - ☐ ○   Read to connect ("I can make a connection between…")
  - ☐ ○   Independent reading (teacher monitors children as they read)
  - ☐ ○   Extend through research (formulating questions)
  - ☐ ○   Listening and speaking

- ☐ ***Progress Monitoring Assessments (e.g., vocabulary test, phonics, comprehension, fluency scoring rubrics, etc.)***

*Total Points Possible Day 5= _50_*
Total Self-Report Score (sum the teacher's ratings) = _____

*Total Self-Report Possible Points (sum of the possible points for each day) = _310_*
Teacher Total (sum of the teacher ratings for days 1-5) = _____
Self-Report Fidelity Percentage (teacher score ÷ 310 x 100) = _____

***Please return to Christy Smith in the envelope provided when finished. Thank you for your time. Mrs. Smith will send your $5 when she receives this completed self-report.

(ph.) 814/758-3143
c.l.smith4@iup.edu

Houghton Mifflin Harcourt, *Journeys*, Second Grade "Teacher's Edition": Program Fidelity Checklist

Permanent Product Review: Teacher Lesson Plans

Rater Name: _____   Teacher Name/ID: _____

School District: _____   Class: _____

Date of Observation: _____   Lesson Plan Selected from week: _____ to _____

*** Rater Instructions: Review Kindergarten, first grade, and second grade teacher lesson plans from three randomly selected weeks during the 2012-2013 school year. Place a checkmark in the box if the program component is reflected in the lesson plan.

Day 1: (Monday)

- ☐ • Opening Routines
- ☐ • Teacher read aloud (story will be different each week)
- ☐ • Listening comprehension
- ☐ • Introduce Vocabulary
- ☐ • Phonics
- ☐ • Decodable Reader

Total Components Possible = __6__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 2: (Tuesday)

- ☐ • Opening Routines
- ☐ • Phonics

- [ ] • Develop Background

- [ ] • Introduce Comprehension

- [ ] • Introduce the Selection

- [ ] • Develop Comprehension

Total Components Possible = __6__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 3: Wednesday

- [ ] • Opening Routines

- [ ] • Phonics

- [ ] • Fluency

- [ ] • Decodable reader

- [ ] • Deepen Comprehension

Total Components Possible = __5__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 4: (Thursday)

- [ ] • Opening Routines

- [ ] • Phonics

- [ ] • Making Connections

- [ ] • Vocabulary Strategies

Total Components Possible = __4__
Total Components Reflected in Lesson Plan (sum the # of checks) = _____

Day 5: (Friday)

- [ ] • Opening Routines

☐ • Connect and Extend

☐ • Progress Monitoring (assess)

Total Components Possible = _3_
Total Components Implemented (# checks) = _____

"Permanent Product Integrity"

Total components possible = 24
Total Checkmarks = _____
% Integrity = # checkmarks ÷ possible components x 100 = _____

IUP

1011 South Drive, Indiana, Pa. 15705
724/357-2100

Informed Consent Form

May 1, 2011

You are invited to participate in an evaluation of the *Journeys* reading program conducted by Christina L. Smith in partial fulfillment for the award of Doctor of Education degree in School Psychology, through Indiana University of Pennsylvania. The district superintendent and school board have granted permission for me to seek your voluntary participation. The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions please do not hesitate to ask. You are eligible to participate because you are using the Houghton Mifflin Harcourt (HMH) *Journeys* program with K-2nd grade students.

The purpose of this study is to evaluate the effectiveness of the *Journeys* reading program. Participation in this study will require approximately 20 minutes total of your time and is not considered a part your instructional responsibilities as a Redbank Valley teacher. Participation or non-participation will not affect the evaluation of your performance in this district.

Your Involvement in this Study:

1. I am requesting your permission to conduct three brief *classroom observations* during the 2012-2013 school year to observe a reading class in order to try and document the fidelity with which the *Journeys* curriculum is being implemented. *I will NOT be evaluating you or your teaching in any way*, only looking to document whether the *Journeys* reading program components are evident in the day's lesson. You will be notified at least one week in advance of the date of the observation. This will not require any special time or effort on your part. The expected time of observation will be approximately one reading class period.

2. Second, you will be asked to complete two brief self-report questionnaires, requiring approximately 10 minutes of your time, asking about your implementation of the *Journeys* program. The questionnaire will ask you to indicate the extent to which you implement the program's components (e.g., On a scale from 1 to 5, rate your implementation of the following program components).

3. Third, I will ask for your permission to look at three randomly selected weeks of teacher lesson plans to see if the *Journeys* components are evident in the lesson plan. This will not require anything on your part except to allow me to look at your plan book. I will not take it out of the room or make photocopies. This will not require any time from you.

Possible Risks:

One possible risk is that you may feel you have received a "bad" observation by the principal investigator (Christy Smith) or that your lesson plans or self-reports did not reflect all the *Journeys* components.

You will be protected against this in the following ways:

1. The principal investigator is <u>not observing your teaching</u> per se, but rather only looking to see if the reading components are evident, and you will know in advance when she is coming.
2. After Mrs. Smith conducts the observation, lesson plan review, and receives your self-report, she immediately redacts your name and assigns your data an ID number so that your name is not attached with the raw data.
3. The hard copy forms are then placed into a locked filing cabinet to which only Mrs. Smith has access.
4. Your data will never be used in isolation, only in aggregate and in combination with other data. The unit of analysis for program component integrity is the school, not individuals or classes.
5. Your data is kept <u>strictly confidential</u>, which means that only Mrs. Smith (the principal investigator) will ever see the raw data. Your data <u>will not be shared with any Redbank Valley School District employee</u>.

Benefits:

At the conclusion of the study, you will have the option of being provided with results pertaining to *Journeys'* role in improving the fluency and early literacy aspects of reading among all district K-2 students, when compared with national norms. In other words, we may determine whether the district's students' scores are higher or lower when compared with national norms upon adopting the new *Journeys* reading program.

You may find the learning experience enjoyable and the information may be helpful to you in using the program in your classroom. The information gained from this study may help us to better understand the effectiveness of the *Journeys* program in your district.

Your participation in this study is voluntary

You are free to decide not to allow Mrs. Smith to observe your class, look at your lesson plans, or complete the self-reports. In that case, your information would not be included in the study. You are also free to withdraw at any time by notifying the Project Director, Christina L. Smith (814-758-3143 or email at c.l.smith4@iup.edu). These decisions will not adversely affect your relationship with the investigators or Redbank Valley School District, nor result in any loss of benefits to which you are otherwise entitled. Upon your request to withdraw, all information pertaining to you will be destroyed. *If you choose to participate, all information will be held in strict confidence and will have NO bearing on your professional employment or services you receive from the District.*

Confidentiality:

Once Mrs. Smith receives your self-reports, lesson plan reviews, and classroom observation data, they will be retained in a locked filing cabinet in a secured office. Only Mrs. Smith will have access to these data. Your principals, superintendents, supervisors, etc. will never have or see this information, as it will be strictly maintained, and they are not connected to this study. The information obtained in the study may be published in scientific journals or presented at scientific meetings; however, *your identity will be kept strictly confidential at all times.*

If you are willing to participate in this study, please sign the statement below and return to Christy Smith in the envelope provided. You have choices as to your level of participation. Take the extra unsigned copy with you.

Thank you for your consideration and for your help with this project. For more information, please contact the project director, Christina Smith.

Project Director:	Mrs. Christina L. Smith
Rank/Position:	Doctoral Student/PA School Certified Psychologist
Department Affiliation:	Educational and School Psychology
Campus Address:	Stouffer Hall, Room 246, 1175 Maple Street, Indiana, PA 15705
Phone:	814/758-3143

Faculty Sponsor:	Dr. Timothy Runge
Rank/Position:	Assistant Professor
Department Affiliation:	Educational and School Psychology
Campus Address:	Stouffer Hall 240, 1175 Maple Street, Indiana, PA 15705
Phone:	724/357-3788

***This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Informed Consent Form (continued)

VOLUNTARY CONSENT:

☐ *I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are <u>completely confidential</u> and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.*

☐ *I consent to participate in <u>**all three**</u> aspects of the study: classroom observations, teacher self-reports, and lesson plan reviews.*

☐ *I consent to participate in <u>**two**</u> aspects of the study: (please circle your selections)*

      Classroom observations, teacher self-reports, or lesson plan reviews

☐ *I consent to participate in <u>**only one**</u> aspect of the study: (please circle your selection)*

      Classroom observations, teacher self-reports, or lesson plan reviews

<u>And</u>

☐ *I would like to be provided with a written summary of the results of this study.*

Name (PLEASE PRINT): _____

Signature: _____

Date: _____

Phone number or email where you can be reached: _____

Best days and times to reach you: _____

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, and have made myself available to answer any questions that may be raised.

Date: _____

Project Director's Signature: _____

Christina L. Smith
814/758-3143
c.l.smith4@iup.edu

Teacher Informed Consent, Follow-Up Letter

September 14, 2012

Dear Teacher:

Approximately two weeks ago you should have received a voluntary informed consent letter asking you to consider participating in the evaluation study of the *Journeys* reading program in your district. The letter was sent to K-2nd grade teachers at Redbank Valley Primary School who are using the *Journeys* core reading program.

If you have already decided to participate in the study and have signed and returned the voluntary informed consent letter, thank you. If you have not yet made a decision, please consider participating in this important study. Your input will be valuable in determining the strength of the *Journeys* program. Although your participation is solicited, it is strictly <u>voluntary</u>. Again, you are free to choose not to participate without any negative consequences.

If by some chance you did not receive the voluntary informed consent letter, or it was misplaced, please call me at (814) 758-3143 or email me at c.l.smith4@iup.edu and I will immediately mail you another letter.

Thank you for your consideration,

Christy Smith
Doctoral Candidate
Indiana University of PA
Educational & School Psychology
Stouffer Hall
Indiana, PA 15705

Institutional Review Board – Approval Letter

IUP Indiana University of Pennsylvania
www.iup.edu

Institutional Review Board for the
Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Tenth Street
Indiana, Pennsylvania 15705-1048

P 724-357-7730
F 724-357-2715
irb-research@iup.edu
www.iup.edu/irb

January 24, 2012

Christina L. Smith
140 James Place
Brookville, PA 15825

Dear Ms. Smith:

Your proposed research project, "Impact of a Reading Program on Rural Elementary Students' Acquisition of Oral Reading Fluency and Early Literacy Skills," (Log No. 11-290) has been reviewed by the IRB and is approved as an expedited review for the period of January 22, 2012 to January 22, 2013.

It is also important for you to note that IUP adheres strictly to Federal Policy that requires you to notify the IRB promptly regarding:

1. any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented),
2. any events that affect the safety or well-being of subjects, and
3. any modifications of your study or other responses that are necessitated by any events reported in (2).

Should you need to continue your research beyond January 22, 2013 you will need to file additional information for continuing review. Please contact the IRB office at (724) 357-7730 or come to Room 113, Stright Hall for further information.

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at http://www.iup.edu/page.aspx?id=91683 .

This letter indicates the IRB's approval of your protocol. IRB approval does not supersede or obviate compliance with any other University policies, including, but not limited to, policies regarding program enrollment, topic approval, and conduct of university-affiliated activities.

I wish you success as you pursue this important endeavor.

Sincerely,

John A. Mills, Ph.D., ABPP
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Psychology

JAM:jeb

xc: Dr. Timothy Runge, Dissertation Advisor
        Ms. Brenda Boal, Thesis and Dissertation Secretary

Appendix G

Convergent Evidence Scaling, Intervention Integrity Rubric, Tally Sheet

Convergent Evidence Scaling Intervention Integrity Rubric, Tally Sheet

Grade (circle one):   Kindergarten   First Grade   Second Grade

Level of intervention implementation integrity	Description of intervention implementation integrity
Level 5 – Highest	90-100% – All or nearly all of the intervention components were used consistently as designed and for the recommended amount of time and on the recommended schedule. Overall implementation was excellent.
Level 4	81-89% of the intervention components were used as designed and the schedule and time of use were very good. Overall implementation was very good.
Level 3	75-80% of the intervention components were used as designed and the schedule and time of use were good. Overall implementation was good.
Level 2	51-74% of the intervention components were used as designed and the schedule and time of use were somewhat below expectations.
Level 1 – Lowest	Fewer than 50% of the intervention components were routinely used and the amount of time and schedule of implementation was erratic. Overall implementation was poor.

Classroom Observation, Levels of Implementation:

Teacher A: _____
Teacher B: _____
Teacher C: _____
Teacher D: _____
Teacher E: _____
Sum A-E/# of teachers: _____

Teacher Self-Report, Levels of Implementation:

Teacher A: _____
Teacher B: _____
Teacher C: _____
Teacher D: _____
Teacher E: _____
Sum A-E/# of teachers: _____

Lesson Plan Review, Levels of Implementation:

Teacher A: _____
Teacher B: _____
Teacher C: _____
Teacher D: _____
Teacher E: _____
Sum A-E/# of teachers: _____