

ABSTRACT

MITCHELL, RACHEL COURTNEY. Evaluating the Effects of a Teacher Implemented Reading Fluency Program for Low-performing Second-grade Readers. (Under the direction of John Begeny).

Reading is one of the most important skills that a student can acquire. For elementary school teachers, helping students become proficient readers is one of the greatest impacts they can make in a student's academic career. Teachers may be able to make meaningful contributions to improve students' reading fluency through the use of such evidence-based, procedurally standardized intervention strategies as repeated reading, listening passage preview, and phrase drill. This study was conducted in an effort to bridge research to practice by offering an example of effectiveness (versus efficacy) research on a multi-component, evidence-based reading fluency intervention referred the Helping Early Literacy with Practice Strategies (HELPS) Program. The primary purpose of the study was to evaluate the effectiveness of the HELPS with low-performing second grade students when implemented by four classroom teachers and teacher assistants in a minimally controlled setting. Results from the study suggested that the 29 students who received HELPS significantly improved (from pre-test to post-test) on the measure of basic reading competence when compared to a control group of 30 students, with low-performing students who received HELPS making significantly larger reading gains than students who did not receive the program..

BIOGRAPHY

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ACKNOWLEDGEMENTS

I would like to thank my advisor Dr. John Begeny for continuing to offer his guidance and patience throughout this project, as well as my committee members, Dr. Scott Stage and Dr. William Erchul, for their feedback and input. I would also like to thank my parents for their endless love and support and always encouraging me to persistently work to achieve my goals.

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Introduction

Due to the critical importance of developing reading competence, a relatively extensive amount of research has been conducted over the last couple decades regarding the elements of reading instruction that should be integrated into an effective early reading program. The five essential components include: phonics, phonemic awareness, fluency, comprehension, and vocabulary (Armbruster, Lehr, & Osborne, 2001; National Institute of Child Health and Human Development [NICHD], 2000). Of the five essential reading components, an increasing interest has been placed on the construct of reading fluency (Chard, Vaughn, & Tyler, 2002; NICHD, 2000). Reading fluency is a complicated, multifaceted process defined as the ability to read text with speed, accuracy and proper expression, and it is a preliminary and imperative step in the process of reading comprehension (NICHD, 2000).

Even with the advances in knowledge about effective reading instruction and the importance of reading fluency, a nationally representative study of 1,779 US fourth-grade students suggests that 40% of US students are “nonfluent” readers (Daane, Campbell, Grigg, Goodman, & Oranje, 2005). Other important findings from this study indicate a strong correlation between fluency and comprehension, as well as a strong correlation between oral reading fluency and students’ overall reading ability (as measured by the 2002 National Assessment of Educational Progress [NAEP] measure of US students’ reading ability). Thus, it is critical that students receive reading instruction and interventions in the classroom that have empirical evidence of effectiveness. Instructional

strategies that have shown to improve reading fluency include: repeated reading, listening passage preview, and phrase drill. Through the use of such evidence-based, procedurally standardized intervention strategies, teachers may be able to make meaningful contributions that improve low-performing students' reading fluency.

Unfortunately, a large portion of empirically supported educational and psychological interventions are not being applied within schools, as generalization from research to practice settings is not a straightforward process (Kazdin, Kratochwill, & VandenBos, 1986; Kratochwill & Stoiber, 2000; Kratochwill & Stoiber, 2002; Stoiber & Kratochwill, 2000). However, in both education and school psychology, attempts have been made to better bridge the gap between research and practice. For more than a decade, there has been increased interest in the development and dissemination of empirically supported interventions in psychology and education (Lonigan, Elbert, & Bennett Johnson, 1998; Stoiber & Kratochwill, 2000; Wampold, Lichtenberg, & Waehler, 2002).

Given the importance of reading fluency in early reading instruction, there is a fundamental need to systematically evaluate fluency-based interventions that can be feasibly implemented in elementary school classrooms. Thus, the primary purpose of the study was to continue the empirical investigations of a multi-component, evidence-based reading fluency intervention, the Helping Early Literacy with Practice Strategies (HELPS) Program, by evaluating it in a more "effectiveness-based" context rather than a more tightly controlled "efficacy-based" context. This effort included (a) teachers and

teacher assistants implementing the HELPS Program in the classroom, and (b) research assistants serving as coaches and evaluators of program implementation integrity (i.e., implementation integrity), and (c) a control-group comparison.

An additional purpose of this study was to evaluate the HELPS Program with second-grade students reading below average. A previous HELPS study was carried out to evaluate its effectiveness as a supplemental reading program for second grade readers of all levels (Begeny, Laugle, Krouse, Lynn, Parker, & Stage, 2008). Therefore, another primary purpose of the study was to evaluate the HELPS Program as an *intervention* for low-performing readers rather than a supplement to the core reading curriculum in a second grade classroom.

Chapter 1:

Review of the Literature

The following review highlights the importance of reading fluency in early reading instruction, along with the need to systematically evaluate fluency-based interventions that can be feasibly implemented in elementary school classrooms. To make this case, the following topics are addressed: (a) the critical importance of developing reading competence, (b) a comprehensive examination of research in the area of reading fluency, (c) a review of intervention strategies designed to improve reading fluency, (d) the call to investigate the effectiveness of programs designed for applied settings, and (e) the fundamental need to monitor implementation integrity.

Underscoring the Importance of Reading Competence

The ability to read is one of the most critical skills that a student should learn, and for elementary school teachers, helping students become proficient readers is one of the greatest contributions they make to a student's success. Unfortunately, a large percentage of students continue to struggle when learning to read. In their most recent evaluation of students' reading achievement, the National Center for Education Statistics reported that approximately 33% of the nation's fourth-graders read below the *basic* level, with 34% reading at only the *basic* level (NCES, 2007). The NCES described fourth-grade students performing below the *basic* level as children who "cannot demonstrate an understanding of the overall meaning of what they read and when reading text appropriate for fourth-graders, they are unable to make relatively obvious connections between the text and

their own experiences or extend the ideas in the text by making simple inferences” (p. 20).

There are no quick, easy solutions for improving students’ reading achievement; however, a critical short period of time exists when reading trajectories can be altered (Simmons & Kame’enui, 1998). Juel (1988) tracked 54 children from the beginning of first-grade through the end of fourth-grade using a variety of standardized measures of phonemic awareness, decoding, word recognition, listening comprehension, and reading comprehension to determine if students who are behind in learning to read are able to later catch up. Students were split into two groups based on their scores at the end of first-grade on the ITBS Reading Comprehension subtest. Those who scored in the bottom quartile (based on national norms) were labeled "poor readers." Those in the top three quartiles were labeled "average or good readers." Over the next three years, the poor readers, on average, never caught up to the average or good readers on any measure of reading ability. Eighty-eight percent of the sample of poor readers at first grade remained poor readers at the end of fourth-grade, while only 12% of the students with at least average reading skills in first grade became poor readers in fourth-grade. The probability that a child would remain an average reader in fourth-grade if the child had average reading ability in first-grade was .87; the probability that a child would become an average reader in the fourth-grade if he or she was a poor reader in first-grade was only .13. The results from this study indicate that a poor first-grade reader will likely remain a poor reader by the end of fourth-grade.

Other longitudinal research demonstrates how the discrepancy in reading performance between groups of poor readers and strong readers becomes even more pronounced as children progress through the early school grades (Good, Simmons, & Smith, 1998). Persistence of reading problems has been explained as stemming from deficits in early foundational skills and exacerbated by reduced exposure to print and eventual reductions in motivation to read (Stanovich, 1986). This is evidence that proficiency in foundational skills in beginning reading is causally linked to the development of overall reading competence (NICHD, 2000).

Due to the critical importance of developing reading competence, a relatively extensive amount of research has been conducted over the last few decades regarding the elements of reading instruction that should be integrated into an effective early reading program. One publication that summarizes the research base for effective early reading programs comes from the National Reading Panel (NRP). A group of reading experts reduced 100,000 possible studies to an examination of around 500 studies for their meta-analysis. Nearly all studies that were not experimental and quantitative in nature were eliminated. Studies that were reviewed related to reading instruction (with a specific focus on the critical years of kindergarten through third-grade). It was determined from this meta-analysis that five essential components should be included in effective reading instruction: phonemic awareness, phonics, vocabulary, comprehension, and fluency (Armbuster, Lehr, & Osborn 2001; NICHD, 2000).

Taking all of this into account, it is essential that struggling readers receive targeted and effective reading instruction that addresses their core weaknesses (Lloyd, 2005). Reading scholars also suggest that it is necessary to begin early and assess dynamically in order to prevent reading failure (Good, Gruba, & Kaminski., 2002). Through instruction, important skills can be taught, and research indicates that if low-achieving students can be brought up to grade level within the first three years of school, their reading performance tends to stay at grade level (Adams, 1990).

Reading Fluency: Definitions, Statistics and Relationships with Other Reading Processes

Of the five essential components of reading, an increasing interest has been placed on the construct of reading fluency (Chard, Vaughn, & Tyler, 2002; NICHD, 2000). Reading fluency is a complicated, multifaceted process defined as the ability to read text with speed, accuracy and proper expression, and it is a preliminary and imperative step in the process of reading comprehension (NICHD, 2000). Fluency is also one of the most difficult of the dimensions to remediate for children with reading difficulties (Kamps & Greenwood, 2005; Lovett & Steinbach, 1997; O'Connor, White, & Swanson, 2007; Torgesen, 2000). It entails a reader's ability to "(a) automatically translate letters into coherent sound representations, (b) unitize letter sound components into recognizable wholes and automatically access their lexical representation, (c) process meaningful connections within and between sentences, (d) relate text meaning to prior information, and (e) make references to supply missing information" (Fuchs, Fuchs, Hosp, & Jenkins, 2001, p. 240). A fluent reader is able to recognize words automatically,

read aloud effortlessly and with expression as the student is not forced to concentrate on decoding and instead can focus attention on comprehension (LeBerge & Samuels, 1974; NICHD, 2000; Perfetti, 1977). In theories regarding information processing and verbal efficiency, improving lower level processes (speed and accuracy of reading words) frees students to devote their attention to understanding the meaning of text (O'Connor et al, 2007).

Additionally, much research supports oral reading fluency as being a strong predictor of students' overall reading competence (Daane et al., 2005; Fuchs et al., 2001; McGlinchey & Hixson, 2004; Therrien, 2004). As noted by Daane et al. (2005), "oral reading performance, measured by the components of accuracy, rate and fluency, constitutes a cluster of critical literacy proficiencies and functions as a significant indicator of overall reading ability" (p. iii). With the intent to inform educators and researchers about these three aspects of fourth-graders' oral reading performance, the National Assessment of Educational Progress (NAEP) conducted a nationally representative study referred to as, *Fourth-Grade Students Reading Aloud: NAEP 2002 Special Study of Oral Reading* (i.e., the Special Fluency Study). The study examined aspects of students' oral reading ability—accuracy, rate, and fluency—that were not directly observed in the results of the primary NAEP reading assessment of 140,000 US fourth-grade students (Daane et al., 2005). The Special Fluency Study focused on a subsample of 1,779 fourth-graders who participated in the NAEP reading assessment during the spring of 2002. All students who participated in the study were given a fourth-grade

reading passage and 12 comprehension questions based on that passage. The passage represented one of the easiest fourth-grade reading passages from the larger NAEP reading assessment, which was conducted one week prior to the Special Fluency Study.

Although reading fluency is commonly described as a person's ability to read with speed, accuracy, and proper expression, the Special Fluency Study considered fluency a distinct attribute of oral reading, separate from accuracy (i.e., defined as the degree to which a student's oral reading conforms to the letter-sound conventions of printed English and measured as a percentage of words read correctly) and rate (i.e., measured by the speed at which students read aloud). Specifically, fluency was defined in terms of phrasing, adherence to the author's syntax, and expressiveness, and measured at one of four levels on NAEP's Oral Reading Fluency Scale. The lower half of the scale (levels 1 and 2) represented two levels of nonfluent performance, generally characterized by awkward word-by-word readings and sometimes nonmeaningful syntax. The upper half of the scale (levels 3 and 4) designated two levels of fluent performance, characterized by preservation of author's syntax, appropriate phrase groupings, and sometimes expressive interpretation. Accuracy referred to the degree to which a student's oral reading conforms to the letter-sound conventions of printed English and was measured as a percentage of words read correctly.

There were several important findings in this study. An examination of students' fluency ratings and their average scores on the primary NAEP reading assessment showed a strong correlation between fluency and overall reading ability. Forty percent of

fourth-grade students were categorized as “nonfluent” on the reading fluency task, suggesting that many students would benefit from an intervention aimed to improve reading fluency (Daane et al., 2005). Furthermore, a close relationship between fluency and reading comprehension was found: students who scored lower on measures of fluency also scored lower on measures of comprehension. As a whole, these data from a national sample of fourth-grade students highlight the importance of reading fluency and suggest that oral reading fluency skills may be overlooked in several U.S. classrooms. Indeed, others have argued that reading fluency is commonly neglected in U.S. classrooms (Allington, 1983; Fuchs, et al., 2001; Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001).

Interventions Designed to Improve Reading Fluency

Over the past 25 years, several studies have recognized the importance of improving students’ reading fluency by describing effective strategies for increasing students’ reading fluency and demonstrating how fluency-based strategies can also enhance other important reading abilities, including reading comprehension (Begeny & Martens, 2006; Chard et al., 2002; NIHD, 2000; Therrien, 2004). Results from reading fluency studies indicate that students should be provided with reading material on their instructional level (Gibb & Wilder, 2002; Scott & Shearer-Lingo, 2002); multiple opportunities for repeated practice (Chard et al., 2002; Coleman & Vaughn, 2000; Scott & Shearer-Lingo, 2000); corrective feedback (Chard et al., 2002; NCIHD, 2000; Therrien, 2004); and motivational components such as incorporating rewards and graphic

displays to monitor student progress (Gibb & Wilder, 2002; Scott & Shearer-Lingo, 2002). Of the instructionally based reading fluency interventions that have been commonly described as effective for improving students' reading fluency, repeated reading, listening passage preview, and (to a somewhat lesser extent) phrase drill error correction have been reported frequently in the research literature. Each of these strategies is described below, as they are also included in the HELPS Program.

Repeated readings. There is common agreement that fluency develops from reading practice. The method of repeated readings (RR) is suggested as an effective practice strategy for increasing students' reading fluency for nearly three decades (e.g., Chard et al., 2002, Meyer & Felton, 1999, NICHD, 2000, Samuels, 1979; Therrien, 2004). RR is "a supplemental reading program that consists of rereading a short and meaningful passage until a satisfactory level of fluency is reached" (Samuels, 1979, p. 404). For example, the student rereads a short passage two or more times or until a fluency criterion is achieved (e.g., reading 100 words correct per minute). Typically, this process is then repeated with a new story or reading passage (Samuel, 1979). RR has been shown to improve the reading fluency of nondisabled students (Bryant, Vaughn, Linan-Thompson, Ugel, & Hougen, 2000; O'Shea, Sindelar & O'Shea, 1985; Rasinski, Padak, Linek, & Sturtevant, 1994) and students with a learning disability (LD) (Bryant et al., 2000; Freeland, Skinner, Jackson, McDaniel, & Smith, 2000; Gilbert, Williams, & McLaughlin, 1996; Mathes & Fuchs, 1993; Mercer, Campbell, Miller, Mercer, & Lane,

2000; O'Shea, Sindelar, & O'Shea, 1987; Rashotte & Torgesen, 1985; Sindelar, Monda, & O'Shea, 1990; Vaughn, Chard, Bryant, Coleman, & Kouzekanani, 2000).

Chard and colleagues (2002) performed a meta-analysis to examine the effects of the components of fluency interventions (most of which were RR interventions) conducted specifically with elementary students with LD. Intervention studies published and all dissertations conducted within the past 25 years were evaluated. The comprehensive search yielded 24 studies between 1975 and 2000 that met inclusion criteria (i.e., eight multiple groups, five single groups, and 11 case studies or single-subject design studies). The studies were categorized into the following areas: RR Without a Model; RR With a Model; RR Interventions with Multiple Features; and Word Practice Interventions.

RR Without a Model studies were analyzed to determine if repeatedly reading text is an effective way to improve reading fluency of students with LD. Effect sizes ranged from $d = 0.02$ to 3.02 , with an average $d = 0.68$. RR With a Model was categorized into three groups: modeling by an adult, modeling by a more proficient peer, and modeling by audiotope or computer. An average effect size for each of these areas was not reported; however, it was concluded that RR with a model seems to be more effective than RR with no model. This was particularly true for students with below average reading fluency. With respect to RR Interventions with Multiple Features, which included interventions that involved repeated reading was one of several instructional features, the average effect size across studies was $d = 0.71$ and ranged from $d = 0.20$ to $d = 1.17$.

In sum, Chard and colleagues (2002) suggested that effective interventions for building fluency specifically include an explicit model of fluent reading, multiple opportunities to repeatedly read familiar text independently, corrective feedback, and established performance criteria for increasing text difficulty. Also important to note, while the focus of the study was not on examining students' gains in reading comprehension, in many cases growth in fluency was associated with comprehension growth.

In a more recent meta-analysis, Therrien (2004) confirmed RR as an effective procedure for improving the reading fluency and comprehension of both nondisabled (ND) students and students with LD. In this meta-analysis of RR studies, the effects on students' reading fluency and comprehension were examined, as well as the impact of the specific instructional components sometimes used with RR interventions. Twenty-seven repeated reading studies were identified. Studies were included if they: (a) were experimental and quantitative; (b) were conducted with students in kindergarten through grade 12; (c) were published after Dahl's (1977) chapter on repeated reading and before 2001; (d) contained sufficient quantitative data to calculate effect sizes and standard mean gain effect sizes (Becker, 1988). All students obtained a moderate mean increase in fluency (i.e., ND students: $ES = .76$, $SE = .06$; students with LD: $ES = .77$, $SE = .09$) and a somewhat smaller mean increase in comprehension (ND students: $ES = .48$, $SE = .07$; students with LD: $ES = .59$, $SE = .11$).

This analysis separated results into nontransfer measures (i.e., measures of students' ability to fluently read or comprehend a passage after reading it multiple times) and transfer measures (i.e., measures of students' ability to fluently read or comprehend new passages after having previously reread other reading material). Nontransfer results from this analysis indicate that RR is an effective strategy for improving reading fluency and comprehension on a passage that is read repeatedly. Across all nontransfer studies, the mean fluency increase was large ($ES = .83$, $SE = .07$), and mean comprehension effect size was moderate ($ES = .67$, $SE = .08$). Thus, when students reread a passage, they read it more fluently and better comprehend its meaning.

Nontransfer studies varied in the instructional components used within the interventions (i.e., cued reading, corrective feedback, and performance criteria). In cued reading, students were cued to focus on speed, comprehension, or both. Students cued to focus on speed obtained an $ES = .72$ ($SE = .19$) and a mean comprehension ES of $.66$ ($SE = .20$). Those cued to focus on comprehension obtained a mean fluency ES of $.81$ ($SE = .10$) and a mean comprehension ES of $.75$ ($SE = .13$), and students cued to focus on speed and comprehension obtained a mean fluency ES of $.94$ ($SE = .14$) and a mean comprehension ES of $.67$ ($SE = .14$).

Corrective feedback consisted of correcting mispronunciations as they occurred or when assistance was requested by students. Students who received corrective feedback obtained a mean fluency ES of $.68$ ($SE = .12$), whereas students who did not receive corrective feedback obtained a mean fluency ES of $.88$ ($SE = .08$). None of the

nontransfer interventions looked at the effect of including corrective feedback on students' comprehension ability.

Studies that used a performance criteria obtained a mean fluency *ES* of .81 (*SE* = .07) and a mean comprehension *ES* of .66 (*SE* = .08). Mean fluency *ES*, based on number of readings, were as follows: two times, *ES* = .57, (*SE* = .14); three times, *ES* = .85 (*SE* = .09); and four times, *ES* = .95 (*SE* = .15).

RR may also improve students' fluency and comprehension of new passages based upon transfer results from this analysis. Students across all transfer studies obtained a moderate mean fluency effect size increase (*ES* = .50, *SE* = .06) and a smaller, but still significant, mean comprehension effect size increase (*ES* = .25, *SE* = .07). As a result, RR provides students with the capability to improve their overall reading fluency and reading comprehension.

Instructional components of studies that measured transfer effects included whether instruction came from an adult or peer instructor, and whether instruction included modeling, corrective feedback, performance criteria, a comprehension task, and/or performance charting/graphing. Interventions conducted by an adult obtained a mean fluency *ES* = 1.37 (*SE* = .18) and a mean comprehension *ES* of .71 (*SE* = .27), while interventions conducted by a peer obtained a mean fluency *ES* = .36 (*SE* = .06) and a mean comprehension *ES* of .22 (*SE* = .07). Interventions that included a modeling component obtained a mean fluency *ES* = .40 (*SE* = .08) and a mean comprehension *ES*

of .10 ($SE = .10$), all studies that included a modeling component were implemented by a peer rather than an adult.

Transfer interventions used either a set number of readings or a performance criterion to determine when to move to a new passage. Interventions that used a performance criteria obtained a mean fluency $ES = 1.70$ ($SE = .19$), whereas interventions that used a fixed number of readings obtained a mean fluency ES of .38 ($SE = .06$). Interventions that provided corrective feedback from an adult obtained a mean fluency $ES = 1.37$ ($SE = .18$). Interventions implemented by adults that charted student progress obtained a mean fluency ES of 1.58 ($SE = .21$).

Results from the analysis confirm previous findings that RR improves students' reading fluency and comprehension, and also helps to identify essential instructional components (i.e., cuing, performance criteria, adult instructor, charting) that should be included in a reading fluency intervention. Only adult implementation is recommended because the fluency and comprehension effect sizes for students in transfer interventions conducted by adults were more than three times larger than those obtained by students in interventions conducted by peers.

Listening passage previewing (i.e., modeling). Modeling, or listening passage preview (LPP), is another common intervention used to increase students' reading fluency. With this intervention, the student has the opportunity to listen while following along with a more skilled reader (i.e., a teacher, paraprofessional, parent, peer, or audiotape) read a passage prior to being instructed and/or tested on that passage. Two

important components of instruction, modeling and practice, are included in the LPP strategy. Difficult words are modeled for the student while the student silently follows along. The student then practices reading those words immediately after having previewed the passage during the model reading. LPP has been shown to increase students' oral reading fluency and accuracy (Daly & Martens, 1994; Skinner, Cooper, & Cole, 1997).

Daly and Martens (1994) compared the effects of three instructional interventions: (a) listening passage preview; (b) subject passage preview (SSP), in which the subject independently reads a passage before being assessed; and (c) taped words, in which the subject reads along with a list of words presented by audiotape. Four male students with LD (average age of 10 years, 8 months) were assessed to determine the effects of treatment conditions on reading performance: accuracy and fluency on passages and word lists. A multi-element design was used to compare the effects of the three interventions to each other and to baseline. The listening passage preview intervention (which contained modeling, drill, and generalization components) produced the greatest immediate gains in accuracy and fluency in passages read for each student; however, the magnitude of these gains differed across participants. These results are consistent with previous research that has found that LPP increases oral reading fluency in passages relative to no previewing and silent passage previewing (Rose, 1984a, 1984b, 1984c; Rose & Beatie, 1986; Rose & Sherry, 1984)

Phrase-drill error correction. Like RR, phrase-drill error correction (PD) calls for students to repeatedly read text; however, in the PD procedure, students read a particular phrase from a passage repeatedly (e.g., three times consecutively) rather than reread the entire passage (Begeny, Daly, & Valleley, 2006). The phrases read contain at least one word that was incorrectly read on a previous reading of the passage, and the correct pronunciation of the incorrectly read word is usually modeled for the student before he or she reads the phrase. By reading phrases repeatedly (as opposed to isolated words) contextual cues for students are provided, and thus should allow them to read the words with greater ease. It is also thought that PD may increase reading fluency better than a word-drill procedure because students are not practicing word-by-word reading, but are reading larger linguistic units (O'Shea, Munson, & O'Shea, 1984).

O'Shea and colleagues (1984) compared the effectiveness of individual word drill (WD) and PD in improving the reading accuracy and fluency of five LD students. No significant differences were shown between the WD and PD procedures in improving reading fluency or when reading words in isolation; however, significant differences were evident between the two strategies in reading accuracy when words were read in context, with PD resulting in a higher proportion of words read correctly. For both procedures, students read words in isolation and in context with greater accuracy, compared to the control condition, which was indicated as words that were incorrectly read during the initial passage reading, but were not subsequently practiced with WD or PD.

Daly, Martens, Dool, and Hintze (1998) implemented a variety of interventions (e.g., RR, contingent reinforcement, LPP, PD) with three elementary aged students who were identified by their teacher as having reading difficulties. Interventions were implemented in isolation or in combination in an attempt to determine the most effective intervention for increasing reading fluency. PD was only used in combination with other intervention components. However, results from this study demonstrated that including PD with other interventions was often more effective than using the other interventions in isolation, as there was typically an increase in reading fluency compared to baseline conditions.

Begeny et al. (2006) more recently compared the effects of RR and PD. RR and PD were alternated with a baseline and a reward condition within an alternating treatment design with an 8-year-old boy referred for reading difficulties. Results indicated that RR and PD improved the student's reading fluency equally well relative to baseline and reward conditions; however, PD was more effective in reducing errors than RR. When these results are viewed with the data from the O'Shea et al. (1984) and Daly et al. (1998), it appears that PD, in isolation or in combination, can be considered an effective strategy that helps to improve students' reading accuracy and reading fluency.

Combining fluency-based reading interventions. Because several reading intervention components have demonstrated success in increasing students' reading fluency, it is not surprising that researchers have developed multi-component interventions, with results suggesting that a combination of procedures typically result in

better reading outcomes for students (e.g., Chard et al., 2002; Daly et al., 1998; Daly et al., 1999; Eckert, Ardoin, Daisey, & Scarola, 2000). In fact, Therrien's meta-analysis (2004) demonstrated that intervention components are less often implemented in isolation, and more frequently combined in a treatment package.

Daly, Martens, Hamler, Dool, and Eckert (1999) evaluated the effects of different groupings of five intervention components for improving oral reading fluency for 4 students from the ages of 4-12 that had been referred for reading problems by their teacher and parents. Treatment strategies included the following components: a reward for fast reading, RR, LPP, application of a treatment to both the instructional passages (IPs) and the high content passages (HCOPs), and lowering the difficulty level of the materials by using passages that were taken from one level lower than the prior level at which the student was being instructed. Following a baseline condition, instructional treatments were combined with prior conditions until there was improvement in oral reading fluency in the IPs and HCOPs. Differentiated response patterns, assessed via a multielement design, were obtained for all students. The effects of treatment conditions on students' reading were assessed by measuring the number of correctly read words per minute in the IPs and HCOPs. All students improved their reading fluency in at least one condition relative to baseline in both the IPs and HCOPs and in one treatment condition relative to prior treatments in both the IPs and HCOPs.

As previously noted, Daly and colleagues (1998) conducted a similar analysis that incorporated PD error correction into the LPP component. Reading rate more than

doubled for each participant under at least one combination of strategies. Eckert, Ardoin, Daly, and Martens (2002) compared brief exposures to a LPP + RR package alone and in combination with performance feedback and contingent reinforcement. The largest gains in oral reading fluency were obtained when the two instructional procedures were combined with either performance feedback or reinforcement for 5 of the 6 participants.

Promising results have also been made by Martens, Eckert, Begeny, Lewandoski, DiGennaro, Montarello, et al. (2007) who evaluated the effects of a fluency-based, after-school reading program that combined multiple intervention components (RR, PD, and LPP) with 15 second and third-grade students. Intervention was either conducted individually or in small groups for all students reading the same passage. Their findings are consistent with previous research demonstrating the efficacy of combined intervention components for increasing oral reading fluency (e.g., Chard et al., 2002; Daly et al., 1999).

More recently, Begeny and colleagues (in press) conducted a study to evaluate the efficacy of time-efficient, fluency-based, procedurally standardized reading programs that were designed to supplement all early-elementary aged students' core reading curriculum: the *Great Leaps K–2 Reading Program* (which is currently used in schools throughout the US) and the multi-component *Helping Early Literacy with Practice Strategies* (HELPS) program, which was developed for the purposes of that study. Each program was implemented one-on-one with second-grade students and evaluated against a control group. Results indicated that students receiving the HELPS Program scored

significantly higher than students in the control group across several measures of early reading with effect sizes ranging from medium to large. No other statistically significant differences were found among groups.

Bridging the Gap between Research and Practice

It is crucial that students receive reading instruction and interventions in the classroom that have empirical evidence of effectiveness. As previously noted by Begeney et al. (in press), this is not usually the case. Unfortunately, a large portion of empirical educational and psychological interventions are not being applied within schools, as generalization from research to practice settings is not a straightforward process (Kazdin, Kratochwill, & VandenBos, 1986; Kratochwill & Stoiber, 2000; Kratochwill & Stoiber, 2002; Stoiber & Kratochwill, 2000). However, in both education and school psychology, attempts have been made to better bridge the gap between research and practice.

For more than a decade, there has been much interest in the development and dissemination of empirically supported interventions in psychology and education (Lonigan, Elbert, & Johnson, 1998; Stoiber & Kratochwill, 2000; Wampold, Lichtenberg, & Waehler, 2002). With the intent of improving psychological and educational practices, the movement of evidence-based practice (EBP) within psychology and education has received intensified interest and support. Kazdin (2008) described EBP as “clinical practice that is informed by evidence about interventions, clinical expertise, and patient needs, values, and preferences and their integration in decision making” (p. 147). EBP is also an effort to identify, disseminate, and promote the adoption of practices with

demonstrated research support (Kratochwill, 2007). For example, in regard to research in reading fluency, the primary purpose is the promotion of evidence-based fluency building strategies in schools to help ensure that students are receiving strategies in the classroom that have been proven to be most effective in the research setting.

In education, the NRP (2000) reported evidence-based strategies in reading and in 2002 the U.S. Department of Education's Institute of Education Science funded a major project called What Works Clearinghouse (WWC) to help manage, evaluate, and disseminate evidence-based interventions. WWC provides educators, policymakers, researchers, and the public with a central and trusted resource of scientific evidence that has been shown to work in education so that informed educational decisions can easily be made via accessible databases and user-friendly reports.

Within the field of psychology, the American Psychological Association (APA) has launched a number of initiatives to improve the gap between research and practice. One primary initiative was the formation of the Task Force on Evidence-Based Interventions in School Psychology (hereafter called the Task Force), which was developed in 1998 and is supported by APA Division 16 – School Psychology, the Society for the Study of School Psychology, and the National Association of School Psychologists. The primary purpose of the Task Force is to identify evidence-based interventions (EBIs) to better enable practitioners in schools and other applied settings to use these procedures and programs to serve the educational and mental health needs of children and families (Kratochwill & Stoiber, 2002).

The Task Force agreed on the following definition: “Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (p. 273). This definition of EBPP closely parallels the definition of evidence-based practice adopted by the Institute of Medicine (2001; as adapted from Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000): “Evidence-based practice is the integration of best research evidence with clinical expertise and patient values” (p. 147). The *Procedural and Coding Manual for Review of Evidence-Based Interventions* (hereafter called the *Manual*) was formed to help professionals identify, review, and code interventions that have been subjected to empirical research and evaluation. Specifically, the *Manual* is intended to assist in reviewing outcome research for the following purposes: (a) to identify prevention and intervention outcome studies that might influence educational and psychological prevention and intervention programs, (b) to code the studies according to Task Force criteria and provide information on the characteristics of the interventions, (c) to determine the degree to which the interventions are evidence-based on a variety of criteria, (d) to offer the field of school psychology and related fields guidelines for adopting effective programs, and (e) to provide a template for improving psychological and educational research.

A criterion for evaluating evidence has been difficult because of the lack of consensus regarding how to define and grade quality research (Kratochwill, 2007). A critical distinction often made in the literature on EBIs is a differentiation of effectiveness

and efficacy (American Psychological Association, 2002; Chambless & Hollon, 1998; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Nathan & Gorman, 2002). Efficacy is the standard for evaluating interventions in controlled research, whereas effectiveness is the standard for evaluating interventions in a practice context (Kratochwill & Stoiber, 2002). Efficacy studies use well-designed protocols and precise methodology, and generally are conducted in laboratories or clinical research settings. Conversely, effectiveness studies are mostly focused on issues of generalizability of the intervention and consider such issues as the intervention's feasibility, use, and acceptability across different settings and clients (Kratochwill & Stoiber).

Both efficacy and effectiveness studies are critical in evaluating the success of an intervention. Chorpita (2003) conceptualized research designed to advance evidence-based practice into four types. Type I, efficacy studies, as noted above, evaluate interventions in a controlled research context. Type II, transportability studies, examine the degree to which intervention effects generalize from research to practice settings, along with the feasibility and acceptability in the practice settings, allowing for the evaluation of the various contextual issues such as training requirements, training resources, cost and time efficiency (Kratochwill, 2007; Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald., 2001; Schoenwald & Hoagwood, 2001).

Type III, dissemination studies, use intervention agents that are part of the system of services, and, in school settings, teachers typically serve as the intervention agents. Dissemination studies still involve a formal research protocol, researcher control and

supervision, which may impact the effectiveness of the intervention (Kratchowill, 2007). Type IV, system evaluation studies, establish independence from investigator control and Chorpita (2003) suggested this as "the final inference to be made: whether the practice elements can lead to positive outcomes where a system stands entirely on its own" (p. 46).

Carrying out this study was necessary to investigate the effectiveness and feasibility of the HELPS Program in an applied setting. The present study also addresses the need for increased program evaluation of reading programs that are intended for use in school settings. Additionally, for most studies evaluating classroom interventions, focus has primarily been on the development and evaluation of whether the intervention is capable of producing both strong and reliable effects (Martens, Witt, Elliott, & Darveaux, 1985). The effectiveness of an intervention is critical to evaluate; however, it is also necessary to recognize that a number of factors can mitigate the successful implementation of interventions in applied settings. Thus, it is important that interventions in applied settings be monitored to best ensure that they have been implemented in the manner intended.

Implementation Integrity

The degree to which an intervention is implemented as planned is referred to as implementation integrity (Gresham, 1989; Gresham, Gansle, Noell, Cohen, & Rosenblum, 1993). Specifically, there is a fundamental need to demonstrate that changes in behavior, including academic behavior, are functionally related to manipulated

changes in the environment (Baer, Wolf, & Risley, 1968; Gresham, 1989; Gresham et al., 1993). Gresham (1989) suggested a number of variables that influence implementation integrity, including (a) how difficult the intervention is to implement, (b) how much time the intervention requires, (c) how many individuals are required to implement the intervention, (d) how the intervention strains the implementing agent's resources, and (e) how acceptable the intervention is to the person responsible for implementing it.

Implementation integrity measurement tools. Although implementation integrity has often been assumed rather than assessed by many researchers in the past (Gresham et al., 1993), there is general concurrence that measuring implementation integrity is necessary, and both direct and indirect measures can be used to evaluate an intervention's effectiveness. Many of the proponents of direct measurement favor direct observational ratings by utilizing a checklist that has been tailored to the intervention. Using this method, an independent observer monitors the degree to which the teacher implements the intervention as planned (Sterling-Turner, Watson, Wildmon, Watkins, & Little, 2001). Gresham et al. (1993) recommended direct observational measures as well, suggesting each component of an intervention be measured directly using an occurrence/nonoccurrence observation code, and obtaining a level of implementation integrity by summing the number of components correctly implemented and dividing this number by the total number of components to yield percent integrity. Permanent products of an intervention are another type of direct measurement tool, which can include

information as the number of stars earned on behavioral charts or the number of words read using curriculum-based measurement (CBM) probes.

Also, indirect measures such as implementation agents' self-reports via rating scales, procedural checklists, and conducting interviews with implementation agents are tools that can be utilized. However, self-reports methods should only be used as a supplement to direct observation as they are inherently subjective and limited by biases and oversights (i.e., failure to recognize when incorrectly implementing or omitting an important component of an intervention) (Gresham et al., 1993).

Improving implementation integrity. Implementation integrity oftentimes is unstable and tends to decrease over time (Greenwood, Terry, Arreaga-Mayer, & Finney, 1992; McEvoy, Shores, Wehby, Johnson, & Fox, 1990; Noell, Duhon, Gatti, & Connell, 2002; Vermilyea, Barlow, & O'Brian, 1984). Several researchers have proposed methods to increase correct implementation of interventions. Three primary means of improving integrity of an intervention include training in the intervention, scripting, and providing performance feedback.

During training, direct and indirect methods can be used to instruct teachers to implement an intervention with integrity. However, direct training procedures (e.g., modeling, role playing, rehearsing, and providing feedback) tend to lead to higher levels of implementation integrity when compared to indirect training procedures (e.g., didactic instruction, providing written materials describing the intervention) (Sterling-Turner et

al., 2001). This underscores the importance of providing sufficient, direct training with feedback to teachers who are implementing an intervention

Ehrhardt, Barnett, Lentz, and Stollar (1996) concluded that the use of intervention scripts (e.g., literal, written scripts of what to do and say for each component of an intervention) is another practical method for increasing implementation integrity. These specific scripts serve as guidelines for the proper implementation of an intervention. Last, performance feedback has been shown to effectively increase teachers' implementation integrity (DiGennaro, Martens, McIntyre, 2005; Mortenson & Witt, 1998; Noell, Witt, Gillbertson, Ranier, & Freeland, 1997, Witt, Noell, LaFleur, & Mortenson, 1997). This method can be used during training and during the implementation of the intervention to increase the fidelity of a teacher's implementation of an intervention. Performance feedback usually involves daily or weekly meetings between a coach and the teacher and usually includes (a) presenting the teacher with data on the intervention usage and student academic progress, (b) providing positive feedback for completed intervention steps, (c) providing corrective feedback by reviewing each intervention step omitted or implemented incorrectly, and (d) addressing questions or comments (Mortenson & Witt, 1998). DiGennaro et al. (2005) demonstrated that daily meetings may not be necessary to maintain accurate implementation over time by examining the role of performance feedback combined with negative reinforcement as a means to increase implementation integrity. Performance feedback combined with negative reinforcement requires less time from both the coach and the teacher, suggesting

that an intervention package comprised of both components may be a viable, time-efficient technique for improving implementation integrity.

Chapter 2:

Purpose of the Study

Given the importance of reading fluency in early reading instruction, as well as the need for systematically evaluating fluency-based interventions that can be feasibly implemented in elementary school classrooms, the primary purpose of this study was to continue the empirical investigations of the HELPS Program by evaluating it in a more “effectiveness-based” context rather than a more tightly controlled “efficacy-based” context. According to Chorpita (2003), the goal of this study is therefore to evaluate HELPS as a Type II transportability and/or Type III dissemination study. A Type I efficacy investigation has already been carried out to evaluate HELPS under more controlled conditions (Begeny et al., in press). The present study differs from this previous study in that (a) teachers and teacher assistants (rather than research assistants) implemented the HELPS Program, and (b) research assistants served as coaches and evaluators of teachers’ implementation integrity.

In addition, Begeny et al. (in press) evaluated the HELPS Program as a supplement to all second-grade students’ core reading curriculum (including participants with low, average, and high levels of reading ability); however, the present study evaluated the HELPS Program as an intervention for low-performing readers, rather than a supplement to a core reading program for all emerging second-grade readers.

Research Questions and Hypotheses

The primary research question of the present study addressed: When HELPS is implemented by classroom teachers in a minimally controlled setting with 2nd-grade participants of low reading abilities, does the program produce reading outcomes that differ significantly from a control group? It was hypothesized that the low-performing 2nd students who receive HELPS would outperform students on reading measures when compared to low-performing students who did not receive the program. This hypothesis was based on the rationale that students who received HELPS in the past made significantly larger reading gains than students who did not receive the program (Begeny et al, in press) and previous studies that have demonstrated a combination of reading fluency building strategies typically result in better reading outcomes for students (e.g., Chard et al., 2002; Daly et al., 1998; Daly et al., 1999; Eckert, Ardoin, Daisey, & Scarola, 2000).

A second research question addressed: If significant differences do exist between students who received HELPS and students who did not receive the program, across which specific measures do these differences occur? It was hypothesized that significant differences would be found between groups across all reading measures. Again, this hypothesis was based on outcomes from previous evaluations of HELPS (Begeny et al., in press) and over two decades of research on effective strategies for increasing students' reading fluency (e.g., Chard et al., 2002; NCIHD, 2000; Therrien, 2004). Also, it is anticipated that students who received HELPS would improve on measures of reading

comprehension, as fluency-based strategies have proven to enhance other important reading abilities such as reading comprehension (Begeny & Martens, 2006; Chard et al., 2002; NIHD, 2000; Therrien, 2004).

Chapter 3:

Method

Participants and Setting

Teacher participants. Four second-grade teachers and their teacher assistants from a rural school in the southeast region of the U.S. were randomly selected from a total of 9 second-grade teachers to implement HELPS with low-performing students in their classroom. Students from the other 5 teachers' classrooms served as control group students.

Several additional steps were taken to best ensure that condition assignment procedures would not confound the study results. First, analyses confirmed there were no significant differences between the HELPS teachers and the control teachers based on their responses on a self-report questionnaire (see Appendix A) that assessed the following areas: years of employment as a teacher, level of formal schooling, ethnicity, gender, and previous training in assessing and/or promoting reading fluency. Of the 9 teachers, 8 were female, and all were Caucasian. HELPS teachers had an average of 11 years, 9 months ($SD = 10.40$) of teaching experience, with a range of 4-26 years, and an average of 10 years, 0 months ($SD = 8.04$) experience teaching second-grade, with a range of 3-20 years. HELPS teacher assistants had an average of 2 years, 3 months ($SD = 1.26$) experience teaching, with a range of 1-4 years, and an average of 2 years, 0 months ($SD = 0.82$) experience teaching second-grade, with a range from 1-3 years. Control teachers had an average of 11 years, 7 months ($SD = 6.80$) of experience teaching, with a

range of 3-22 years, and an average of 7 years, 0 months ($SD = 5.05$) of experience teaching second-grade, with a range of 1-11 years experience. Control teacher assistants had an average of 8 years, 0 months ($SD = 4.08$) experience teaching, with a range of 5-14 years, and an average of 4 years, 9 months ($SD = 3.59$) teaching experience in second-grade, with a range of 2-10 years.

Prior to working with student participants, HELPS teachers and teacher assistants (henceforth referred to as teachers) were instructed on HELPS procedural roles and program components in two 4-hour training workshops that were held within one week of each other during the month of October.

During the first workshop, the primary focus was to acquaint teachers with HELPS. First, a 30-minute presentation of the most current research findings regarding reading fluency and goals for the program was given to teachers. Next, teachers received binders that included all HELPS materials (scripted protocols, stories, graphs, star charts, etc.) they would use for the study. The HELPS components were then introduced. Teachers were given a brief rationale for the use of CBM as an assessment tool as well as how the procedures are used as part of the RR program component. Teachers were then given the opportunity to practice using CBM as a measure of oral reading fluency. Next, an overview of each intervention component of the program (i.e., PD, LPP, charting) was provided, along with opportunities for teachers to practice implementing each component. HELPS coaches (henceforth referred to as coaches and described in detail below) were present throughout the workshop to answer questions and provide support to

the teachers as needed. Additionally, two coaches modeled the HELPS procedures, with one coach modeling the implementation of the program and the other performing the role of a student. Two examples were modeled—one with the student meeting the reading goal, and one with the student not meeting the reading goal. Teachers followed along with HELPS protocols during this modeling phase. Teachers were then paired so they could practice the full HELPS protocol while coaches observed and provided feedback as needed.

The main purpose of the second workshop was to provide teachers additional time to practice implementing the HELPS Program. For approximately 2.5 hours, coaches paired with teachers, so that teachers could individually practice implementing the HELPS protocol with coaches playing the role of student. Teachers were required to do at least two practices—one with the student meeting the reading goal, and one with the student not meeting the reading goal. Coaches provided immediate corrective feedback for any steps missed. Teachers were required to reach mastery criterion according to the HELPS implementation protocol. Mastery criterion was set at 100% implementation integrity during two consecutive practice sessions. Logistical questions were also addressed during the second workshop, such as how long teachers would implement the program, how many times per week, how many students would be receiving HELPS, and why coaches would be observing the teachers as they implemented the program.

A week after the second workshop, teachers were given a HELPS implementation quiz, which consisted of 12 True/False, 12 multiple choice, and three short

answer/applied items (see Appendix B). Individually, a coach reviewed the correct answers from the quiz with each teacher and teachers' incorrect responses were discussed to better ensure teachers understood the correct implementation procedures.

Within one to two days after the coach and teacher reviewed the implementation quiz, each teacher began implementing HELPS with seven to eight low performing readers within their classrooms. All teachers' implementation integrity was monitored regularly throughout the study with the same procedural protocol used for training purposes.

Coaches. Throughout the course of the study, four coaches (two female graduate students, one female post-baccalaureate student and one female undergraduate student) trained in implementation of the HELPS Program participated. Coaches were required to demonstrate proficiency in the program by reaching mastery criterion based on the implementation protocol. Mastery criterion was set at 100% implementation integrity during two consecutive practice sessions. All coaches had at least one year of experience directly implementing HELPS with second-grade students. Furthermore, coaches were selected based on their demonstrated leadership ability, and ability to communicate with others in a professional setting.

Coaches were introduced to teachers during the two training workshops, in which they provided assistance and feedback as teachers became acquainted with the components of the program. Coaches and teachers were paired based upon their schedule and availability. Throughout the study, coaches provided support and regularly monitored

teacher implementation of the HELPS Program. Coaches were instructed in steps and guidelines for coaching and providing feedback to teachers (see Appendix C).

Student participants. Sixty students were selected from the nine second-grade classrooms to participate in the study. However, data is representative of 59 students as one student in the HELPS group moved during the course of the project. Twenty-nine students across the four randomly selected classrooms received the HELPS Program, and 30 students from the other five classrooms served as control group students. The average student age was 7 years, 8 months ($SD=0.49$) with a range from 7 years, 0 months to 8 years, 10 months. Of the 59 participants, 33 were female (55.9%), 31 were Caucasian (52.5%), 17 African-American (28.8%), 9 Hispanic (15.3%), and 3 were identified as Other Ethnicity (5.1%). None of the students received English as Second Language services. Additional student demographic information (e.g., eligibility for free or reduced lunch, presence of an educational and/or psychological disability) could not be obtained due to state and county regulations at the time of the study. At the participants' school, 33% of students received free or reduced lunch, 16.9% received special education services, and 18.6% had been retained in a grade. Within the study, there were six students in the HELPS group and four students in the control group that were eligible for special education services. However, a chi-square test confirmed that these differences between groups were not significant ($p = .451$).

Reading instruction for all second-grade teachers in the participating school was similar. All teachers integrated language arts into their daily curriculum for

approximately 90 minutes, each utilized the *Houghton Mifflin* basal reading series, and each included daily reading groups (with small groups determined by student reading ability), independent reading, phonics and vocabulary lessons, and writing activities. Reading instruction for HELPS students differed only by the fact that 10 minutes of that reading instruction was devoted to the HELPS Program.

Setting. All HELPS sessions were implemented in a one-on-one (i.e., teacher-student) format in the participant's classroom or in a quiet hallway outside each participant's classroom. Each teacher determined whether it was best for her to implement the HELPS Program in the classroom or in the hallway. Coaches simply ensured that teachers were implementing the program with students in a setting that was free from noise and distractions.

Assessment Materials

The following measures were used as pre- and post-test measures to evaluate participants' reading growth throughout the study: the Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999), the Dynamic Indicators of Basic Early Literacy Skills, 6th Edition, Oral Reading Fluency (DORF; Good, Kaminski, & Dill, 2002), the Gray Oral Reading Test, Fourth Edition (GORT; Wiederholt & Bryant, 2001), and the Basic Reading Skills subtests of the Woodcock-Johnson Tests of Achievement, Third Edition (WJ-III; Woodcock, McGrew, & Mather, 2001). Because the TOWRE, GORT, and WJ-III each provide alternate test forms, Form A was used during pre-test assessments and Form B was used during post-test.

The above measures were selected to evaluate reading skills considered critical for early reading instruction (e.g., fluency, phonics, comprehension). According to the Institute for the Development of Educational Achievement and their *Analysis of Reading Assessment Instruments for K–3* (Big Ideas in Beginning Reading–Assessment Domain, 2005), the following measures were indicated as having sufficient evidence for assessing specific reading areas: WJ-III (i.e., assessment of phonics); DORF, GORT, and TOWRE (i.e. assessment of fluency). Also, these measures were utilized as each met important standards for reliability and validity, as assessed by expert committees affiliated with national reading centers such as the Florida Center for Reading Research (Florida Department of Education, 2005) and the Institute for the Development of Educational Achievement (Big Ideas in Beginning Reading – Assessment Domain, 2005).

Dynamic Indicators of Basic Early Literacy Skills, 6th Edition (DIBELS)-Oral Reading Fluency (DORF). DORF is a standardized, individually administered test of accuracy and fluency with connected text. DORF passages and procedures are based on procedures described by Shinn (1989). The goal levels of reading for each grade level are calibrated for all passages. As a measure of student performance, students read passages aloud for a one minute timing. Hesitations of more than three seconds, words omitted, and words substituted are scored as errors. If words are self-corrected within three seconds, they are scored as correct. The oral reading fluency score is the number of correct words read per minute from the passage. DORF test-retest reliability for

elementary students ranges from .92 to .97; alternate form reliability ranges from .89 to .94, and criterion-related validity ranges from .52 to .91.

Test of Word Reading Efficiency (TOWRE). The TOWRE contains two subtests: the Sight Word Efficiency (SWE) subtest assesses the number of real printed words that can be accurately identified within 45 seconds, and the Phonetic Decoding Efficiency (PDE) subtest measures the number of phonemically constructed printed nonwords that can be accurately decoded within 45 seconds. TOWRE test/retest coefficients ranges from .83 to .96, average alternate forms reliability coefficients all exceed .90, and scorers' inter-rater reliability is reported to be .99 (Torgesen, Wagner, & Rashotte, 1999).)

Broad Reading Test of the Woodcock-Johnson Tests of Achievement, Third Edition (WJ-III). Letter-word Identification (LWI) and Word Attack (WA) are two subtests from the WJ-III (Woodcock, McGrew, & Mather, 2001). The LWI subtest measures word identification skills, consists of 76 items, and requires the student to read aloud a list of words arranged in increased difficulty and length without time constraints. The WA subtest, consisting of 32 items, involves a similar requirement; however, it requires the correct pronunciation of readable nonwords with an increasing number of syllables and difficulty. Together, the LWI and WA subtests comprise the Basic Reading Skills Composite of the WJ-III and this measure evaluate students' basic, overall reading abilities. Split half reliability estimates of the LWI and WA subtests are .91 and .87, respectively. No alternate form reliability is provided.

Gray Oral Reading Test, Fourth Edition (GORT-4). The GORT-4 assesses students' reading accuracy, rate, and comprehension on 14 developmentally sequenced passages of 50 to 200 words in length. Five scores are provided from the test: Accuracy; Rate; Fluency (Rate + Accuracy); Comprehension; and a composite score (i.e., the Oral Reading Quotient) comprised of the sum of the Fluency and Comprehension standard score. Coefficient alphas for the Oral Reading Quotient, and the separate Fluency and Comprehension components are all at or above .90 for early primary students. Alternate form reliability is .95 for the Oral Reading Quotient, .90s for all subtests except for Comprehension ($r = .78$). Test-retest reliability ranges from .85 to .95 for the four subtest scores and .95 for the Oral Reading Quotient (Wiederholt, & Bryant, 2001).

Instructional Materials

HELPS instructional materials included 88 passages ranging in difficulty (from the beginning of first-grade to the end of fourth-grade). These passages consisted of 80 DORF progress monitoring passages (Good & Kaminski, 2002). These passages were representative of first through fourth-grade reading levels based on the Spache readability formula (Spache, 1953), which calculated the readability levels for the first 130 to 150 words of each DORF, ranging from 2.37 to 4.99. Eight first-grade passages from the Silver, Burdett, and Ginn (Pearson et al., 1989) first-grade reading series were also included, with readability levels ranging from 1.71 to 2.31 for these passages. All 88 passages were sequenced by readability levels.

Procedures

Assessment procedures. At pre- and post-test, all participants were administered two DORF benchmark passages representative of second-grade reading material, approximately 110 to 160 words per passage. Student passages were typed and did not include pictures, and examiner copies of passages contained a cumulative word count at the end of each word line. Students' average score across passages was used for analyses. All participants were also administered the TOWRE, the GORT, and the LWI and WA subtest of the WJ-III. Participants had not been assessed using any of these materials prior to this study.

Implementation procedures. While participants in the control group received the standard reading curriculum throughout the duration of the study, participating students in the experimental classrooms received HELPS two to three times per week from mid-October to early April, an average of 50.43 sessions ($SD=2.98$) throughout the study (range = 44 to 58). HELPS instructional materials were used during all sessions and for ongoing progress monitoring of students' performance. HELPS instructional passages were typed and did not include pictures. Examiner copies of the passage contained a cumulative word count at the end of each word line. Students' average score across passages was used for analyses. Participants had not read any of these passages prior to this study.

Students almost always received HELPS from their teacher during the morning hours when all reading activities occurred in their classrooms. Following a procedural checklist of steps and scripted directions as a way to better ensure implementation

integrity, teachers required an average of 12 min 44 sec ($SD=2.87$) to complete a session with a student.

Three main elements made up the HELPS implementation protocol: (a) introduction and initial assessment, (b) reading Track A or Track B, and (c) praise and feedback. This implementation protocol is found in Appendix D. Teachers also used scripted directions to instruct students through each program component (see Appendix E). Additionally, a sheet with important tips and reminders for implementing the program were provided to teachers. Such reminders included ensuring all necessary materials were ready prior to starting the session with student, and remembering to do the comprehension component immediately after the student reads the first story of the session (for more examples see Appendix F).

At the beginning of each session, the teacher reviewed the program goals with the student by stating, “When we read together today, I’d like you to try your best to remember what happens in the story, remember the difficult words that you will practice, and remember to read with speed, accuracy, and good expression.” This specific “cue” was integrated into the HELPS protocol based on the findings from Therrien’s (2004) meta-analysis that stated that if the purpose of repeated reading is to enable the student to read fluently and comprehend a particular passage, then the student should be cued to focus on speed and comprehension. The student was then asked to read a passage aloud for an initial assessment. The first reading passage of the session was also the passage the student practiced during the previous session (approximately two days prior).

As the student read aloud for a one-minute timing, the teacher recorded words correct per minute (WCPM) and words incorrect per minute (WIPM). Words that were read incorrectly included the following: mispronunciations of words, substitutions of words, omissions of words, transpositions of words/word pairs, skipping a line in the reading passage, adding endings to words, or words read by the teacher if the student paused for three seconds while otherwise reading aloud. After one minute, the teacher prompted the student to recall as much of the story as possible. Student performance on this initial read-aloud determined whether the student would complete Track A (and meet the reading goal) or Track B (and not meet the reading goal) of the program for that day.

Three criteria were used to determine whether the student met their reading goal and if he or she would complete Track A or Track B. To progress to Track A the student needed to (a) read at least 100 words correctly on the initial passage, (b) make three or fewer errors on that passage, and (c) retell contents of that story for 30–45 seconds. If any of the three criteria were not met, the student failed to meet the daily reading goal and completed Track B for that day.

If the student met the reading goal, Track A began with praising the student for meeting the goal and charting the WCPM and WIPM on the graph. The student was also told at this time that he or she would earn one star on the star chart (described in detail below) for meeting the reading goal. The student then read the new, subsequent passage for a one-minute timing while the teacher recorded errors. After the student's initial reading of this passage, the teacher implemented a phrase-drill error correction procedure

that required the student to read each incorrectly read word within a two to five word phrase three times (Begeny & Martens, 2006). Next, the student read the passage again for one minute while the teacher recorded errors. Following this reading, the teacher read the passage aloud with fluency and expression as the student followed along (i.e., the teacher modeled fluent reading of the passage). Last, the student read the passage for a third one-minute timing while the teacher recorded errors. As described, Track A program sessions requires a student to read a previously read passage one time during the initial assessment and then read a new passage aloud three times.

If the student did not meet all three mastery criteria on the initial reading passage, the student did not move on to a new reading passage. Instead, the teacher followed Track B by modeling fluent and expressive reading of the same passage. Following the modeling component, the student read the passage a second time for one minute while the teacher recorded errors. Next, the teacher implemented the phrase drill error correction procedure for any errors the student made during the second reading. After completing the phrase drill, the student read the passage for a third time while the teacher recorded errors. Finally, the teacher repeated the phrase drill for any errors made during the third reading.

The final step for each session required the teacher to record the following information on the student's tracking form: session number, session date, completed passage(s), passage number to begin the next session, reading goals that were met, any

pertinent notes about the session and any procedural steps that the teacher may have recognized she had missed (see Appendix G).

Within each session, a star chart was used as part of a token economy motivational procedure. During the first session (and repeated in subsequent sessions as a reminder), the teacher showed the student his or her “Star Chart” (see Appendix H) and explained thoroughly how the chart would be used. At the end of each session, the student received stars based on his or her reading performance. The student earned two stars if he or she met the reading goal, and put forth effort on the new passage. The student earned one star if he or she did not meet the reading goal but put forth effort. The star chart consisted of 11 rows of boxes, with 15 boxes per row on a standard 8.5” x 11” sized page. After the student reached the 15th box on a row, the same process was continued for the subsequent rows on the chart. When the student received a star in the 15th box of a row, he or she was each able to select a small prize (e.g., eraser top, sticker book, pencil, or baseball card) from the prize box. Also, intermittently, two to three shaded boxes were located on each row of the chart and when students earned a star on a shaded box, he or she was able to select a ticket from the “bonus bag.” Each ticket in the bonus bag listed a number of bonus stars the student could earn on their chart. Descriptions of bonus stars on the tickets ranged from one to five bonus stars, with proportionately more tickets representing a smaller number of bonus stars. There was also one ticket labeled “Prize Box.” If this ticket was selected, the student would get to select a prize. The star chart was primarily developed for the purposes of this program,

and its use, along with an overall system of praise and rewards, it was consistent with protocols other fluency-based instructional programs.

Traditional (equal-interval) graphing charts were used as a visual aid for students to monitor their reading progress and also provided teachers a way to give performance feedback to students (see Appendix I). The graphs included words read correctly and incorrectly on the y-axis, and session numbers on the x-axis.

Implementation Integrity

Prior to working with student participants, and as previously indicated, teachers were required to reach mastery criterion based on the implementation protocol. Mastery criterion was set at 100% implementation integrity during two consecutive “practice” sessions (i.e., sessions conducted with coaches playing the role of the student). In addition, all teachers’ implementation integrity was monitored regularly throughout the study with the same procedural protocols used for training purposes. Each teacher received a rating based on her ability to follow the primary procedural protocol and remember important tips and reminders necessary for successful implementation (see Appendix I and Appendix J). At the end of each coaching session, coaches filled out a consultation summary form, which provided important summary information such as length of coaching session, length of student session, and any questions or concerns raised by the teacher or consultant during the session (see Appendix K).

Coaches met with their teachers for an average of 11.38 ($SD = 1.30$) sessions across six months. With the exception of one teacher who was unable to meet with her

coach due to scheduling conflicts, coaches met with teachers weekly approximately for the first five sessions; however, this was faded to once every two to three weeks when a teacher demonstrated 100% implementation integrity of the primary protocol procedures across three consecutive observations.

Across teachers, the average percentage of the primary protocol procedures followed accurately was 96.36% ($SD = 5.13$). Steps most commonly missed were forgetting to prompt the student to recall as much of the story as possible after the initial reading, and failing to *tell* the student that he or she would earn one star on the star chart for meeting the reading goal. Across teachers, the average percentage of the tips and reminders followed accurately was 97.16% ($SD = 6.79$). Relative to all the tips and reminders teachers were asked to implement, the most common steps forgotten were (a) turning the student reading booklet over during the comprehension procedure, and (b) telling the student to “read” the difficult words (in contrast to “saying” or “repeating” the words that were missed) during the phrase-drill component. Additionally, during each meeting, inter-rater reliability of teachers’ assessments of oral reading fluency was calculated for each of the three or four passages that the student read during the session. Total inter-rater reliability, across teacher and session, was 99.85% ($SD = 0.05$)

Chapter 4:

Results

Reading Measures Factor Analysis

A principal component analysis (PCA) was used to verify the underlying psychometric structure of the six reading measures used in this study as one unified construct of “basic reading competence.” Pre-test measures from the 59 student participants in the study were analyzed. The measures in the principal components analysis included TOWRE-Sight Word Efficiency (SWE), GORT-Fluency, GORT-Comprehension, DIBELS Oral Reading Fluency (DORF), WJ-Letter-Word Identification (LWI), and WJ-Word Attack (WA). This analysis was necessary to verify that the reading measures were at least moderately correlated ($> .60$; Tabachnick & Fidell, 2007) so that the outcome analysis (using multivariate analysis of variance; MANOVA) with all measures would be appropriate. If the results of the PCA revealed a measure having less than a moderate relationship with the other measures, it was determined that it be evaluated in a separate analysis (Tabachnick & Fidell, 2007).

The results of PCA indicated an adequate sample for factor analysis (Kaiser-Meyer-Olkin = .769), explaining 59% of the variance as a unified reading construct, although the factor loading for the GORT-Comprehension subtest was .49, which means only 24% shared variance with the reading construct. Therefore, a second PCA was conducted with the GORT-Comprehension measure excluded from the analysis. In the second analysis, TOWRE-SWE, GORT-Fluency, DORF, WJ-LWI, and WJ-WA were

used. The results of this analysis showed an adequate sample for factor analysis (Kaiser-Meyer-Olkin = .764), explaining 67% of the variance as a unified reading construct. Principal components or factor loadings ranged from .871 to .763, which are considered excellent in terms of a pure measure of the factor analyzed construct (Comrey & Lee, 1992). Therefore, these five measures of reading skills were used as a basic reading competence outcome measure of the HELPS Program. GORT-Comprehension was evaluated separately as a measure of reading comprehension.

Doubly-repeated Multiple Analysis of Variance

To evaluate the overall differences in basic reading competence from pre-test to post-test when comparing students who received the HELPS Program and students in the control group, a doubly-repeated multiple analysis of variance was used (Tabachnick & Fidell, 2007). A repeated-measures, within-subjects factor of time (i.e., pre-test to post-test) and reading (i.e., the five pre-test reading measures and the five post-test reading measures) by a between-subjects factor of condition (i.e., control group and HELPS group) was the statistical design. The test statistic Wilk's Lambda was used to determine whether there were significant differences between the control group and the HELPS group. Wilk's Lambda transforms into an F-statistic and provides a direct measure of the proportion of variance not explained by the group differences. The effect size as determined by partial Eta-squared was also provided to identify the amount of variance explained by the tested factor. Each of these statistics is shown in Table 1.

Statistically significant and large effects were found for the changes in overall reading by time and individual reading measures from pre- to post-test, as would be expected provided that all students in schools receive satisfactory reading instruction to make progress in their reading ability. Therefore, evaluating the interaction effects due to the differences between the students who received HELPS and the control group was of particular importance in this study. Specifically, we were interested in determining the effects due to the interaction of the control group and HELPS group with the repeated measures of time, reading measures, and the three-way interaction between time, reading measures, and group. A statistically significant interaction was found between time and group accounting for about 24% of the variance, and there was also a three-way interaction between time, reading, and group, accounting for 21% of the variance.

Table 1

Doubly Repeated-Measures Multiple Analysis of Variance of Group^a by Time^b and Reading^c

Effect	Wilk's Lambda	F-test	Partial Eta Squared
Time	.283	144.38***	.717
Time x Group	.763	17.73***	.237
Reading	.005	22631.97***	.995

Table 1 Continued

Reading x Group	.924	1.11	.076
Time x Reading	.155	73.41***	.845
Time x Reading x Group	.789	3.60**	.211

Notes. Levels of statistical significance: *** at $p < .001$, ** at $p < .01$, and * $p < .05$.

^a Group = Between subjects groups, control (n = 30), and HELPS (n = 29).

^b Time = Within subjects factor Pre-Test to Post-Test.

^c Reading = Within subjects factor of reading including these five measures: TOWRE-Sight Word Efficiency (SWE), GORT-Fluency, GORT-Comprehension, DIBELS Oral Reading Fluency (DORF), WJ-Letter-Word Identification (LWI), and WJ-Word Attack (WA).

Pre-test and post hoc t-tests. No statistically significant differences ($p > .05$ in all comparisons) were found between the control group and the HELPS group for pre-test *t*-test comparisons of the five reading measures. Thus, the aforementioned significant interactions cannot be attributed to differences prior to program implementation. Post-hoc *t*-test comparisons were carried out between the two groups by the five post-test reading measures to determine group differences on each reading measure after program

implementation. The means, standard deviations, and statistically significant differences are shown in Table 2.

Table 2

Pre- and Post-Test Means and Standard Deviations by Group

Reading Measure	HELPS _a		Control _b	
	Pre	Post	Pre	Post
TOWRE-SWE	98.3 (10.2)	104.0 _{a>b} (9.6)	95.3 (10.2)	97.1 (10.9)
DORF	47.2 (11.0)	87.7 _{a>b} (20.0)	44.6 (10.5)	72.2 (22.5)
GORT-Fluency	8.2 (2.0)	10.0 _{a>b} (2.6)	7.2 (2.2)	7.8 (2.5)
GORT-Comprehension	8.7 (2.6)	11.5 _{a>b} (3.1)	8.3 (3.3)	9.0 (2.7)
WJ-LWI	102.6 (13.4)	106.3 _{a>b} (8.4)	101.7 (11.1)	100.5 (9.9)

Table 2 Continued

WJ-WA	101.0	106.0 _{a>b}	101.6	100.0
	(16.1)	(7.9)	(11.0)	(8.8)

Notes. Post-hoc *t*-test statistical significance was set at $p < .05$. Subscripts denote which groups performed reliably higher. Parentheses denote standard deviations.

Post-test *t*-test comparisons between the control and HELPS group showed statistically significant differences ($p > .05$) on all five reading measures. These statistically reliable differences between control and HELPS group means included TOWRE-SWE ($t = 2.550, p < .014$), GORT-Fluency ($t = 3.295, p < .002$), DORF ($t = 2.790, p < .007$), WJ-LWI ($t = 2.432, p < .018$) and WJ-WA ($t = 2.766, p < .008$).

Given the statistically significant differences between the HELPS group and control group, effect size comparisons using Cohen's *d* were computed for each of the reading measures used in this study. Effect sizes were calculated by subtracting the control-group mean change score (i.e., changes from pre- to post-test) from the HELPS group mean change score, and then dividing by the pooled standard deviation (Rosnow & Rosenthal, 1996). Results are shown in Table 3.

Table 3

Effect Size Comparisons between HELPS and Control Group Across All Reading Measures

Reading Measure	Effect Size (Cohen's <i>d</i>)	Magnitude of effect ¹
TOWRE-SWE	.39	Small to Medium
DORF	.82	Large
GORT-Fluency	.51	Medium
GORT-Comprehension	1.05	Large
WJ-LWI	.50	Medium
WJ-WA	.66	Medium to Large

¹ Magnitude of effect was determined by the recommendations set forth by Cohen (1988).

GORT-Comprehension. A repeated measures ANOVA, with a within-subjects factor of time (i.e., pre-test to post-test) by a between-subjects factor of condition was used to evaluate possible differences between the HELPS group and the control group on the GORT-Comprehension measure. Wilk's Lambda was again used to determine whether there were significant differences. A time x condition interaction was found, accounting for 12% of the variance ($p = .008$) between the HELPS group and the control group. GORT-Comprehension post-hoc *t*-test comparisons indicated statistically

significant differences ($t = 3.334, p = .002$) between groups. The effect sizes are listed in Table 3.

Chapter 5:

Discussion

The primary purpose of this study was to evaluate HELPS in a more “effectiveness-based” context rather than a more tightly controlled “efficacy-based” context. This was based on the known importance of reading fluency in early reading instruction, as well as the need for systematically evaluating fluency-based interventions that can be feasibly implemented in elementary school classrooms. The present study primarily differed from an earlier evaluation of HELPS (Begeny et al., in press) in that (a) teachers and teacher assistants (rather than research assistants) implemented the program, and research assistants served as coaches and evaluators of teachers’ implementation integrity; and (b) the present study evaluated HELPS as an intervention for low-performing second grade readers rather than as a supplement to all second-grade students’ core reading curriculum.

Comparisons between the HELPS group and the control group revealed significant differences (from pre-test to post-test) on the measure of basic reading competence, with low-performing students who received HELPS making significantly larger reading gains than students who did not receive the program. Furthermore, post-hoc analyses showed significant differences between the HELPS and the control group, with students in the HELPS group performing significantly better on all reading measures: TOWRE-SWE, GORT-Fluency, GORT-Comprehension, DORF, WJ-LWI,

and WJ-WA. Overall, findings strongly suggest that HELPS may be a beneficial program to implement with early readers with below average reading skills.

Findings from this study add to the strong body of evidence supporting the effectiveness of fluency-based instructional strategies (e.g., RR, LPP) and motivational strategies (e.g., goal-setting, performance feedback, the star chart reward procedure) for improving students' reading fluency (Chard et al., 2002; Martens & Witt, 2004; Therrien et al., 2004). Although a considerable amount of research supports instructional and motivational strategies such as RR, LPP, and performance feedback, very little research has evaluated instructional programs that combine fluency-based strategies into one, well-structured and easy-to-implement instructional package. Therefore, this study is distinctive given that it specifically: (a) evaluates a program that integrates fluency-based instructional strategies into one structured program, (b) suggests that HELPS is a program that can be easily implemented following initial training. This distinction underscores the primary goals in developing of the HELPS Program: to help facilitate a bridge between research and practice and create an effective program that can feasibly be used in schools. Another important result of this study is that it helped to elucidate additional benefits of using the HELPS Program in schools.

Practical Implications

Based on previous research with the HELPS Program, advantages of the program include: (a) its integration of fluency-based instructional strategies into a structured, easy-to-implement program; (b) significantly improving students' reading fluency when

implemented by research assistants as a supplement to all second-grade students' core reading curriculum. However, this research had not yet answered important questions about the effectiveness of the HELPS Program. For example, the present study helped to show that (a) students can achieve significant reading gains when HELPS is implemented by teachers and teacher assistants rather than research assistants, and (b) HELPS is effective when implemented as an intervention for second grade students with low reading skills.

These findings have important practical implications for educators. Namely, teachers and teacher assistants should be able to implement HELPS Program procedures accurately and consistently with only a reasonable amount of training and coaching in the HELPS Procedures—and doing so should improve struggling readers' reading skills. This finding also suggests that other educators (e.g., school psychologists, reading specialists, special education teachers, librarians, and well-trained school volunteers) should be able to learn HELPS procedures without much difficulty, thereby increasing the capacity for implementing this program with multiple students in a given school and/or district.

Because HELPS was primarily developed to become a tool for educators, the program was designed to be practical and efficient for teachers to use. For example, because time constraints often present a barrier for teachers when working one-on-one with struggling students, HELPS was specifically designed so that it could be

implemented with a student in a feasible amount of time (i.e., approximately 10 minutes per day, 2 to 3 days per week).

Related to implementation benefits of the HELPS Program, this program is also designed to facilitate high levels of implementation integrity. First, approximately 5-10 hours of training and practice are required to learn how to use HELPS Program materials and implement the program with integrity (Begeny, 2009). Second, teachers are specifically instructed after each session to self-monitor and record their implementation integrity. This record represents one form of evidence that implementation procedures occurred as intended and it also helped to emphasize the more general purpose of promoting teachers to place a higher value on implementation integrity. Self-reports methods, however, are inherently subjective and limited by possible biases and oversights. Thus, direct observation, as done by the coaches in the study, helps to ensure the program is being delivered with high levels of implementation integrity (Gresham et al., 1993).

Although the primary purpose of this study was to investigate the effectiveness and feasibility of the HELPS Program, the findings ultimately have practical implications for schools based on changes to the federal laws in 2004 regarding special education eligibility for specific learning disabilities (Individuals with Disabilities Education Improvement Act; IDEIA). The legislation made specific provisions allowing districts to adopt service delivery models that focus on the child's response to intervention (RTI). These models (a) screen all children for academic problems, (b) monitor the progress of

children at risk for difficulties in these areas, and (c) provide increasingly intense interventions based on the response to progress monitoring assessments (Vaughn & Fuchs, 2003). RTI models also require the implementation of evidence-based interventions designed to prevent or remediate reading difficulties. Thus, these changes in education represent a significant shift in teachers' roles as they are expected to implement evidence-based interventions in their classrooms and monitor students' progress and outcomes. Based upon the findings of the present study, HELPS may be an appropriate reading program that can easily be adopted within the RTI model.

More research is needed to specifically evaluate the effectiveness of HELPS within a school's functional RTI model; however, the program has already demonstrated preliminary evidence that it likely can be used as a part of the RTI three-tier system. Within the context of RTI models, HELPS had previously been evaluated at the Tier 1 level (Begeny et al., in press) and at the Tier 2 level in the present study. Additional research is needed to address the effectiveness of the program at the Tier 3 level, yet it is likely that such students could benefit from receiving the program based on the known effectiveness of HELPS.

From a practical perspective, determining which tier HELPS should be implemented will depend upon the level of resources within a school. Schools with high levels of resources (e.g., teacher assistants, well-trained school volunteers) may be able to implement HELPS at Tier 1 as a supplement to all students' core reading curriculum.

However, many schools do not have this level of resources, so HELPS may be better implemented at the Tier 2 level for students who need to improve their reading fluency.

Limitations and Future Directions

Although the findings suggest that the HELPS Program may be a viable way to increase students' reading fluency over a relatively short period of time, this study is limited in several respects. First, the program was evaluated with only second grade students. The potential effectiveness of the program for students at other grade levels awaits future research. Second, this study focused on a relatively small number of students from one school, thus to continue the empirical support for HELPS, the program should be evaluated with more students, with multiple schools, and across different regions of the U.S. Third, although HELPS was successfully implemented by teacher assistants, future research is still needed to directly examine the effects of the program when implemented by other paraprofessionals in schools such as community volunteers and parents. Such proposed studies will be necessary to further evaluate HELPS as a potentially useful instructional program for teachers.

Fourth, graduate students functioned as coaches to teachers in the study; however, in the practical setting, it is uncertain which individuals within a school would be accountable for carrying out this coaching role and to what extent systematic observation and feedback for teachers is needed. Future research efforts might evaluate school psychologists as potential educators responsible for carrying out the coach's role. Fifth, it may also be important to modify the HELPS One-on-One Program so that it can be

implemented in a small-group format, as small-group interventions are likely to be rated by teachers as more preferable compared to one-on-one interventions (Witt, Martens, & Elliott, 1984).

Despite these limitations, this study adds to research demonstrating the effectiveness of the HELPS Program. Specifically, this study extends previous research by showing that HELPS improves low-performing second grade students' reading skills more than would be improved without this intervention. In addition, this study shows that such outcomes are achievable when teachers and teacher assistants implement the program. Related to this, this study shows that both teachers and teacher assistants implement the program with strong integrity when trained with approximately eight hours of workshops and receive periodic coaching from experienced HELPS Program implementers. Given these findings, HELPS appears to be a useful and practical tool for educators' use in elementary school settings.

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APPENDICES

Appendix A

Reading Instruction and Teacher Background Questionnaire

Your name: _____ Grade level of your class: _____

Please answer the questions below regarding your current teaching practices in reading/language arts

1. How much time do you allot for reading instruction each day? _____
2. What % of your instructional day is devoted to reading/ language arts instruction? _____
3. What types of reading activities do you use during this reading time? Please provide a general description of the activity, the time allotted, and the "size" of the reading group. (For example, "20 minutes of whole-class vocabulary instruction; 15 minutes of small-group guided reading; 25 minutes of independent silent reading; 20 minutes of small-group phonics instruction; etc.)

4. What type of structured reading curriculum do you use (if not applicable, please write "NA")? Examples of reading curriculum may include Open Court, Read Well, Scott Foresman, Reading Mastery, Houghton Mifflin, etc. _____
5. Are supplementary reading materials used? If so, please describe.

Please describe your experience/background as a teacher

1. How many years have you been employed as a teacher? _____
2. What is your highest level of formal schooling (e.g., BA/BS, MA/MS)? _____
3. How many years have you been teaching at your current grade-level? _____
4. Have you received National Certification as a teacher? (circle): Yes No
5. Have you received previous training in assessing **and/or** promoting reading fluency for elementary-aged students? (circle) Yes No If **yes**, answer question below:
 - a. Briefly describe the topics covered during that training, the length of the training, and when the training occurred (e.g., received ½ day workshop in Fall 2007 on using reading fluency interventions; received 2 full-day workshops in Spring 2005 on assessing reading fluency with CBM or DIBELS; etc.)

6. Do you consult with other teachers (e.g., special education teachers) about students' performance on oral reading fluency assessments? _____ If so, how often? _____
7. Please rate your overall knowledge of delivering *evidence-based* reading instruction for all students in your class

1	2	3	4	5
Not very		Somewhat		Very
Knowledgeable		Knowledgeable		Knowledgeable

Appendix B

Name: _____ Date: ____ Grade: ____ (Circle One) Teacher Teaching Assistant

HELPS Program Implementation Quiz

True/False

Indicate whether the sentence or statement is true or false.

- _____ 1. During the Phrase Drill portion of the intervention, it is okay to say, “Repeat after me” instead of, “Read after me”.
- _____ 2. If a student reaches his goal on the first reading, you immediately chart his performance.
- _____ 3. When graphing, you should circle the point that signifies the beginning of each session.
- _____ 4. When graphing, you should connect the points of different passage numbers (e.g. passages 6, 7, and 8).
- _____ 5. During the comprehension portion of a session, you should let the student continue to view the story.
- _____ 6. You should be genuine when giving praise and try to avoid using the same praise statements repeatedly.
- _____ 7. If a student does not meet his goal, the next step is for you to do model reading for the student.
- _____ 8. You should let the student read to the end of the story each time he reads.
- _____ 9. “Tell me what happened in the story” is a sufficient example of what to say for the instructions to begin the comprehension component.
- _____ 10. For the first reading of the day, the student’s one-minute score should be recorded, but depending on the student’s performance, he may be allowed to read for up to 90 seconds.
- _____ 11. Each student can meet a “goal” twice per session.
- _____ 12. As you give directions for a student to begin reading the first story of the day, the student should not be able to view the beginning of the story.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 13. If a student does not meet her goal at the beginning of the session, but puts forth good effort during the rest of the session, the student earns
- | | |
|--------------|--|
| a. two stars | c. an automatic drawing from the prize bag |
| b. one star | d. no stars |
- _____ 14. Up to how many errors can a student make in order to still meet her goal?
- | | |
|------|------|
| a. 0 | c. 2 |
| b. 1 | d. 3 |
- _____ 15. If a student does not reach the 100 WCPM criterion on the first passage you
- | | |
|--|---|
| a. don't have to do the retell portion. | c. still complete the retell portion. |
| b. ask her to immediately reread the passage | d. go directly to the phrase drill phase. |
- _____ 16. If a student reads the entire passage in less than one minute, you
- | | |
|---|--|
| a. pretend that she read the passage in exactly one minute. | c. write down the time on the tracking form. |
| b. write down the time that it took her to complete the passage and record the number of WCPM and WIPM during the reading on the tracking form. | d. give her 2 stars for her performance. |
- _____ 17. To keep track of what the one-minute bracket represents, you should
- | | |
|---|---|
| a. record a 1, 2, or 3 with each bracket. | c. not do anything; it doesn't matter what order the scores are recorded. |
| b. only put a bracket after the last word of the first reading. | d. circle the bracket from reading 3 |
- _____ 18. If a student reads the passage with no errors, during a phrase drill
- | | |
|--|---|
| a. you should skip the phrase drill procedure. | c. you should spend time defining words that the student may not know. |
| b. you should select at least 2 difficult portions of the passage to review with the phrase drill procedures | d. randomly select words to practice the using the phrase drill procedures. |
- _____ 19. During the Model Reading phase, when reading the passage to the student, you should
- | | |
|--|--|
| a. read just a little slower than the student reads. | c. read at a pace that is just a little faster than the student's reading ability. |
| b. read the story with proper expression. | d. both A and B. |

- _____ 20. If a student is absent, you should
- a. record the absence on the graphing sheet.
 - b. record the absence on the next row of the tracking sheet by noting “absent” in the notes column.
 - c. do two consecutive rounds of the intervention the next time.
 - d. none of the above.
- _____ 21. If the student meets her goal, the first thing you should do with Passage B is
- a. phrase drill
 - b. have the student read it.
 - c. read the passage to the student.
 - d. ask the student what he/she knows about the story.
- _____ 22. If the student lands on a dark square, she
- a. picks a prize from the prize box.
 - b. have the student read it.
 - c. draws a ticket from the bonus bag.
 - d. ask the student what he/she knows about the story.
- _____ 23. When graphing performance, you should graph
- a. the first reading.
 - b. the second reading.
 - c. the third reading.
 - d. A and C
- _____ 24. If a student meets her goal, what is the correct order of the protocol for Passage B?
- a. reading 1, phrase drill, reading 2, comprehension, reading 3.
 - b. phrase drill, reading 1, model reading, reading 2.
 - c. reading 1, phrase drill, reading 2, model reading, reading 3.
 - d. reading 1, reading 2, phrase drill, model reading, reading 3.

Short Answer

25. If a student does not meet her goal during the first reading, list what you would do for the rest of the intervention (include all steps up to giving the student stars and recording data on the tracking form):

26. If a student reads 78 words, and make 4 mistakes; write the number of WCPM and WIPM.

WCPM: _____ WIPM: _____

27. Please sketch a graph to report these data.

9/1/07

Passage 16

Reading 1: WCPM = 78, WIPM = 3

Reading 2: WCPM = 84, WIPM = 2

Reading 3: WCPM = 95, WIPM = 1

9/2/07

Passage 16

Reading 1: WCPM = 95, WIPM = 2

Reading 2: WCPM = 100, WIPM = 4

Reading 3: WCPM = 115, WIPM = 2

9/3/07

Passage 16

Reading 1: WCPM = 105, WIPM = 1

Passage 17

Reading 1: WCPM = 87, WIPM = 4

Reading 2: WCPM = 94, WIPM = 3

Reading 3: WCPM = 98, WIPM = 4

9/4/07

Passage 17

Reading 1: WCPM = 99, WIPM = 3

Reading 2: WCPM = 108, WIPM = 2

Reading 3: WCPM = 115, WIPM = 2

Appendix C

Steps and Guidelines for Consulting with Teachers during their Implementation of the HELPS Program

1. Wait patiently (without disrupting the teacher's classroom) until he/she is ready to begin implementing the HELPS Program with a program participant. *If you are a substitute consultant, record your name on the Consultation Summary Form (CSF).*
2. On your CSF, record (a) the date, (b) the consultation (CTN) session number, (c) the name of student receiving intervention (Ix), and (e) the student's Ix session number. Start your stopwatch to begin monitoring total Ix session and CTN session duration.
3. Throughout the teacher's session with the student, if the teacher implements a step out of order, forgets to do a step, or makes a *significant* procedural error when implementing a particular step (and it seems unlikely the teacher will self-correct the mistake), use immediate corrective feedback regarding the error made. Be sure to correct the mistake in a respectful, clear, and concise way.
4. Throughout the session you should be recording steps the teacher completes correctly on (a) the Procedural Protocol, and (b) the Tips and Reminders Checklist.
5. As the student reads aloud during the Ix session, you should follow along on your examiner copy and record errors (use light pencil marks so you can erase and re-use the examiner copy). You do not need to time the student, but make sure the teacher accurately times the student for one minute.
6. By the end of the entire Ix session, record the following on the CSF: (a) whether the student met his/her goal, (b) the duration of the Ix in minutes and seconds, (c) the % of steps the teacher completed on the primary protocol AND the tips/reminders checklist, (d) your evaluation of the teacher's enthusiasm during the session, and (e) your evaluation of the teacher's organization during the session. On your Tips and Reminders Checklist, you should also record all inter-scorer reliability discrepancies.
7. At the very end of the teacher's session with the student (i.e., after the student returns to classroom activities) identify **at least 2-3** steps that the trainee carried out correctly. The praise that you provide should be **genuine** and **specific** (e.g., "Nice job accurately describing why the student earned the star on his chart by telling him he earned it for meeting his goal on the first reading"). When applicable, you should provide specific feedback about "targeted improvements" the teacher made since an earlier CTNs session (related to step 15 below).

8. Share the data you recorded in parts *c*, *d*, and *e* (from step 6) with the teacher.
9. If you provided immediate feedback during the Ix session, check to see if the teacher has any questions about the feedback you provided, and when appropriate, provide a rationale for why a step should be performed in a particular way. (If you are uncertain about this information, write down the question you have about the step and ask John to explain the reasoning to you as soon as possible).
10. If you did not rate the teacher's enthusiasm and/or organization as "outstanding," provide a rationale of your evaluation to the teacher and discuss the situation as needed.
11. If the teacher did not implement a step from the Tips and Reminders Checklist, provide corrective feedback about the missed step(s) with the teacher and discuss the situation as needed.
12. If applicable, provide additional feedback (i.e., feedback not related to the Procedural Protocol or Tips and Reminders Checklist) to the teacher that will likely help him/her implement the intervention better in the future.
13. Ask the teacher if he/she has any questions about intervention implementation (or the program, in general) and answer/discuss those questions as needed.
14. Briefly record topics discussed in steps 12 and/or 13 above on your CSF.
15. At the end of the CTN session, identify 1-3 things (as deemed appropriate/applicable) the teacher should improve upon during subsequent sessions with students. Make sure the teacher has a final opportunity to ask questions about what to improve and how to do so. You should demonstrate the step(s) as needed, and all things you identify for the teacher to improve upon should have already been discussed earlier in the CTN session.
16. Thank the teacher for his/her time and effort and conclude the CTN session. **Overall, the teacher should finish each CTN session feeling better prepared for implementing the HELPS Program, rather than feeling judged or deemed inadequate.**
17. On your CSF, record (a) the duration of the entire meeting (which includes both the Ix and CTN sessions), (b) whether all teacher questions/concerns were addressed, (c) whether all missed steps and tips/reminders were reviewed, (d) all primary steps not implemented, (e) all tips/reminders not implemented, and (f) any additional, meaningful notes about the meeting. Finally, based on "targeted improvements" suggested in step 15 above, circle these targeted improvements on your CSF.

Appendix D

HELPS Program: Implementation Protocol

- ☐ Establish rapport and describe/review the goals of program (*0.25 minutes*)
 - ☐ Goals of program are to: remember what happens in the in the story; remember the difficult words that you will practice; and remember to read with speed, accuracy, and good expression (like your teacher when s/he reads in class).
- ☐ Student reads indicated story after teacher provides directions (*1 to 1.5 minutes*)
 - ☐ *NOTES: for ALL student readings of the story, the “one-minute bracket” should be indicated. Students that meet the WCPM criterion can be stopped at 1 min, and those who do not should read 1.5 minutes to encourage additional practice.*
- ☐ Teacher asks student to say what he/she remembers about the story, asking the student to recall what happened in appropriate sequential order (*0.5 to 0.75 minutes*)—see protocol for directions

IF STUDENT READS 100 WCPM OR MORE (SEE BACK PAGE IF STUDENT DOES NOT MEET GOAL)

- ☐ If student (a) reads 100 WCPM or more, (b) reads with 3 or fewer errors, **and** (c) can recall parts of the story for at least 30 seconds (with reasonable sequential order), teacher provides praise for meeting the goal and the teacher immediately charts the student’s performance (*0.25 minutes*)
 - ☐ Teacher tells student he/she will earn at least one star at the end of the session for meeting the reading goal of 100 WCPM
 - ☐ Teacher obtains the next story in the sequence
- ☐ Student reads next story in the curriculum sequence after teacher provides directions (*1.5 to 2 minutes*)
- ☐ Teacher implements phrase-drill error correction on all incorrectly read words (*0.25 to 0.75 minutes*)
 - ☐ Teacher follows protocol for Phrase-drill
- ☐ Student reads the same story a second time for no more than one minute (*1 minute*)
- ☐ Teacher models fluent oral reading of story while student follows along with his/her finger (*1 to 1.5 minutes*)
 - ☐ Teacher follows protocol for modeling fluent reading
- ☐ Student reads the same story a third time for no more than one minute (*1 minute*)
- ☐ Teacher provides ENTHUSIASTIC praise and feedback on student’s reading and praises effort as applicable (*0.5 to 1 minute*)
 - ☐ Teacher charts the number of WCPM and WIPM for the student’s first and third reading of the NEW story, and praises student for reading improvements if applicable
 - ☐ Teacher gives one star if student met goal on first story

- ☐ Teacher gives two stars if student meets a first reading goal and reads 100 WCPM or more on a reading of the new story (*note: 100 WCPM or more on the new story does not mean the student graduates to a new story*)
- ☐ Teacher records all information accurately on student's progress tracking form and indicates on the tracking form which story probes will be read in the next session

Total time of implementation if student does meet goal: 7.25 to 10 minutes

IF STUDENT DOES NOT READ 100 WCPM OR MORE

- ☐ Teacher models fluent oral reading of story while student follows along with his/her finger (*1 to 1.5 minutes*)
 - ☐ Teacher follows protocol for modeling fluent reading
- ☐ Student reads Story a second time for no more than one minute (*1 minute*)
- ☐ Teacher implements phrase-drill error correction on all incorrectly read words (*0.25 to .75 minutes*)
 - ☐ Teacher follows protocol for Phrase-drill
- ☐ Student reads Story a third time for no more than one minute (*1 minute*)
- ☐ Teacher implements phrase-drill error correction on all incorrectly read words (*0.25 to .75 minutes*)
 - ☐ Teacher follows protocol for Phrase-drill
- ☐ Teacher provides ENTHUSIASTIC praise and feedback on student's reading and praises effort as applicable (*0.5 to 1 minute*)
 - ☐ Teacher charts the number of WCPM and WIPM for the student's FIRST and THIRD reading of the story, and praises student for reading improvements if applicable
 - ☐ Teacher gives one star if student reads at least 100 WCPM during one of the readings (*note: 100 WCPM or more on the 2nd or 3rd reading does not mean the student graduates to a new story*). The teacher may also give one star if the student does not meet the above criterion but clearly puts forth effort during the session.
- ☐ Teacher records all information accurately on student's progress tracking forms and indicates on the tracking form which story probes will be read in the next session

Total time of implementation if student does not meet goal: 5.75 to 8.5 minutes

Appendix E

Scripted Protocol—HELPS

Describing the reading goals:

<Student Name>, you're going to be doing some reading with me today. As you read, I want you to try to remember what happens in the story and try to remember the difficult words that we practice. Also, I want you to read as quickly as you can without making errors, and try to read with good expression (like your teacher reads during story time).

Directions to administer before student reads story:

1. Place the examiner copy of the reading passage in front of you but shielded so the student cannot see what you record.
2. Present the student copy of the reading passage to the student.
3. Say to the student, **"Here is a story that I would like you to read. When I say 'Begin', start reading aloud at the top of the page and read across the page. Try to read each word. If you come to a word you don't know, I'll tell it to you. Do you have any questions? Be sure to do your BEST reading."**
4. Say, **"Begin!"** and start the stopwatch when the student says the first word.
5. If the student hesitates on a word for more than 3 seconds, say the word.
6. At the end of one minute, place a closed bracket after the last word.
7. *If the student reads so fast that no expression is given, remind the student that when he/she reads the next story, you want him/her to read at a comfortable rate (i.e., with good expression, like when talking).*
8. Remove both copies of the reading passage.

Directions for administering retell/comprehension:

1. Say to the student, **"Now I want you to tell me everything you remember about the story you just read. Try to tell me what happened in the correct order."**
2. Start your stopwatch and stop the retell activity in 30-45 seconds. Use prompts or follow-up questions as appropriate.
3. If student clearly struggles to remember parts of the story during his/her retell, note this on the student's tracking sheet and use this information when determining whether the student met his/her reading goal.

Directions for administering Phrase-drill:

1. Say to the student, **"Now we are going to practice some of the words you missed."**
2. Point to the first error word, say the word, and then say, **"Read this after I do, <read the 2-5 word phrase containing the error word>. Again, Again."** In essence, allow the student to read the phrase three times. Make sure the student points to the words being read; students will sometimes just "memorize" the phrase and repeat it. (We want students to read rather than recite).
3. Repeat the above procedure for all *unique* error words in the passage.
4. Praise the student for every two to three sets of phrase drills.

Directions for teacher to model fluent reading:

1. Say to the student, **"Now I am going to read today's story to you. Please follow along with your finger, reading the words to yourself as I say them."**
2. Read the passage at a comfortable reading rate and with good expression until the stopping point indicated on the examiner copy of the passage. Make sure the student is following along with his/her finger and prompt the student to do this (as necessary).

Appendix F

Tips and Reminders for Implementing the HELPS Program

- *Preparation*
 - *Make sure you have all necessary materials ready prior to starting the session with your student.*
 - *Stop watch, examiner copy, student copy, dry erase marker, graphing sheet, progress tracking form, star chart, bonus bag, and prize box.*
- *Praise*
 - With enthusiasm, praise *specific* reading behaviors (e.g., nice job reading *accurately* and with *good expression*; I like how you *corrected words you missed previously*), and always praise the student for something related to her reading performance at the end of the session.
 - Frequently use the student's name when using praise.
 - Using praise and creating a positive experience during each HELPS session is a primary component of this Program.
- *Scoring Passages*
 - Indicate the student's time of completion IF the student reads the entire story in less than one minute. Do not record WCPM if the student finishes reading a story in less than one minute; simply record the time it took for the student to finish the passage.
 - If the student reads beyond the line denoting where the tutor stops in the modeling phase, allow the student to keep reading until the minute is up.
 - When using the same scoring area on a passage, remember to put the appropriate number (i.e., 1, 2, or 3) next to the bracket representing where the student stops after his first, second, and 3rd reading (as applicable).
 - Be sure to follow rules for how to score errors depending on whether it's the first, second, or third reading. Mark the errors differently during each reading (first-slash, second-underline, third-circle)
- *Determining if the Student Meets His/Her Goal*
 - In order to meet the reading goal (and remember, there's only *one* "goal" that can be met per day), the student must 1) pass the comprehension/retell, 2) read at least 100 WCPM, and 3) make 3 or fewer errors. (Note, reading more than 100 WCPM after the initial reading of a session is not considered the reading "goal." However, doing this does earn the student a star.
 - Remember to do the comprehension component immediately after the student reads the 1st story of the session. This is probably the most frequently missed step.
 - During comprehension, use follow-up questions if appropriate. In other words, it is okay to have some discourse about the story, but keep all of this within the 30-45 second timing. Ideally, the student will be able to recall 30-45 seconds of information, and if so, no prompting or discourse is necessary. You should also provide feedback regarding the student's ability to recall the story in correct *sequential* order.
 - Also during the comprehension procedure, do not allow the student to see or review the story. Instead, turn the student reading booklet over or otherwise move it out of sight.
 - If a student does not go to a new story because of the comprehension criterion, please make a specific note of this on the tracking form.
- *Graphing Performance*
 - Circle the data point and session number when a new story/probe is started.
 - Do not connect lines between different stories.
 - Connect lines for the student during the session (when applicable). This usually helps students visualize the growth they have made.
 - You will chart 2-3 readings each day (3 if the goal is met, 2 if the goal is not met)
 - Always chart the first and last reading of *any* story read during a given session.
- *Using the Reward System*
 - When talking about the program and the "benefits" of it to your students, do not focus on earning stars and prizes. Rather, focus on students becoming better readers, and use these incentives as tangible ways to praise students' reading effort and improvement.

- Students may record the stars on their charts if they like to do so, they are fast, and if time permits.
- When the student lands on **OR** passes a shaded square on the chart, she is allowed to pick a ticket from the bonus bag. Based on what the ticket says, add those stars (or give a reward) immediately. If a student happens to select a “bonus PRIZE” ticket AND gets to the end of a row on the same day, the student should be allowed to choose two prizes.
- When giving students stars on their charts, remember to **ACCURATELY** tell the student why he/she earned EACH star. As noted above, we want to use specific praise and feedback.
- *Phrase-Drill (PD) Procedural Reminders*
 - During the phrase-drill phase, you must “drill” on the missed words. However, if the student misses 2 or fewer, but reads some section(s) of the story non-fluently, do phrase drill on that section and simply tell the student: “You read this part correctly, but let’s practice reading it with better speed and expression.”
 - Use “logical” phrases during PD.
 - Also during phrase-drill, (a) tell the student you want her to “READ” the difficult words (in contrast to “SAYING” or “REPEATING” the words that were missed; and (b) remember to point (or have the student point) to each word being read as the student reads the phrase.
- *Listening Passage Preview Procedural Reminders*
 - When reading the story aloud to the student: (a) read at a pace that is just a little faster than the student’s reading ability, (b) remember to read with good expression, and (c) read at a volume that the student can clearly hear you.
- *Additional Procedural Reminders*
 - After 3 or 4 sessions with a student, they will probably learn the procedures quite well. When you are *sure* the student you are working with knows the procedures, you do not need to read the directions from the scripted protocol verbatim. Rather, just give brief directions, and perhaps just paraphrase the script as needed. For example, when telling the student to read the passage, you could say, “Now you are going to read the story, just like you’ve done before.” Or when telling the student to follow along as you read, you could say, “Now I’m going to read the story to you. As always, read silently and follow along with your finger.”
 - On occasions when a student starts reading so fast that he uses no expression or makes frequent errors, it is okay to restart the timing (*only if caught within 1-5 seconds*) and then say to the student something like, “Slow down; you’ll see that by going slower you’ll actually read more words correctly and faster.”
- *Tracking Sheet Reminders*
 - After finishing up a session with your student, you **MUST** complete the progress tracking sheet. Make sure to fill out all required information in the chart **BEFORE** erasing the data from your examiner copy.
 - Each session you will record 2 or 3 WCPM and WIPM scores on the tracking sheet. If a student meets her goal on Passage A, you should record WCPM/WIPM in the first Passage A column and then record the student’s first and third reading of Passage B in the appropriate Passage B columns (thus, you make 3 recordings if the student meets his goal). If the student does not meet her goal, you would only record WCPM/WIPM twice by recording scores in the two columns represented by Passage A, and nothing would be recorded in the Passage B columns.
 - On the tracking form, **DO NOT** record absences as a session; the session numbers on the tracking form should only reflect the number of times you actually work with the student.

Additional Suggestions and Reminders

Below, please indicate your own suggestions or reminders that may be useful for other teachers who will implement the HELPS Program:

Appendix G

H.E.L.P.S. Program: Progress Tracking

Student Name (and id #): _____

Passages:	A	A	B	B
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[illegible]

Appendix H

Reading with Effort Prize Chart

(15 Stars = 1 prize from the special prize box)

Student Name: _____

Appendix I

Primary Procedural Protocol: HELPS Program

Teacher observed: _____ **Observer:** _____

(Place "✓" in the box for completed items)

- ☐ Establish rapport and describe/review the goals of program
- ☐ Student reads indicated story after tutor provides directions (1 to 1.5 minutes)
- ☐ Teacher asks student to say what he/she remembers about the story, asking the student to recall what happened in appropriate sequential order—see *protocol for directions*

GOAL MET: STUDENT READS AT LEAST 100 WCPM, MAKES 3 OR LESS ERRORS, AND PASSES COMPREHENSION CHECK

- ☐ Teacher provides praise for meeting goal and immediately graphs the student's WCPM and WIPM
- ☐ Teacher tells student he will earn at least one star at end of session for meeting reading goal
- ☐ Tutor obtains the next story in the sequence and gives student the new passage
- ☐ Student reads this story after teacher provides directions
- ☐ Following PD protocol, teacher implements phrase-drill error correction on all incorrectly read words
- ☐ Student reads the same story a second time for no more than one minute
- ☐ Following Model Reading protocol, teacher models fluent oral reading of story while student follows along
- ☐ Student reads the same story a third time for no more than one minute
- ☐ Teacher provides enthusiastic praise and feedback on student's reading and praises effort as applicable
- ☐ Teacher graphs the number of WCPM and WIPM for the student's first and third reading of the NEW story, and praises student for reading improvements if applicable
- ☐ Teacher (or student) records appropriate number of stars on student's star chart
- ☐ Teacher accurately records all information on student's progress tracking form

GOAL NOT MET: STUDENT READS <100 WCPM, MAKES 4 OR MORE ERRORS, OR FAILS COMPREHENSION CHECK

- ☐ Following Model Reading protocol, teacher models fluent oral reading of story while student follows along
- ☐ Student reads story a second time for no more than one minute
- ☐ Following PD protocol, teacher implements phrase-drill error correction on all incorrectly read words
- ☐ Student reads story a third time for no more than one minute
- ☐ Following PD protocol, teacher implements phrase-drill error correction on all incorrectly read words
- ☐ Teacher provides enthusiastic praise and feedback on student's reading and praises effort as applicable
- ☐ Teacher graphs the number of WCPM and WIPM for the student's first and third reading of the NEW story, and praises student for reading improvements if applicable
- ☐ Teacher (or student) records appropriate number of stars on student's star chart
- ☐ Teacher accurately records all information on student's progress tracking form

Date: _____ **Goal Met:** _____ / 15 = _____ % **Goal Not Met:** _____ / 12 = _____ %

Appendix J

HELPS Program Tips and Reminders Checklist

Teacher observed: _____ **Observer:** _____
 (Place "✓" in the box for completed items, Place "X" in the box for non-applicable items)

Preparation

- ☐ All necessary materials were ready prior to starting the session with student.
 - Stop watch, examiner copy, student copy, dry erase marker, graphing sheet, progress tracking form, star chart, bonus bag, and prize box.

Scoring Passages during Repeated Readings

- ☐ Indicated the student's last word read at 1 minute. If the student read the entire story in less than one minute, recorded the time it took for the student to finish the passage on the tracking sheet.
- ☐ If the student read beyond the line denoting where the tutor stops in the modeling phase, allowed the student to keep reading until the minute was up. **(Applicable?)**
- ☐ If using the same scoring area on a passage, remembered to put appropriate number (i.e., 1, 2, or 3) next to the bracket representing where the student stops after his 1st, 2nd, and 3rd reading. **(Applicable?)**
- ☐ Marked student errors differently during each reading (e.g., first-slash, second-underline, third-circle). **(Applicable?)**

Determining if the Student Meets His/Her Goal and Comprehension Phase

- ☐ Correctly evaluated whether the student met his/her goal by determining if the student 1) passed the comprehension/retell, 2) read at least 100 WCPM, and 3) made 3 or fewer errors.
- ☐ If a student does not go to a new story because of the comprehension criterion, teacher made a specific note of this on the tracking form.
- ☐ During comprehension, used follow-up questions, if appropriate, and kept it within the 30-45 timing. **(Applicable?)**
- ☐ During comprehension procedure, did not allow student to see or review the story. Instead, turned the student reading booklet over or otherwise moved it out of sight.

Phrase-Drill Procedural Reminders

- ☐ During PD phase, "drilled" on missed words. However, if student missed 2 or fewer, but read some section(s) of the story non-fluently, PD was completed on that section and student was told: "You read this part correctly, but let's practice reading it with better speed and expression." **(Applicable?)**
- ☐ Used "logical" phrases during PD.
- ☐ During phrase-drill, (a) told student you want her to "READ" the difficult words (in contrast to "SAYING" or "REPEATING" the words that were missed; and (b) remembered to point (or have the student point) to each student-read word.

Listening Passage Preview Procedural Reminders

- ☐ When reading the story aloud to the student: (a) read at a pace that is just a little faster than the student's reading ability, (b) remembered to read with good expression, and (c) read at a volume that the student could clearly hear.

Graphing Performance

- ☐ Circled the data point and session number when the student began new story/probe. **(Applicable?)**
- ☐ Did not connect lines between different stories. **(Applicable?)**
- ☐ While the student watched, connected lines of two same-passage data points.
- ☐ Charted 2 or 3 readings (3 if the goal was met, 2 if the goal was not met).

Using the Reward System

- ☐ Focused the benefits of the program on the student's reading skills rather than the opportunity to earn stars/prizes. **(Applicable?)**
- ☐ If the student landed on OR passed a shaded square on chart, student was allowed to pick a ticket from the bonus bag and the teacher correctly responded to the description of the ticket. **(Applicable?)**
- ☐ When giving stars on star chart, teacher remembered to accurately tell the student why he/she earned EACH star.

Praise

- ☐ With enthusiasm, praised *specific* reading behaviors (e.g., nice job reading *accurately* and with *good expression*; I like how you *corrected words you missed previously*), and praised the student for something related to her reading performance at the end of the session.

Tracking Sheet Reminders

- ☐ After finishing up a session with a student, teacher completed the progress tracking sheet before erasing the data from examiner copy.
- ☐ Recorded 2 or 3 WCPM and WIPM scores on the tracking sheet, as determined by whether the student met his/her goal on passage A.

Date: _____ **Total items applicable / completed** ____/____ **% completed:** _____

Inter-scorer reliability discrepancies: Rdg 1:_____, Rdg 2:_____, Rdg 3:_____,
Rdg 4:_____

Appendix K

Teacher: _____ (Circle One) Teacher TA Lead Consultant: _____

Date: _____ Consultation session #: _____ Substitute Consultant (if applicable): _____

Student receiving intervention: _____ Student's session #: _____ [Student met goal: Yes No] [Ix Duration: _____]

Teacher implemented _____ % of primary protocol, and _____ % of tips/reminders. [Enthusiasm with student: _____] [Organization: _____]
(Rate Enthusiasm and Organization/preparation 1 – 5; 1=poor, 3=average, 5=outstanding)

Primary steps not implemented: _____

Tips/reminders not implemented: _____

Questions or concerns raised by teacher (or additional consultant notes or feedback provided): _____

Total duration of meeting: _____ [All teacher questions/concerns were addressed: Yes No] [All missed steps & tips were reviewed: Yes No]

Date: _____ Consultation session #: _____ Substitute Consultant (if applicable): _____

Student receiving intervention: _____ Student's session #: _____ [Student met goal: Yes No] [Ix Duration: _____]

Teacher implemented _____ % of primary protocol, and _____ % of tips/reminders. [Enthusiasm with student: _____] [Organization: _____]
(Rate Enthusiasm and Organization/preparation 1 – 5; 1=poor, 3=average, 5=outstanding)

Primary steps not implemented: _____

Tips/reminders not implemented: _____

Questions or concerns raised by teacher (or additional consultant notes or feedback provided): _____

Total duration of meeting: _____ [All teacher questions/concerns were addressed: Yes No] [All missed steps & tips were reviewed: Yes No]