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Effects of the Helping Early Literacy with Practice Strategies (HELPS) on reading fluency with secondary level students attending an alternative education program

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Effects of the Helping Early Literacy with Practice Strategies (HELPS) on Reading Fluency with Secondary Level Students Attending an Alternative Education Program

By

Holly Breault

A Dissertation Submitted to the University at Albany, State University of New York in Partial Fulfillment of the Requirements for the Degree of Doctor of Psychology

School of Education
Department of Educational and Counseling Psychology
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ABSTRACT

The purpose of this study was to investigate the effect of the HELPS Program on the reading fluency skills of secondary level students attending an alternative education program using single case design methodology. Participants in this study included one 8th grade student and two 9th grade students attending an alternative education program in northern New York State, each of whom had documented difficulties with reading fluency. Students were identified for participation through a review of available records indicating below average reading fluency skills and/or teacher recommendations based on reading fluency performance in the classroom. Results suggested that one of the three students made moderate improvements in reading fluency while participating in the HELPS Program. Potential challenges on implementing the HELPS Program with older students and those in alternative education programs are discussed.
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Overview of Reading Fluency

The acquisition of reading fluency is arguably one of the most important skills taught in school. Reading fluency is the ability to read quickly, accurately, and with proper expression (NICHD, 2000). It has been identified in the literature as a foundational skill within reading instruction, making higher level reading activities such as comprehension possible and accessible (Daane et al., 2005; NICHD, 2000). Additionally, research has identified oral reading fluency as a strong predictor of overall reading ability (Daane, Campbell, Grigg, Goodman, & Oranje, 2005; McGlinchey & Hixson, 2004). In early educational experiences, the necessary skills for engaging in fluent reading are explicitly taught. However, over time the instructional focus gradually shifts from learning to read to reading to learn, with the ability to read increasingly becoming essential for the acquisition of all other forms of knowledge (Hernandez, 2011).

Despite the established importance of reading fluency, many students struggle with this skill. The most recent nationally representative study investigating reading fluency rates was conducted by the U. S. Department of Education (National Assessment of Educational Progress; NAEP, 2013). This study, which included 1,779 fourth-grade students, indicated that approximately 40% of students are performing below grade level in reading. The NAEP assesses reading competency through asking students to read grade-appropriate passages and answer questions about what they have read. When these deficits are not remediated, reading difficulties can persist into adulthood. According to the most recent National Assessment of Adult Literacy (NAAL) conducted by the National Center for Educational Statistics (U.S. Department of Education, 2003), 30 million adults in the U.S., or 14% of the adult population,
has below basic literacy skills, indicating that they possess no more than the most simple and concrete literacy skills. An additional 63 million adults, or 29% of the adult population in the U.S., reads at a basic level, indicating that they can perform only simple and everyday literacy activities. The NAAL measured literacy skills through asking adult participants to read different types of written text that may be encountered in everyday life and then either answer comprehension questions, complete a task associated with the text (e.g., complete a tax form), or perform an arithmetic operation embedded in text. Given the necessity of reading to both everyday living tasks and for many job or career responsibilities, these statistics are sobering and highly concerning.

Development of Reading Fluency

A number of theories have been proposed to explain how reading fluency develops. Some of the most prominent of these theories fall into the following categories: (a) Behaviorism, (b) Constructivism, (c) Cognitive-Processing Theory, and (d) stage models of reading development.

Behaviorism explains the process of learning to read fluently as resulting from repeated exposure to written text and from selective reinforcement of accurate identification of letters and words (Tracey & Morrow, 2012). In contrast to Behaviorism, Constructivism presents fluent reading as a result of the ability to construct meaning from text and to use prior knowledge to predict subsequent words (Tracey & Morrow, 2012). Various Cognitive-Processing models have also been proposed to explain the development of reading fluency, including the Information-Processing Model (Slavin, 2003), the Phonological-Core Variable Difference Model (Stanovich, 1988), the Parallel Distributed Processing Model (Rumelhart & McClelland, 1986), and the Dual-Route Cascaded Model (Coltheart, Curtis, Atkins, & Haller, 1993). In general, Cognitive-
Processing models explain reading fluency as relying on different cognitive systems or networks that allow the reader to engage in certain critical skills (e.g., rapid naming of visual stimuli, holding visual stimuli in working memory, accessing knowledge of letters and words stored in long-term memory, and maintaining adequate attention to the text). Lastly, stage models of reading development explain learning to read as resulting from the acquisition of increasingly complex skills in a sequential order over time (Gunning, 2010). According to stage models, reading fluency cannot be attained unless earlier foundational skills have been acquired first. Similarly, more complex reading skills such as comprehension cannot be acquired until the reader has developed fluency.

Students typically become competent readers by the fifth grade, and instructional practices largely shift away from teaching students to read at this point (Geshmann, 2012). However, considering the developmental nature of reading, older students who have not yet acquired lower level skills (e.g., reading fluency) may struggle with higher level skills (e.g., reading comprehension). In these cases, research has suggested that targeting reading fluency through a number of evidence-based instructional strategies can be beneficial (Allinder, Dunse, Brunken, & Obermiller-Krolikowski, 2001; Mercer, Campbell, Miller, Mercer, & Lane, 2000; NICHD, 2000).

**Reading Fluency Assessment and Instruction**

To most effectively promote student progress in reading fluency, it is important to first determine students’ current skills and then to continuously monitor their progress. One assessment method that has demonstrated the ability to reliably and sensitively measure short-term progress in reading fluency is curriculum-based measurement of oral reading fluency (CBM-ORF; Christ & Ardoin, 2009; Deno, 2003). CBMs assess performance levels in specific
skill areas that are closely aligned with the curriculum in which students are instructed. Administration and scoring rules are standardized and designed to be efficient, with straightforward procedures that require minimal time to complete. This form of assessment also utilizes performance sampling, which in the case of CBM-ORF involves recording errors that students make during 1-minute timed grade appropriate passages.

In addition to appropriate assessment measures, effective instructional strategies are also necessary for fostering reading fluency. A number of approaches have been developed that aim to promote the most important components of this skill, such as the reader’s automatic recognition of written words (Hiebert, 2006) and the reader’s ability to use proper expression in oral reading (Fodor, 2002). Notable methods of reading fluency instruction with evidence of effectiveness include model reading (Begeny, Krouse, Ross, & Mitchell, 2009; Lewandowski, Begeny & Rogers, 2006; Ehri, 1991; Morgan & Sideridis, 2006), systematic error-correction procedures (Begeny, Daly, & Vallely, 2006; O’Shea, Munson, & O’Shea, 1984; Pany & McCoy, 1988; Therrien, 2004), verbal cues to read fluently (Therrien, 2004), and repeated reading of ability-appropriate text (Meyer & Felton, 1999; NICHD, 2000; Therrien, 2004). Additional methods intended to promote student engagement with instruction have also been shown to have positive impacts on reading fluency, such as goal setting (Morgan & Sideridis, 2006), performance feedback (Alber-Morgan, Ramp, Anderson, & Martin, 2007; Morgan & Sideridis, 2006), and rewards for attaining academic goals (Martens & Witt, 2004; Morgan & Sideridis, 2006).

Impact of Federal Legislation

In an effort to help assure the quality of instruction provided to students, the Federal and state governments have increasingly implemented various accountability measures for teachers
and schools (e.g., No Child Left Behind, 2002; Samuels & Farstrup, 2006). Such measures rely largely on student outcome data (i.e., standardized test scores) to evaluate teacher and school efficacy, and assign rewards or punishments accordingly. The increased accountability measures in education, particularly in the areas of math and English language arts, have motivated schools to make reading proficiency a top priority.

**Students Attending Alternative Education Programs as a Special Population**

An alternative education program is broadly defined as any institution that provides educational programming with components that are not offered by traditional school settings (Smith, 1974). Generally, students who attend these programs are at risk of school failure due to the impact of disabilities or other factors (Unruh, Bullis, Todis, Waintrup, & Atkins, 2007). There is limited research on student outcomes in this population (Atkins & Bartuska, 2010). However, it is hypothesized that students requiring an alternative learning environment face unique obstacles that may make learning in general more challenging. Therefore, reading is likely one area in which some students in this population struggle.

**The HELPS Program**

The Helping Early Literacy with Practice Strategies (HELPS) Program is a standardized, targeted intervention that employs a number of research-based instructional strategies targeting reading fluency (Begeny, 2009). Given that the development of reading fluency has been shown to positively impact reading comprehension and overall reading proficiency (Daane et al., 2005), the HELPS program has implications in these skill areas as well. The HELPS Program was originally developed for use with students in grades 1-4, and a number of studies suggest that it has positive effects on reading fluency outcomes when used with this population (Begeny, 2011;
Begeny, Laugle, Krouse, Lynn, Tayrose, & Stage, 2010; Begeny, Mitchell, Whitehouse, Samuels, and Stage, 2011; Begeny, Ross, Greene, Mitchell, & Whitehouse, 2012; Mitchell & Begeny, 2014). However, the HELPS manual recommends that it may also be appropriate for older students in cases in which reading fluency is an appropriate instructional goal (Begeny, 2009). To date, only one study utilizing the HELPS Program with older students has been conducted: Malouf, Reisener, Gadke, Wimbish, and Frankel (2014) found idiosyncratic effects of this program when implemented with 12-year-old students.

Statement of the Problem

Although several studies have provided evidence indicating that the HELPS Program is an effective intervention for promoting reading fluency in students at the elementary level (grades 1-4), limited research has been conducted to investigate the effects of this program with older students.

Purpose of the Study

The purpose of the present study is to add to the current literature regarding the effectiveness of the HELPS Program for enhancing students’ reading fluency. More specifically, the purpose of this study is to investigate the effectiveness of the HELPS Program for enhancing reading fluency skills in older students (grades 7-9) with significant emotional and behavioral difficulties attending an alternative education program.

Importance of the Study

Given the established importance of reading fluency for overall reading development (Daane et al., 2005; McGlinchey & Hixson, 2004; NICHD, 2000), it is a skill that deserves explicit attention within the context of literacy instruction. The HELPS Program is intended to provide this additional support for students struggling with reading fluency. The current
professional literature on the effectiveness of the HELPS Program has suggested that it is a promising intervention for helping students in grades 1-4 to improve their reading fluency (Begeny, 2011; Begeny, et al., 2010; Begeny et al., 2011). Although the HELPS Program manual recommends that its methods may also be appropriate for older students, limited research has been conducted on its effects with this population (Begeny, 2009). Only one study has been published evaluating the HELPS Program when used with older students, and the results were inconclusive (Malouf et al., 2014). Additionally, limited research has investigated instructional practices in alternative education programs, and no studies have looked specifically at the effectiveness of the HELPS Program when used with this population. The present study is designed to address these gaps in the current literature.
Overview

This chapter will present a summary of theory and research regarding the acquisition and instruction of reading fluency skills. First, an overview of reading fluency will be presented. Next, learning theories that have informed our understanding of reading fluency will be described. Following the presentation of learning theories, a brief historical perspective on reading fluency instruction will be provided, along with a summary of the contemporary conceptualization of reading fluency skills and the instructional practices used to foster these skills. After presenting evidence-based instructional targets and practices, this chapter will describe the research on assessment methods used to measure student progress in reading fluency, specifically curriculum-based measurement (CBM). Following this, the impact of relevant Federal legislation on reading fluency instruction will be explored. Specific areas of impact that will be covered include the increased focus on standardizing curricular materials, the promotion of evidence-based practices, and the importance of reading fluency interventions. Alternative education programs as institutions within the U.S. educational system will also be described, along with a discussion of the different populations that these institutions serve. Finally, the Helping Early Literacy with Practice Strategies (HELPS) Program targeting reading fluency will be presented along with literature supporting its effectiveness.

Learning Theories

Learning any skill is a complex process that numerous theorists have attempted to conceptualize. Many of these theories have direct implications for understanding the development of reading fluency specifically, and understanding these underlying processes can
aid in the development of instructional approaches that teach this skill. This section will present an overview of some of the prominent learning theories that have informed our understanding of reading fluency development and instruction, including: (a) Behaviorism, (b) Constructivism, (c) Cognitive-Processing models, and (d) stage models of reading development. It is important to note that, although these theories are relevant to reading fluency development and instruction generally, some are not related to or contradict instructional approaches included in the HELPS Program. Those theories that are relevant to the HELPS Program will be discussed within the context of this program in a later section.

**Behaviorism.** Behaviorism is a theory that focuses on the study of observable human behaviors and how factors in the environment can impact these behaviors. According to this theory, learning occurs through the reinforcement of isolated skills (i.e., rewards for engaging in the targeted skill), which ultimately results in observable changes in behavior (Tracey & Morrow, 2012). This suggests that repeated exposure to written text and the selective reinforcement of accurate letter and word recognition contributes to a habitual response to specific visual symbols (i.e., fluent reading). The Behaviorist perspective of learning has formed the theoretical foundations for direct instructional practices of reading that continue to play a role in schools today, such as explicit instruction, practice, and teacher correction of letter-sound correspondences (Carnine, Silbert, Kame'enui, & Tarver, 2009; Krashen, 2002).

**Constructivism.** Constructivism directly contradicts the Behaviorist perspective, which advocates for the necessity of deliberate instruction and practice of skills (Tracey & Morrow, 2012). According to Constructivism, when encountering new information in text the reader engages in hypothesis-testing and makes inferences based on his or her prior knowledge and use of critical thinking (Tracey & Morrow, 2012). This perspective on learning to read has also been
referred to as *top-down* processing (Teale, 1995). The top-down theory purports that learning to read primarily involves the creation of meaning through employing higher-level cognitive processes. Constructivist approaches to reading instruction typically include investigative, creative, and meaningful activities (Dole, Duffy, Roeler, & Pearson, 1991; Renzulli, 2006). These types of activities are often linked to real life content, and allow students to engage in self-directed learning. Constructivism therefore suggests that the ability to read with fluency occurs as a result of engaging in these naturalistic reading behaviors, rather than through practicing isolated reading skills out of context.

One variation of the Constructivist perspective that has implications for understanding reading fluency is Whole Language Theory. Whole Language Theory has its roots in the psycholinguistic perspective of reading that was largely established through the work of Goodman (1967) and Smith (1971). The psycholinguistic perspective views reading as essentially a linguistic process that relies on one’s ability to apply language cueing systems (i.e., syntactic, semantic, and graphophonic systems) to written text. These cueing systems allow the reader to predict subsequent words in connected text and to rapidly read these words (Tracey & Morrow, 2012). Therefore, fluent reading occurs when the text closely aligns with the reader’s hypotheses of what to expect; reading becomes slower and more dysfluent when the text does not align with the reader’s hypotheses (Tracey & Morrow, 2012). In this case, the reader may rely more heavily on a text-driven, or *bottom-up*, approach. The psycholinguistic perspective advocates that instructors identify the reader’s mistakes, or miscues, to provide a better understanding of the reader’s thought processes and the cueing systems that the reader is using (Goodman, 1967).

**Cognitive-Processing Theory.** In comparison to Behaviorism, Cognitive-Processing
theories shift the focus to the cognitive processes that allow individuals to engage in complex mental activities such as reading (Shanks, 2007). Four of the most relevant and prominent Cognitive-Processing theories that have implications for understanding reading fluency will be briefly discussed here: (a) the Information-Processing Model, (b) the Phonological-Core Variable Difference Model, (c) the Parallel Distributed Processing Model, and (d) the Dual-Route Cascaded Model.

**Information-Processing Model.** According to the Information-Processing Model, both previously learned and novel information is systematically processed in various cognitive systems that facilitate learning and retrieval of this information (Slavin, 2003). Information that is successfully learned is first perceived, then temporarily stored, rehearsed, and stored in long-term memory where it is available for retrieval. Using this framework, Gough (1972) proposed a cognitive model of reading that became known as the Bottom-up Information-Processing Model. **Bottom-up** in this context refers to the concept that cognitive processing of information proceeds in a series of distinct steps progressing from lower order to higher order. Reading fluency according to the bottom-up perspective involves the mastery of isolated, hierarchically organized skills mastered in a sequential fashion: first, the smallest linguistic units (e.g., letter identification, sound-symbol correspondence) and gradually the larger and more complex units of written language (e.g., assigning meaning to words; Dole et al., 1991).

In addition to Gough’s (1972) model, LaBerge & Samuels (1974) proposed another information processing model of reading based on the concept of bottom-up processing: the Automatic Information-Processing Model. Similarly to Gough’s (1972) model, the Automatic Information-Processing Model describes reading as the processing of visual attributes of written text followed by the integration of this information into one’s memory. The ability of the reader
to understand letter-sound correspondences and the meaning of text within the context of his or her prior knowledge is also impacted by the reader’s ability to dedicate appropriate attention to this task. Over time and with practice, reading becomes automatic as the foundational skills are mastered, and as a result less attention must be devoted to understanding text (Samuels, 1994). Issues with developing fluent reading may arise, however, when the reader does not develop adequate decoding skills, which slows the process of translating written text.

**Phonological-Core Variable Difference Model.** In the Phonological-Core Variable Difference Model of reading, Stanovich (1988) proposed that reading disabilities occur as a result of deficits in phonological processing which negatively affects the ability to understand relationships between letters and sounds (i.e., reading decoding). In addition to deficits in phonological processing, Wolf and Bowers (1999) added that deficits in rapid naming also contribute to reading disabilities. Rapid naming is the ability to quickly and accurately provide the name of visual stimuli, such as colors, objects, or letters and numbers. Difficulties in either of these skill areas have direct implications for reading fluency given that a slower identification of letters and the sounds letters make can affect overall reading rate.

**Parallel Distributed Processing Model.** The Parallel Distributed Processing Model (Rumelhart & McClelland, 1986) is based on the Connectionist Theory, which explains how reading results from the development of a system of neural networks connecting various cognitive processes (Tracey & Morrow, 2012). According to this theory, reading begins with developing the ability to recognize the physical features of print, which through practice results in automaticity. The automatic recognition of printed letters and numbers is essential for engaging in other elements of reading, such as understanding the sounds that letters and words make and deriving meaning from text. In other words, individuals presumably cannot
adequately read and comprehend if they have to read one letter at a time. This model has implications for the importance of developing automaticity for both reading fluency and reading comprehension.

**Dual-Route Cascaded Model.** Similarly to the Parallel Distributed Processing Model, the Dual-Route Cascaded Model explains reading as a process accomplished through encoding text within a series of interconnected neural networks (Coltheart et al., 1993). However, Coltheart et al. (1993) expanded on this theory to differentiate between the processing of familiar and unfamiliar words. Specifically, two separate pathways exist for these two categories. When the reader encounters a familiar word, the *lexical route* is activated, immediately providing the reader with the meaning and pronunciation of the word (i.e., *sight word* recognition; Tracey & Morrow, 2012). However, when the reader encounters an unfamiliar word, the *nonlexical route* is activated. In contrast to the whole word processing approach utilized by the lexical route, the nonlexical route processes unfamiliar words through applying the reader's knowledge of letter-sound rules (i.e., *reading decoding*). The Dual-Route Cascaded Model suggests that reading fluency largely depends on the ability to quickly and accurately identify familiar words and to efficiently employ knowledge of letter-sound associations to unfamiliar words.

**Stage models of reading development.** Stage models of reading development have attempted to identify the essential skills that readers acquire as they mature, and then to categorize these skills into distinct developmental stages (Tracey & Morrow, 2012). In general, stage models propose that learning to read involves the gradual acquisition of increasingly complex skills, accompanied by qualitative changes in the way that individuals approach reading (Gunning, 2010). The various terms and characteristics described within different variations of stage models have been synthesized into four widely agreed upon stages (Gunning, 2010): the
Prealphabetic Stage, the Partial Alphabetic Stage, the Full Alphabetic Stage, and the Consolidated Alphabetic Stage.

The Prealphabetic Stage describes students who have just begun to learn to read (Gunning, 2010). This earliest phase of reading development is characterized by a reliance on contextual visual cues to identify words; the relationship between letters and sounds has not yet been established. As readers begin to acquire knowledge of letter-sound relationships, they transition into the second stage of reading: the Partial Alphabetic Stage (Gunning, 2010). In this stage, readers begin to integrate some knowledge of letter-sound cues used in word identification. The third stage of reading development, the Full Alphabetic Stage, begins when the reader has acquired enough knowledge about letter-sound relationships to process all of the letters within words (Gunning, 2010). In this stage, the reader primarily utilizes a letter-by-letter reading style, which allows for slow but accurate reading. Accuracy and speed with reading does not come until the reader has entered the fourth stage, called the Consolidated Alphabetic Stage, in which the reader acquires automatic knowledge of sounds that letters and letter patterns make (Gunning, 2010). Research has identified the ability to read using these letter patterns as fundamental for reading fluency (NICHD, 2000).

Reading Fluency Instruction

Reading instruction in the U.S. has changed substantially over time. This section will first provide an overview of major historical trends in reading fluency instruction. Following this, some of the most prominent contemporary instructional practices will be presented. Finally, this section will describe developmental considerations important for determining the appropriateness of various instructional approaches.

**Historical context.** Reading instruction in colonial America relied on textbooks, such as
the *New England Primer*, that employed the alphabetic method and religious themes to teach reading (Shannon & Crawford, 1997). Much of the instruction and monitoring of student progress toward reading competency was accomplished through oral reading tasks (e.g., effective voice quality; Rasinski, 2006). Historians hypothesize that societal circumstances of the time, such as the relative scarcity of books and low literacy rates, made the skill of fluent oral reading useful and desirable for the purposes of sharing information and for entertainment (Smith, 2002).

The focus on oral reading fluency in instruction continued into the 19th century. However, this focus came under scrutiny in the late 19th century from critics who expressed concerns that these practices only reinforce the mechanics and product of reading (e.g., pronunciation, emphasis, inflection, and force) while ignoring the meaning of text and critical thinking (Hyatt, 1943). At the same time, silent reading became the more common mode for reading in everyday life as increases in literacy rates rendered oral reading as a means for communicating the contents of written text less important (Huey, 1968; Rasinski, 2006). Additionally, researchers and educators viewed silent reading as more inherently linked to comprehension (Rasinski, 2006) and as providing a more efficient means, in comparison to oral reading, to engage with the growing body of print materials (Hyatt, 1943). From the 1920s through the 1990s, the explicit focus on both oral and silent reading fluency in educational assessment eventually declined, and by the end of the 20th century textbooks used to train teachers in reading instruction focused very little on this skill (Fuchs, Fuchs, Hosp, & Jenkins, 2001).

Despite the shift away from an explicit focus on reading fluency in assessment and teacher training, oral reading continued to be a common mode of instruction (Austin & Morrison, 1963). For example, round-robin reading, which involves having students take turns reading
unrehearsed passages aloud, was a popular practice technique into the second half of the 20th century (Rasinski, 2006). Oral reading was also used as a method for monitoring students’ word recognition, a function that became integrated into basal reading programs beginning in the early 1950s and has continued in popularity to the present time (Eldredge, Reutzel, & Hollingsworth, 1996; Rasinski, 2006).

Although reading fluency continued to receive little attention as a central instructional target, the second half of the 20th century saw an increased focus on this topic in the theoretical literature (Rasinski, 2006). For example, LaBerge and Samuels’s (1974) theory of automatic information processing in reading proposed that, ideally, automatic processes (i.e., those that require minimal cognitive resources) should be responsible for surface-level word reading (e.g., visual perception and decoding). Reserving cognitive resources in this way could allow for more focus on comprehension. This model explained difficulties with reading comprehension as a function of the draining of cognitive resources that may occur for students who struggle with reading fluency.

Theories suggesting that automatic information processing directly impacts the development of reading fluency also had implications for reading instruction. Samuels (1979) hypothesized that practice is necessary in order to develop automaticity in any skill domain. With regards to reading, he found that having students read short passages repeatedly (i.e., repeated readings) improved their reading fluency (Samuels, 1979). Chomsky (1976) also tested the effect of repeated readings, but added the task of simultaneously listening to audio recordings of the same text read fluently. This listening task was based on the Neurological Impress Method (Heckelman, 1969) and is more commonly known today as assisted reading or reading while listening (Rasinski, 2006).
Even with the increased focus on reading fluency in the professional literature, for the most part educators in practice continued to ignore it (Rasinski, 2006). However, in a seminal article on the topic, Allington (1983) summarized the evidence suggesting that reading fluency is an integral component of reading proficiency and called for educators to incorporate it into their practices. Since that time, research studying the value of reading fluency and the instructional practices that help to foster it has continued to grow (Rasinski, 2006).

**Current instructional practices.** Since the resurgence in popularity of reading fluency as a topic of study in the last quarter of the twentieth century, a number of studies have been conducted that continue to inform instructional practices. Moreover, various skills necessary for fluent reading have been identified and instructional strategies targeting these skills have been developed. However, the actual implementation of such strategies has varied widely. Variability in instructional methods has been influenced by numerous factors, including politics, economics, popular wisdom, and teacher preferences and experiences (NICHD, 2000).

In an effort to resolve debates surrounding best practices in reading instruction in general, the U.S. Federal Government created the National Reading Panel (NRP) in 1997 to assess contemporary research-based knowledge in this domain and to disseminate their findings to the larger educational community (NICHD, 2000). This involved conducting a meta-analysis of relevant experimental or quasi-experimental research published in peer-reviewed journals. Results of this analysis identified reading fluency as one of five major instructional areas that are necessary to promote reading proficiency, along with phonemic awareness, phonics, vocabulary, and text comprehension.

The NRP defines reading fluency as the ability to read quickly, accurately, and with proper expression (NICHD, 2000). Instructional approaches targeting fluency aim to promote
the reader’s automatic recognition of words that are most prevalent in written text (Hiebert, 2006), as well as to promote appropriate expression that is essential to reading aloud and implicit in silent reading (Fodor, 2002). When engaging in fluent reading, the reader can process the majority of words encountered automatically, which allows the reader to devote sufficient attention to the meaning of the text (Samuels, 2002). Upon reviewing the instructional approaches intended to promote reading fluency, the NRP identified two broad categories: those approaches that employ repeated oral reading or guided repeated oral reading practice and those approaches that intend to promote student engagement in independent or recreational reading (NICHD, 2000).

Repeated oral reading or guided repeated oral reading practices require that students read a single passage multiple times while the instructor provides guidance and feedback. These practices most closely align with the behaviorist perspective of reading instruction, as they involve repeated practicing of positive reading behaviors and behavior modification techniques in the form of instructor feedback. A variety of specific approaches have been developed that employ these types of activities, including repeated reading (Samuels, 1979), neurological impress (Heckelman, 1969), radio reading (Greene, 1979), and paired reading (Topping, 1987). Results of the NRP meta-analysis investigating the effectiveness of repeated reading suggest that these practices have a positive impact on overall reading, as well as a positive impact on a variety of reading-related outcomes. The largest impact was on reading accuracy, followed by reading fluency and comprehension (NICHD, 2000). Furthermore, these positive effects were found for non-impaired students through fourth grade and for students with reading difficulties through high school.

The second category of reading fluency instructional approach identified by the NRP was
those techniques targeting independent or recreational reading (NICHD, 2000). In contrast to repeated reading programs, these approaches provide minimal adult guidance and instead include requirements for students to engage in unsupervised independent reading. These types of approaches somewhat reflect a constructivist approach to reading instruction, as it is assumed that students will improve their reading simply through engaging with text rather than through the explicit instruction of isolated skills. However, some other common aspects of constructive theory are not represented in independent or recreational reading, such as investigative activities. One could also argue that behaviorist principles are represented in those programs that include a reward for engaging in independent reading as well.

Examples of independent or recreational reading programs include sustained silent reading (SSR), Drop Everything and Read, Accelerated Reader (AR), and other programs that provide students with incentives for engaging in independent reading (NICHD, 2000). The NRP investigation of the impact of instructional approaches targeting independent or recreational reading on reading fluency was inconclusive. Relatively few studies addressing this topic were available, and those studies included in the analysis often failed to monitor the actual amount students read (i.e., many studies simply measured outcomes) and tended to include only overall reading outcome measures rather than specifically looking at the impact on reading fluency. However, of the studies analyzed, reading programs aiming to increase independent or recreational reading failed to produce significant impacts on reading achievement.

In addition to the NRP’s finding that repeated reading approaches are an effective strategy for improving reading fluency, other research has provided support for the utility of combining multiple fluency-based strategies. For example, Morgan and Sideridis (2006) found that a number of combined techniques produced positive reading fluency outcomes, including
goal setting plus performance feedback and reinforcement, listening to accurate reading plus engaging in repeated readings, and teaching keywords plus previewing texts. Additionally, Therrien (2004) identified some instructional strategies commonly used within repeated reading approaches that enhance student outcomes. These strategies included reading passages aloud to an adult, having adults rather than peers direct repeated readings, providing cues to read for fluency and/or comprehension, repeated readings, providing corrective feedback, and directing students to read the same passage until a performance criterion is met.

**Developmental considerations.** Different reading skills are typically taught and acquired in a sequential process reflective of stage models of reading development (e.g., Chall, 1996). The instructional focus in schools has therefore come to reflect this typical developmental process through widely accepted grade-appropriate instructional practices (Geshmann, 2012). In general, reading instruction for students in grades Kindergarten through second focuses on developing an understanding of the alphabet and the sounds that letters make, recognizing common sight words, and learning basic sentence structure. Following the acquisition of these basic skills, typically students in grades first through fourth develop an understanding of sound sequences in one syllable words rather than just sounds that isolated letters make, as well as refine their ability to read short phrases, read with proper expression, and begin to read for comprehension. In third through eighth grade, students generally begin to read multi-syllable words and the instructional focus largely shifts from teaching students to read to utilizing reading to learn about other subjects. By grades fifth through twelfth, most students have become competent readers.

Although most students learn to read according to this timeline, some students require a slower pace of instruction or remedial practice to develop their skills. It is generally accepted
that learning occurs most optimally when instructional practices target the student’s specific area of weakness with activities that are challenging but not overwhelming. One approach that has been used to determine this optimal level of instructional difficulty in reading is applying the concept of instructional levels (Gickling & Thompson, 1985). Gickling and Thompson (1985) proposed that fluency instruction is optimally challenging when students can read a passage within a certain range of accuracy. Providing reading instruction outside of this range is considered inappropriate as the text may be either too easy or too difficult for the student. Subsequent research has supported the use of instructional level passages for fluency instruction (Burns & Parker, 2014). Given this framework, students who have not progressed at the same rate as their peers may be engaging with instructional materials and tasks that are too difficult and therefore not optimal for learning.

Students who have not acquired the ability to read fluently by middle school may experience additional negative impacts on overall reading ability, including comprehension (Cunningham & Stanovich, 1998; Jenkins, Fuchs, Espin, van den Broek, & Deno, 2000; Meyer & Felton, 1999). Evidence suggests that, although reading fluency is typically taught and acquired before fifth grade, older students may benefit from instruction in this area as well. Results of the NRP investigation of best practices in reading instruction, for example, identified repeated and guided repeated oral reading as an effective reading fluency intervention for students with learning problems through ninth grade (NICHD, 2000).

In addition to evidence supporting the utility of employing isolated reading fluency strategies with older students, studies have found that combined strategy approaches can also benefit this population. For example, Allinder et al. (2001) found that engaging seventh grade students in repeated readings while also prompting them to use specific oral reading fluency
strategies (e.g., reading with inflection, not adding words, pausing at periods and commas, self-monitoring for accuracy, reading at an appropriate pace, watching for word endings, and tracking words with a finger) significantly improved overall reading achievement in comparison to generic prompts to do their best. In this study, overall reading achievement was measured using standardized, norm-referenced assessments of reading abilities, as well as curriculum-based measures of general reading ability. Additionally, Mercer et al. (2000) found that combining multiple fluency-building instructional practices (e.g., phonics, high-frequency word recognition, repeated readings, systematic error-correction, graphing of student progress, and performance feedback) significantly improved oral reading fluency rates in middle school students with learning disabilities.

**Assessment of Reading Fluency**

Valid assessment procedures are essential in order to accurately determine student progress in reading and to provide appropriate instruction. The type of assessment used depends on the instructional goal. Two types of assessments used to achieve different goals are formative and summative assessments. Formative assessments are used repeatedly over time to determine student progress and to continually inform instructional practices, while summative assessments are used less frequently as a gauge of the overall attainment of instructional goals at the conclusion of a curricular unit (e.g., academic quarter, school year; Torres & Leite, 2014). One example of an assessment format used for summative purposes is statewide standardized assessments. To acquire formative information, however, curriculum-based measurements (CBMs) can be used.

**Curriculum-based measurement.** CBMs are formative and use criterion comparisons to assess performance; they are intended to measure performance levels in specific skill areas
(i.e., criteria; Hosp, Hosp, & Howell, 2007). Furthermore, CBMs are designed to measure the gradual achievement of academic goals over time through repeated measurements, which makes them formative rather than summative. This means that data gathered from CBMs allows teachers to continually monitor student progress and to individualize instructional goals to better meet each student’s needs.

Deno (2003) summarizes a number of other critical characteristics of CBM. First, CBM is closely aligned with the curriculum. Second, measures included in CBM have established empirical support, as well as adequate reliability and validity. A third characteristic of CBM is standardization; administration and scoring rules, as well as test construction procedures, remain the same. Fourth, student performance is measured using performance sampling, in which correct and incorrect responses on clearly defined tasks are measured during a fixed period of time. Finally, CBM probes are designed to be efficient, as training in proper administration and scoring is relatively straightforward and the probes require only a short period of time to administer.

**CBM of reading.** CBMs can target many different academic areas, and specific assessment techniques have been developed to measure the various sub-skills within reading. CBMs targeting oral reading fluency (i.e., CBM-ORF) have been found to reliably and sensitively measure short-term student progress in reading fluency (Hintze & Silberglitt, 2005), to reflect total reading competence (Fuchs et al., 2001), and to provide valuable information about long-term goals such as performance on state assessments (McGlinchey & Hixson, 2004). CBM-ORF involves having the student read a grade appropriate passage for one minute while the instructor records the number of words either misread, or words which the student hesitates on for longer than three seconds, as errors (Wright, 2013). The remaining number of words read
correctly is the words read correct per minute (WCPM).

**Impact of Federal Legislation**

Legal changes in the U.S. since the mid-twentieth century have significantly influenced contemporary trends in reading assessment and instruction, attempting to gradually expand access to quality education to students from all backgrounds and to promote the use of evidence-based practices. Federal legislation that has had implications for reading assessment and instruction will be presented first. Additionally, the impact of this legislation on the use of standardized curriculum and evidence-based practices will be discussed, along with current trends in reading proficiency rates.

**Federal legislation and reading instruction.** The *Elementary and Secondary Education Act* (ESEA, 1965) was the first U.S. Federal law of its kind to promote educational opportunities for all students, which it did through providing Federal grants for state educational agencies to improve programs for schools in low-income communities. The *Individuals with Disabilities Education Act* (IDEA, 1990) subsequently expanded requirements for access to quality education to students with disabilities, and in 2004, the re-authorization of IDEA (IDEIA, 2004) also mandated that states can use student response to research-based intervention strategies as criteria for identifying learning disabilities (i.e., response-to-intervention or RTI; IDEIA, 2004, 300.307(a)(2)). The passing of the *No Child Left Behind Act* (NCLB, 2001) in 2001 further attempted to encourage the use of educational practices with demonstrated effectiveness through providing incentives and consequences for schools based on student performance outcomes. Through a recent re-authorization of NCLB, the *Every Child Achieves Act* (ECAA, 2015) discontinued the punitive measures contingent on student test scores, placed increased power with state governments, and attempted to shift the focus of quality education as a reflection of
student test scores to a reflection of evidence-based instructional practices. The *Common Core State Standards* (CCSS, 2015), which is a voluntary initiative, also includes research-based academic standards in math and English language arts (ELA) intended to promote higher-order thinking skills and to prepare students for success in college or in a career.

**Standardization of curriculum.** In response to major shifts in educational policy, schools have had to modify their curriculum and instructional approaches. Given the current strong focus on adhering to national curricular standards and increasing student performance, standardizing instructional practices through the implementation of evidence-based programs has become increasingly popular (Noddings, 2013). Standardized instructional programs are often advertised as evidence-based, and are commercially available for purchase by schools. The popularity of such approaches has created a large market for instructional programs and materials; however, the evidence supporting the quality of these programs varies widely (Hauser, 2009).

**Evidence-based practices.** In order to evaluate the quality of instructional practices, first defining the term *evidence-based* is important. However, there has been a relative lack of consensus regarding the definition of this term within the educational community (Archibald, 2014; Kratochwill, 2007). Some have advocated for a flexible definition of evidence-based that differs depending on the research question (Shavelson & Towne, 2002), while others have recommended that the criteria for evidence-based should be the same for all educational research (What Works Clearinghouse, 2014). The methodological approaches that qualify a study for use in identifying evidence-based practices have also been a topic of debate (Archibald, 2014).

In an attempt to make the definition of evidence-based more explicit, a number of professional organizations in fields related to education have released statements regarding their
position on this important issue. For example, the U.S. Department of Education defines evidence-based practice as supported by both the quality and quantity of available research (U.S. Institute of Science, 2003). According to the U.S. Department of Education (U.S. Institute of Science, 2003), the highest quality research (i.e., producing “strong” evidence) utilizes well-designed and implemented randomized controlled trial methodology. However, the U.S. Institute of Science (2003) also identified comparison-group studies using closely matched groups as providing “possible” evidence.

In comparison to the U.S. Department of Education definition of evidence-based, which provides details related to the specific methodology required to produce viable evidence, other professional organizations outline more flexible interpretations. For example, the American Psychological Association (APA) defines evidence-based practice as the “integration of the best available research with clinical expertise in the context of [individual] characteristics, culture, and preferences” (APA, 2005). In this context, APA (2005) further defines “best research evidence” as including scientific results, derived using a variety of research methodologies, and conducted in a variety of different settings.

The HELPS manual also provides a definition of evidence-based practices from which the instructional strategies within this program were selected. According to the HELPS manual, evidence-based practices must be derived from “convincing research support” that has demonstrated the ability to “meaningfully improve” student outcomes (Begeny, 2009, p. 4). The HELPS manual also outlines the following conditions as necessary for categorization as research-based: (a) the findings must be replicated; (b) research methodology must utilize scientifically based research designs; (c) research methodology must utilize valid and educationally meaningful assessments; and (d) research results must be educationally, rather than
Evidence-based reading fluency interventions. What Works Clearinghouse (WWC) is a program managed by the U. S. Department of Education with the purpose of identifying research support for instructional practices in different academic areas. To accomplish this, WWC (2014) categorizes instructional practices into various levels of effectiveness according to the following criteria: (a) the quality of the supporting research, (b) the statistical significance of these research findings, (c) the size of differences in academic gains between intervention and comparison groups, and (d) the consistency in results across different studies. Using these criteria, WWC categorizes the research support for academic interventions into six effectiveness rating levels: (a) strong evidence of positive impact (i.e., “positive” rating), (b) evidence of positive impact without contradictory evidence (i.e., “potentially positive” rating), (c) inconsistent evidence of intervention impact (i.e., “mixed” rating), (d) no evidence of positive effects (i.e., “no discernable” rating), (e) evidence of negative impacts with no contradictory evidence (i.e., “potentially negative” rating), and (d) strong evidence of negative impacts (i.e., “negative” rating). Research support according to WWC is further categorized by the extent of research evidence: a “small” rating indicates support based on one study, one school, or sample sizes of less than 350 students or 14 classrooms; and a “medium to large” rating indicates support based on more than one study, one school, or sample sizes larger than 350 students or 14 classrooms.

In an evaluation of interventions targeting reading fluency, WWC (2017) found limited support for the effectiveness of many of these approaches. As of April 2017, WWC (2017) listed 48 interventions targeting literacy, and 18 interventions specifically targeting reading fluency. Of these 18 interventions, only one was listed as having a positive rating; WWC rated 9 other interventions as having potentially positive effects on reading fluency. The remaining 8
interventions were rated as having mixed or no discernable effects. Furthermore, of the 9 interventions with positive or potentially positive effects, the majority had only a small research base; only one intervention was rated as having medium to large research evidence. The HELPS Program has not been reviewed by WWC (2017).

**Reading proficiency rates in the U.S.** Learning to read fluently and for comprehension allows students to succeed in school and contributes to numerous other advantages in life after leaving school. Overall academic achievement provides individuals with opportunities to participate in higher education and subsequently to obtain higher level careers, which has implications for income earned and quality of life. Additionally, reading difficulties may negatively impact an individual’s ability to function within a society where written text is a primary mode of communication (e.g., reading websites, communicating via email, reading store labels, etc.). A number of Federal programs have been put into place to enhance the quality of education for students, some addressing education broadly and others specifically targeting reading instruction. Despite these efforts, however, many students continue to fail to attain proficiency in reading.

The National Center for Educational Statistics periodically conducts the National Assessment of Educational Progress (NAEP), which is a nationally representative assessment of student progress in a number of curricular areas. According to the most recent NAEP (2013) evaluation of reading performance, only 35% of fourth grade students and 36% of eighth grade students demonstrated proficient reading skills. This represents a slight improvement from the previous NAEP evaluation (2011), in which 34% of fourth graders and 34% of eighth graders scored at proficient levels in reading. Low reading proficiency rates are especially pronounced for certain minority groups: on the fourth grade 2013 NAEP reading evaluation, only 18% of
black and 20% of Hispanic students attained proficiency, and on the eighth grade 2013 NAEP reading evaluation, only 14% of black and 21% of Hispanic students attained proficiency. These low proficiency rates suggest the need for continued improvements in reading instruction. One method that may be particularly useful in that regard is the HELPS Program, which is described in a later section (Begeny, 2009).

**Alternative Education Programs**

The title *alternative education program* is a heterogeneous term that refers to any school that provides programs and services to students outside of what traditional schools offer (Smith, 1974). Typically, these institutions serve students at risk for failure due to a number of different factors, such as students with disabilities or other social, emotional, or behavioral difficulties (Unruh et al., 2004). Alternative education programs intend to provide an instructional program that is more targeted to these students’ needs, while in some cases also protecting the traditional school population and the community from students who have exhibited unsafe behaviors.

The first alternative education programs were established in the U.S. in the 1960s, and there has been an increase in numbers in recent years (Atkins & Bartuska, 2010; Raywid, 1999). This may be a result of Federal legislation that has advocated for student placement in these settings under certain conditions (Fitzsimmons-Lovett, 2001). For example, the Gun Free Schools Act of 1994 allows traditional schools to expel students who bring a weapon to school and to send them to an alternative education program. Amendments to the Individuals with Disabilities Education Act (IDEA) in 1997 also stated that students with disabilities could be mandated to attend an alternative learning program for a portion of the school year if this was deemed appropriate within the student’s individualized education program (IEP). The most recent data, collected during the 2007-2008 school year, indicated that there were 10,300
alternative education programs in the U.S. (U.S. Department of Education, 2010). In the northeast region of the U.S., 1,400 such programs existed in the 2007-2008 school year; the authors do not explicitly define what states comprise the northeast region (U.S. Department of Education, 2010).

It is important to consider who is likely impacted by these congressional acts. Approximately 6.5 million students between the ages of 3-21, or 13% of the public school population, are identified as having an educational disability (U.S. Department of Education, 2016). Of those students with an educational disability, 646,500 students in the 2007-2008 school year attended an alternative education program (U.S. Department of Education, 2010). Although student populations undoubtedly fluctuate from year-to-year, this data suggests that approximately 10% of those students with an educational disability in the U.S. attend an alternative education program. These statistics highlight the importance of addressing the unique instructional needs of students with disabilities within an alternative education environment.

**The HELPS Program**

The HELPS Program was designed primarily to help facilitate the development of reading fluency, although strengthening overall reading skills including comprehension is a secondary goal (Begeny, 2009). It was originally designed for students in grades first through fourth; however, the HELPS manual indicates that it may also benefit older students as long as the instructional goals are appropriate (Begeny, 2009). Instructional practices included in this program appear to most heavily rely on information processing and behaviorist theories of learning.

Information processing models, particularly the Automatic Information Processing Model (LaBerge & Samuels, 1974), propose that competent readers use automatic cognitive processes
for surface level word reading (e.g., visual perception and decoding) while reserving the majority of their cognitive resources for more complex tasks such as reading comprehension (LaBerge & Samuels, 1974). Given that the focus on automaticity is integral to developing competent reading, Samuels (1979) hypothesized that, like the development of many other skills, repeated practice is key to fostering fluency. The repeated reading procedure, which is a major component of the HELPS Program, allows students to practice their reading. Some other components of this program, including the goal setting, performance feedback, systematic verbal praise, structured reward system, and systematic error-correction procedures also add a behavioral component to the intervention as students are rewarded for engaging in a preferred behavior (e.g., engaging in fluent reading and attaining personal reading goals) or are redirected when they engage in incorrect reading behaviors.

**Empirical foundations of the HELPS Program.** The HELPS Program manual states that one of its major goals is to “bridge reading research with educational practice” (Begeny, 2009, p. x). To accomplish this goal, the HELPS Program incorporates evidence-based practices for promoting reading fluency, reading comprehension, and student engagement with reading into systematic procedures for teachers to use with students for whom these goals are instructionally appropriate. Evidence-based approaches are incorporated into the HELPS Program, including repeated reading (RR) of ability-appropriate text, model reading (i.e., listening to a more skilled reader read aloud), a systematic error-correction procedure, verbal cues for students to read fluently or for comprehension, goal setting (i.e., practicing one text until a pre-determined performance criterion is met), performance feedback with graphical displays of progress, the use of systematic praise, and a structured reward system contingent on positive reading behaviors and accomplishments (Begeny, 2009). In the following sections, the empirical
foundations of these various instructional techniques will be explored in greater detail.

**Repeated reading of ability-appropriate text.** Repeated reading of ability-appropriate text is derived from the hypothesis that practice helps to foster fluency (Samuels, 1979). It involves having the student read the same passage a designated number of times or until the student reaches his or her fluency goal (Samuels, 1979). Therrien (2004) stresses the importance of repeated reading being based upon the attainment of a predetermined fluency goal, as interventions using such a criterion have been found to increase reading fluency scores substantially more than those interventions using a fixed number of repeated readings. In the HELPS Program, students initially read a passage once. If they meet their reading fluency goal, they progress to the next passage in the sequence and read this passage three times; if they do not meet their reading fluency goal, they read the initial passage two more times. Students continue practicing the same reading passage in subsequent intervention sessions until they either reach their reading goal or after three intervention sessions have passed.

Multiple meta-analyses examining the efficacy of repeated reading have concluded that it has a positive impact on the development of reading fluency (Meyer & Felton, 1999; NICHD, 2000; Therrien, 2004). Therrien (2004) also found that the positive effects of repeated readings generalize to novel passages, benefit reading comprehension, and are effective with both nondisabled students and students with a learning disability. Research has also identified certain procedures that are effective when combined with repeated reading. For example, combining repeated reading with corrective feedback has been found to be helpful for students depending on student skill level. For students in the acquisition phase of reading, this combined approach provides practice reading connected text in general, while also providing instruction on the mechanics of reading through immediate corrective feedback (Rathvon, 2008). However,
corrective feedback may hinder more advanced students for whom fluency is the main goal, as corrective feedback interferes with the flow of connected text (Burns et al., 2012).

**Model reading.** In model reading, the teacher demonstrates the correct way to read a passage. Generally, the teacher also instructs the student to follow along in the passage and to read silently, a practice referred to as passage previewing (Rathvon, 2008). In the HELPS Program model reading procedure, the interventionist reads a short introductory statement in which she or he instructs the student to follow along with a finger while the interventionist reads the passage aloud. Additionally, to assess how well students are engaged and following along, the interventionist stops reading 5-7 times throughout a passage and instructs the student to say the next word. Model reading allows for students to strengthen reading fluency skills through observation and practice (Begeny et al., 2009; Lewandowski, Begeny, & Rogers, 2006; Ehri, 1991). The positive effects of model reading on reading fluency skills have been found for both younger students (grades K-4) and older students (grades 5-12; Morgan & Sideridis, 2006).

**Systematic error-correction procedures.** Error-correction procedures involve the instructor correcting student errors, generally immediately after the error occurs. This practice encourages students to practice correct, rather than incorrect, reading behaviors. When used in isolation, error-correction procedures have been found to increase both word recognition and reading comprehension skills (Pany & McCoy, 1988), although corrective feedback is also commonly used in the context of other instructional practices such as repeated reading. In a meta-analysis of various reading instructional practices, Therrien (2004) concluded that error correction procedures, when used in the context of repeated readings, significantly improve reading fluency and comprehension.

A specific form of systematic-error correction procedure that the HELPS Program
employs is referred to as *phrase-drill error correction* (PD). This procedure involves the instructor correctly modeling how to read a difficult phrase, often one that the student previously read incorrectly, and then requiring the student to repeatedly practice reading this phrase (Begeny, 2009). In comparison to other error-correction procedures that exclusively focus on correcting individual words, PD intends to provide students with greater contextual cues and to allow for the practice of connected text rather than isolated words (Begeny, Daly, & Valleley, 2006; O’Shea et al., 1984).

**Goal setting.** In goal setting procedures, the instructor sets skill acquisition goals for the student to attain after a certain period of time and then shares these goals with the student. Specific metrics that may be included in reading fluency instructional goals include rate of reading, accuracy of reading, and the percentage of errors made while reading (Morgan & Sideridis, 2006). Goal setting is often combined with reward systems within which students receive rewards for attaining instructional goals. The HELPS Program provides specific reading goals for students in grades 1–4 and more general recommendations for goal setting with older students, and the interventionist monitors students’ attainment of these goals. Although not explicitly targeting reading skills, goal setting procedures aim to enhance student motivation to practice reading to achieve their goals, which may indirectly increase academic performance (Burns, Riley-Tillman, & VanDerHeyden, 2012). Goal setting is sometimes combined with a performance feedback component, which has also demonstrated significant positive effects on the acquisition of reading fluency skills (Morgan & Sideridis, 2006). This procedure is explained in more detail below.

**Performance feedback combined with graphical displays of student progress.** In addition to goal setting, providing students with feedback regarding their performance and
progress may help to maintain student motivation (Samuels, 1979). The HELPS Program includes a graph to visually display progress toward students’ reading goal, which is shared with the students at the end of each session and combined with verbal praise when they meet their goal. In addition to fostering student motivation, research has demonstrated that performance feedback procedures can potentially improve academic skills (Alber-Morgan et al., 2007; Morgan & Sideridis, 2006). Morgan and Sideridis (2006) also found that goal setting plus performance feedback, both with and without reinforcement, produced the strongest effects when compared to five other reading interventions (keywords plus previewing, listening plus repeated readings, contingent reinforcement, word recognition, and tutoring).

**Systematic praise combined with a structured reward system.** Within the context of reading interventions, a systematic praise and structured reward system involves providing students with positive statements and self-selected rewards in return for attaining instructional goals (e.g., reading the text in less than a specified time or reading the text with less than a specified number of errors; Morgan & Sideridis, 2006). Rewards and systematic praise are therefore often combined with other motivational strategies such as goal-setting and performance feedback. Throughout the various other instructional procedures included in the HELPS Program, the interventionist provides verbal praise when students engage in correct reading behaviors and when they reach their reading goal. Additionally, the HELPS Program includes a chart to keep track of points students earn each time they reach their reading goal which are used toward small rewards (e.g., pens/pencils, snack foods, notebooks).

Research has demonstrated that rewards for attaining academic goals increases student performance in general (Alberto & Troutman, 2009; Fredrick, Dietz, Bryceland, & Hummel, 2000). With regards to reading fluency instruction, learning theorists have hypothesized that
systematic rewards and praise are important to maintain student motivation to repeatedly practice their reading, as practice is integral to developing fluency (Haring, Lovitt, Eaton, & Hansen, 1978). Research has supported this hypothesis through demonstrating that rewards can have positive effects on reading fluency (Martens & Witt, 2004; Morgan & Sideridis, 2006).

**Verbal cues for students to read fluently or for comprehension.** Verbal cueing involves directing the student’s attention to the goal for reading (i.e., telling the student that the purpose of the activity is to read for fluency, comprehension, or for other purposes). One factor that contributes to reading comprehension is focusing adequate attention on the components of written text necessary to derive meaning (O’Shea, Sindelar, & O’Shea, 1985; O’Shea, Sindelar, & O’Shea, 1987). Therrien (2004) investigated the effects of utilizing cues for students to read fluently and/or to read for comprehension on various reading-related outcomes; the type of cue used was not differentiated. Results of this study indicated that the use of cues for fluency and/or comprehension significantly improved gains in reading fluency skills.

The HELPS Program incorporates verbal cueing through a scripted introductory statement that interventionist reads to students at the beginning of each session. This statement instructs students to read with good expression and as quickly as they can without making mistakes (i.e., to read fluently), as well as to remember what happens in the story (i.e., to read for comprehension). The reading comprehension cue is then followed up by the *retell check* procedure after the student has completed a passage, which involves providing the student with 30-40 seconds to describe the content of this passage. The interventionist uses prompts or follow-up questions as needed during the retell check procedure, and notes whether the student was able to reasonably retell the content.

**Strengths of the HELPS Program.** The HELPS Program has a number of strengths.
For example, one benefit of this program is its accessibility. Although many standardized educational programs are costly to access, the HELPS curricular materials are easily accessible to educators online and can be downloaded for free. Begeny (2009) dedicates a chapter in the HELPS Teacher’s Manual to explaining the importance of free access to this program. Reasons listed include the relatively strong empirical evidence supporting the HELPS Program in comparison to other similar programs, the importance of providing quality instructional materials to students attending economically disadvantaged schools, and the sometimes limited monetary funds that teachers have to purchase instructional materials.

In addition to accessibility, the structure and content of program materials and procedures of the HELPS Program contributes to its feasibility. This program outlines a comprehensive curriculum with detailed, user friendly, step-by-step directions and training exercises. Therefore, instructional procedures can be effectively learned and implemented by school staff from different backgrounds (e.g., regular education teachers, special education teachers, teacher assistants, reading specialists, or school volunteers). The structured curriculum, including reproducible instructional and progress monitoring materials, also simplifies the instructor’s role because all required materials are already created. The relatively brief implementation requirements (approximately 10-minute sessions three times weekly) also make this program more feasible for use within a busy school day.

**Program effectiveness.** A number of studies suggest that the HELPS Program has positive effects. Currently, seven published studies including 356 students have investigated the impacts of the HELPS program. Each of these studies is discussed in detail below, and a summary table (Table 1) is provided on pages 43-46.

Begeny et al. (2010) evaluated the effectiveness of the HELPS Program with second
grade students as compared to another widely used standardized reading program targeting reading fluency, the Great Leaps K-2 Reading Program. Using a control-group comparison design, three groups of second grade students, participating in the regular education curriculum and matched on a variety of characteristics, were assigned to either participate in the core reading instruction alone, the core reading instruction with the addition of supplemental HELPS instruction, or the core reading instruction with the addition of supplemental Great Leaps instruction. Supplemental HELPS or Great Leaps instruction was implemented approximately three times weekly for 10 minutes per session over a period of three months by undergraduate or graduate student tutors provided by the research investigators. Pre-test and post-test assessments using both standardized and curriculum-based probes measuring a range of reading skills indicated that students who participated in the HELPS program performed significantly better than those students in the control group in reading fluency and overall basic reading competence. In comparison to these findings, Begeny et al. (2010) found no significant differences between outcome measures for students participating in the Great Leaps program and students in the control group.

Begeny et al. (2011) investigated the impact of the HELPS Program when used with students identified as at-risk for reading failure. Through random selection two groups of second grade students at-risk for reading failure received either regular reading instruction with the addition of HELPS instruction three times weekly for 10 minutes, or regular reading instruction alone. Students in the experimental condition received an average of 50 HELPS sessions throughout the study from district-employed teachers or teaching assistants who were trained in HELPS procedures. In comparison to students in the control condition, pre- and post-test standardized measures of reading fluency indicated that the HELPS Program produced medium-
to-large positive results on all measures.

Malouf et al. (2014) also provide tentative support for the effectiveness of the HELPS Program with older students identified as having reading difficulties. These researchers investigated the impact of the HELPS Program with adolescents with severe reading impairments using a single-case design methodology. Two students, one 12-year-old girl in seventh grade with “notable difficulties in reading” but without any formal diagnoses and one 12-year old boy in seventh grade with reading difficulties along with diagnoses of Fetal Alcohol Syndrome and Tourette’s Syndrome, participated in the HELPS Program during a four week summer school program. Progress on instructional passages included in the HELPS Program and reading fluency measures included in the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) program were used to measure student skills prior to and throughout the study. Results of these measures produced idiosyncratic results, although both students displayed an overall positive trend in reading scores while participating in HELPS as measured by the HELPS progress monitoring measures; however, the methodological shortcomings of this study are notable. For example, the authors failed to specify stated modifications made to the HELPS Program during implementation, the instructors made relatively frequent and arbitrary modifications to the grade level of DIBELS passages used to monitor student progress (e.g., the grade level of progress monitoring passages for one student was changed five times throughout the four weeks of implementation), and the four week scope of the study may have been too limited to adequately measure growth in reading fluency.

Researchers have also investigated the academic impact of this program with English language learners (ELLs). Begeny, Ross, et al. (2012) implemented the HELPS Program as a supplement to the regular core English language arts curriculum with a group of 13 primarily
Spanish speaking second grade students identified as English language learners (ELLs). Ten-minute HELPS sessions were facilitated by trained undergraduate or graduate students 2-3 times per week, averaging 38.5 total sessions per student. Using a pre- and post-test standardized measure of reading abilities, Begeny, Ross, et al. (2012) compared students participating in the HELPS Program to eight other demographically similar ELL students only participating in the regular core English language arts curriculum. Results of these analyses indicated that students participating in the HELPS Program demonstrated statistically significant and clinically meaningful (i.e., large effect size) improvements in both reading fluency and comprehension in comparison to students that did not participate in the HELPS Program.

Another area of research conducted using the HELPS Program has investigated the impact of different modifications to this program. Begeny (2011) evaluated the effects of different frequencies of implementation on academic outcomes for students. Using a randomized block design, Begeny (2011) assigned 29 second grade students to receive the HELPS curriculum three times weekly in addition to typical reading instruction, 29 students to receive the HELPS curriculum an average of 1.5 times weekly in addition to typical reading instruction, and 28 students to a wait list while receiving typical instruction alone. The HELPS curriculum was delivered over a period of 6.5 months by trained undergraduate students, post-baccalaureate volunteers, and the researcher. Pre- and post-test standardized measures of reading fluency and comprehension indicated that both groups of students receiving the HELPS intervention significantly outperformed students receiving typical reading instruction alone on measures of reading fluency. Additionally, students receiving the HELPS curriculum three times weekly significantly outperformed students receiving typical instruction alone in the area of reading comprehension. In comparison to the Begeny et al. (2010) study, which found that the
HELPS intervention implemented three times weekly over a period of three months did not significantly improve students' reading comprehension skills, results of the Begeny (2011) study provides evidence that the HELPS Program may help improve reading comprehension skills when implemented for a longer period of time such as 6.5 months.

Although the HELPS Program is designed for one-to-one implementation, Begeny, Braun, Lynch, Ramsay, and Wendt (2012) investigated the effects of modifying the individual procedures to function with small instructional groups (i.e., HELPS-SG). These researchers evaluated the effectiveness of these modified procedures with a group of four fourth grade students and three third grade students. For the first half of the school year (August-January) students participated in typical reading instruction alone, and for the second half of the school year (January-May) students participated in the HELPS-SG program 2-3 times weekly for 10-12 minutes per session in addition to typical reading instruction. Student progress during periods of typical instruction alone and typical instruction with the addition of the HELPS-SG was monitored using changes in DIBELS ORF scores from August to January (growth with typical instruction), and then from January to May (growth with typical instruction plus the HELPS-SG). Results indicated that students made significantly more gains in ORF scores while receiving the HELPS-SG in comparison to gains made while receiving typical instruction alone. However, two of the seven students did not make expected gains, suggesting that the HELPS-SG may not be appropriate for all students identified as having difficulties with reading fluency.

The HELPS Program has also been modified for implementation by parents in the home setting. Mitchell and Begeny (2014) identified 12 first grade students transitioning to second grade and five second grade students transitioning to third grade, all falling blow the 50th percentile on their reading fluency skills according to AIMSweb ORF norms, and provided a
two-day workshop in implementing the HELPS program to their parents. Over the summer vacation from school, participating parents implemented the HELPS Program to their children in the home setting three times per week for 10 minutes per session (approximately 28.9 sessions total). Pre- and post-test measures of reading fluency and comprehension skills, as well as nonequivalent skills such as math and reading decoding, were measured using CBM-ORF and multiple standardized academic tests. Results indicated that students made significant growth in all relevant measures of reading fluency and comprehension with medium to large effect sizes, but made no significant improvements in nonequivalent measures. This suggests that the HELPS Program helped improve student skills specifically in the target areas of reading fluency and comprehension.
### Table 1

**Summary of Studies Investigating the HELPS Program**

<table>
<thead>
<tr>
<th>Study</th>
<th>Participants</th>
<th>Treatment</th>
<th>Dependent Measures</th>
<th>Research Design</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begeny et al.</td>
<td>75 2nd grade students, 60% male 40% female, attending a public elementary school in the southeastern region of the U.S. were randomly selected for participation</td>
<td>Core reading instruction in addition to HELPS Program or Great Leaps Program implemented 3 times weekly for 10 minutes per session over a period of 3 months</td>
<td>Test of Word Reading Efficiency (TOWRE), Gray Oral Reading Test (GORT), Fourth Edition, Basic Reading Skills subtests of the Woodcock-Johnson Tests of Achievement, Third Edition (WJ-ACH III), and CBM ORF and Maze</td>
<td>Control-group comparison of pre-test/post-test reading scores: three groups of students either participated in core reading instruction, core reading instruction plus HELPS Program, or core reading instruction plus Great Leaps Program</td>
<td>Students participating the HELPS Program demonstrated significant improvements in reading fluency and overall reading competence, but not reading comprehension. No significant effects of the Great Leaps program were found.</td>
</tr>
<tr>
<td>Begeny et al.</td>
<td>60 2nd grade students, 56% female 44% male, attending a public elementary school in the southeastern region of the U.S. were selected based on screening to identify students at-risk for reading failure</td>
<td>Regular reading instruction in addition to the HELPS Program implemented 3 times weekly for 10 minutes per session, totaling an average of 50 sessions per student</td>
<td>Dynamic Indicators of Basic Early Literacy Skills (DIBELS), GORT, Basic Reading Skills subtests of the WJ-ACH III</td>
<td>Control-group comparison of pre-test/post-test reading scores: two groups of students either participated in core reading instruction or regular reading instruction plus the HELPS Program</td>
<td>Students participating in the HELPS Program demonstrated medium-to-large improvements in overall reading.</td>
</tr>
<tr>
<td>Malouf et al.</td>
<td>Two 7th grade students with HELPS Program implemented during</td>
<td>CBM-ORF including instructional reading</td>
<td>A-B Single-subject design</td>
<td>Results were idiosyncratic.</td>
<td></td>
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<tr>
<td>Study</td>
<td>Participants</td>
<td>Treatment</td>
<td>Dependent Measures</td>
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<td>Results</td>
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<td>Begeny,</td>
<td>documented reading difficulties, one female with no diagnoses and one male</td>
<td>a 4-week summer school program</td>
<td>passages in the HELPS Program and DIBELS</td>
<td></td>
<td>although an overall positive trend was noted for both students.</td>
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<td>Ross, et al.</td>
<td>with diagnoses of Fetal Alcohol Syndrome and Tourette’s Syndrome</td>
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<td>(2012)</td>
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<td></td>
<td>21 primarily Spanish speaking 2\textsuperscript{nd} grade students, 76%</td>
<td>HELPS Program implemented 2-3 times per week, averaging a total of</td>
<td>GORT, Fourth Edition</td>
<td>Control-group comparison of pre-test/post-test reading scores: two groups of students either</td>
<td>Students participating in the HELPS Program demonstrated significant improvements in reading fluency and comprehension in comparison to the control group.</td>
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<td></td>
<td>male 24% female, attending a rural public school in the southeastern</td>
<td>38.5 total sessions per student</td>
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<td>participated in the core reading instruction or the core reading instruction plus HELPS Program</td>
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<td></td>
<td>region of the U.S.</td>
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<tr>
<td>Begeny</td>
<td>90 2\textsuperscript{nd} grade students, 52% female 48% male, attending a</td>
<td>Regular reading instruction plus HELPS Program implemented 3 times per</td>
<td>GORT, Fourth Edition</td>
<td>Randomized block design: all students participated in the regular reading instruction, and one group of students participated in the HELPS Program 3 times weekly, one group of students participated in the</td>
<td>Students receiving the HELPS Program 3 or 1.5 times per week demonstrated significant improvements in reading fluency. Students receiving the HELPS Program 3 times per week also demonstrated</td>
</tr>
<tr>
<td>(2011)</td>
<td>public school in the southeastern region of the U.S. were randomly selected</td>
<td>times per week or 1.5 times per week over a period of 6.5 months</td>
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<td>for participation</td>
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<tr>
<td>Study</td>
<td>Participants</td>
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<tr>
<td>Begeny et al. (2012)</td>
<td>4th grade students and 3rd grade students, 86% female 14% male, attending an urban public school in the southeastern region of the U.S. Selection criteria was not specified</td>
<td>HELPS Program modified for implementation in a small group (HELPS-SG) implemented 2-3 times per week over a period of 5 months</td>
<td>DIBELS ORF passages</td>
<td>One group pre-test/post-test quasi-experimental design: DIBELS ORF growth scores during a 5-month period prior to HELPS implementation was compared to DIBELS ORF growth scores during 5-month period of HELPS-SG implementation</td>
<td>Five of the 7 students made significantly more gains in ORF scores during HELPS-SG implementation in comparison to gains made while receiving typical instruction alone; 2 of the 7 students did not make expected gains.</td>
</tr>
<tr>
<td>Mitchell &amp; Begeny (2014)</td>
<td>12th grade students and 5 2nd grade students, 11 male and 6 female, all falling below the 50th percentile in ORF, attending a public school in the southeastern region of the U.S.</td>
<td>HELPS Program administered 3 times per week by students’ parents, who attended a training on HELPS procedures</td>
<td>Wechsler Individual Achievement Test, Third Edition (WIAT-III), DIBELS ORF, GORT, Fourth Edition, TOWRE</td>
<td>One-group pre-test/post-test quasi-experimental design</td>
<td>Students participating in the HELPS Program made significant gains in reading fluency and comprehension, and no significant gains in nonequivalent skills.</td>
</tr>
</tbody>
</table>
Summary

Learning to read is integral for success in both school and in contemporary life. One important component of reading that has often been neglected in instructional practice is reading fluency, which involves the ability to read quickly and accurately. In addition to the reader being able complete reading tasks at a faster pace, reading with fluency allows the reader to focus his or her cognitive resources on higher-level reading tasks such as comprehension. A number of learning theories addressing the development of reading fluency have been proposed, and these theories have informed our understanding of critical competencies and instructional practices targeting these competencies. Over the years, approaches to assessing and teaching reading have shifted as a result of changes in society, advances in theory and research, and political influences.

Despite the substantial benefits that learning to read affords, a significant percentage of students nationally are consistently underperforming in this area, and students from certain minority groups are particularly impacted by this trend (NAEP, 2013). Although limited data exists regarding instructional practices at alternative learning programs and outcomes of the students who attend these programs, it is likely that this population experiences similar, if not more significant, difficulties with reading in comparison to the overall student population.

Students at the secondary level may also continue to struggle with reading fluency and may not have their educational needs met given that the instructional focus at this stage of learning often no longer focuses on explicit reading instruction. In order to help improve reading proficiency rates, quality, targeted, evidence-based instructional strategies are necessary. One such approach specifically addressing reading fluency is the HELPS Program. The HELPS Program is evidence-based, easily accessible, provided at no cost, and feasible to implement. It may also provide an important resource for educators working with students at the secondary
level who are attending an alternative education program.

**Limitations of Existing Research**

To date, seven published studies have demonstrated support for the use of the HELPS Program with different populations and when using different modifications to the program procedures. However, certain limitations of this research currently exist. One important limitation is the ages of participants studied. Although multiple studies have provided evidence that this program is an effective intervention for increasing reading fluency in students in grades K-4 (Begeny, 2011; Begeny, et al., 2010; Begeny et al., 2011), limited research has been conducted on its use with older students. Only one study evaluating the effects of the HELPS Program with adolescents has been published (Malouf et al., 2014). Although Malouf et al. (2014) found overall positive results, the methodology used in this study limits the generalizability of its findings. Specifically, Malouf et al. (2014) utilized an A-B single-case design methodology with only two participants. Although A-B designs allow for an individual’s performance prior to the intervention to be compared to his or her performance after the intervention, it does not establish adequate experimental control (Gast & Baekey, 2014). This weakens the ability to determine whether the change in performance occurred as a result of the intervention or as a result of any number of other extraneous variables. Additionally, no research has investigated the effectiveness of this program with students attending an alternative education program.

**Research Question**

The purpose of this study is to determine the effectiveness of the HELPS Program as an intervention to increase oral reading fluency for students experiencing difficulties with reading fluency in grades 8-9 attending an alternative education program. For the purpose of this study,
reading fluency deficits are defined as below grade level performance in this area as assessed by standardized academic achievement tests and/or classroom performance. Analyses of participants’ oral reading fluency progress will be used to answer the following research question:

1. Does the HELPS Program promote increases in oral reading fluency for students with deficits in this area who are in grades 8-9 at an alternative education program?

Hypothesis

The HELPS Program has demonstrated effectiveness with younger students in grades 1-4, and research investigating the effects of similar instructional approaches has found these approaches to be helpful for older students as well. Considering the purpose of the study and the research question within the context of the current research base, it is hypothesized that students participating in the HELPS Program as part of this research project will demonstrate significant progress in their reading fluency skills.
Chapter 3

Methodology

Overview

This chapter presents the methods that were used to conduct this study. First, the participants and participant selection is discussed. Following this, the HELPS intervention is described. The dependent measure of oral reading fluency (ORF) is then reviewed, followed by an explanation of the procedure used to assess student progress. Finally, the research design and analysis is described.

Participants and Participant Selection

The HELPS Program was implemented at an alternative learning program in northern New York State. This educational program is part of a residential facility that also provides full-time institutional care of minors. Some students are placed residentially and are in the custody of the regional county of their families of origin, while other students attend only day services and live at home with their parent or guardian. Approximately 60 students in total attend this school, 15% of which attend only day services, and all students are females. Students may be referred to the program by school district committees on special education, family courts, local county Departments of Social Services, or the Office of Children and Family Services. This institution provides a high level of support in a therapeutic environment to help address emotional and behavioral difficulties, while also meeting the educational needs of the minors served. Students attend academic classes as they would in a typical school setting, but with lower student-to-teacher ratios, a constant presence of crisis support staff, and greater access to therapeutic supports such as individual and group therapy.

The target population for this study was students in grades 8 and 9 attending this
alternative education program. These students have a range of emotional or behavioral difficulties for which they were referred to this program. Students were selected for participation in the HELPS Program according to the following criteria. All participants were identified as having deficits in reading fluency through a review of available standardized academic achievement testing indicating below average reading fluency skills and/or consultation with the students’ English language arts teachers regarding below average reading fluency performance in the classroom. Participation in the HELPS Program was voluntary and was an additional component of the intensive special education program provided at this alternative education program.

Five students were initially selected for participation, although two students dropped out; one student was discharged from the residential program associated with the alternative education program and the other student decided that she no longer wished to participate. The three students who participated in this research project are all female and are identified as students with educational disabilities. Student 1 is classified as a student with an Emotional Disturbance, Student 2 is classified as a student with a Learning Disability, and Student 3 is classified as a student with an Emotional Disturbance. A relatively recent standardized assessment of oral reading fluency that was conducted as part of normal educational practices unrelated to the current study indicated that Student 1’s oral reading fluency skills were below average. A test of oral reading fluency within the Wechsler Individual Achievement Test – Third Edition (WIAT-III) that was conducted in 2015 yielded scores at the 5th percentile. Given that this assessment was conducted over a year ago, however, her current academic performance as reported by her English Language Arts teacher was also considered. Her teacher also indicated that Student 1 has demonstrated difficulties with reading fluency in the classroom
based on observations of her performance on reading tasks. Recent standardized assessments of reading fluency were not available for either Student 2 or Student 3. Both of these students were referred to the HELPS Program by their English Language Arts teachers, based on observations of their performance during reading tasks in the classroom.

**Treatment/Intervention**

The HELPS Program is a scripted intervention intended to help develop reading fluency skills. Existing research regarding effective approaches for fostering reading fluency was used to develop this program (Begeny, 2009). Specifically, a number of research-based instructional practices shown to improve reading fluency were integrated into a scripted program (Begeny, 2009; see Table 1). These instructional practices are utilized according to a standardized procedure that is followed during each intervention session (see Figure 1). Additionally, the materials required to follow these procedures are provided in the HELPS manual (see Table 2).

The HELPS curriculum utilizes a series of 100 short timed reading (TR) passages (150-200 words) with which to employ the various fluency-building strategies and to assess student progress. TR passages are described in the HELPS manual as age-appropriate for students who are likely to participate in the program, but no specific difficulty level has been assigned to the passages due to concerns regarding the lack of reliable and valid research to assess text difficulty (Ardoin, Suldo, Witt, Aldrich, & McDonald, 2005; Begeny, 2009). However, the manual indicates that, in general, the TR passages are arranged in order of increasing difficulty (Begeny, 2009). The relative difficulty of passages was established during the development of the HELPS Program through administering the TR passages to approximately 190 students in grades 1-4 at one elementary school (Begeny, 2009). Student ORF scores on these passages were compared across grades and to reading passages from the Dynamic Indicators of Basic Early Literacy Skills
(DIBELS) program that are intended for use with students in these grades. This information was used to arrange the passages in groups of 15; each group of passages is intended to be appropriate for students reading at different grade levels (Begeny, 2009).

**Figure 1. HELPS One-on-One Program Implementation Flow Chart**

1. Teacher reads introductory statements and expectations
2. Student Timed Reading (TR) with Passage A
3. Retell Check
   - *(Student meets reading goal)*
   - *(Student does not meet reading goal)*
   - See table below for goals according to the student's grade level
   4a. Deliver Praise & Graph Passage A
   5a. Student TR—Passage B, 1st time
   6a. Phrase-drill procedure
   7a. Student TR—Passage B, 2nd time
   8a. Modeling procedure
   9a. Student TR—Passage B, 3rd time
   - 10a. Graph 1st and 3rd TR of Passage B and provide praise and feedback
   - 11a. Award stars on Star Chart
   - 12a. Record student data on Progress Tracking Form
   - 13a. Review steps and record on Progress Tracking Form
   - 4b. Modeling procedure
   - 5b. Student TR—Passage A, 2nd time
   - 6b. Phrase-drill procedure
   - 7b. Student TR—Passage A, 3rd time
   - 8b. Phrase-drill procedure
   - 9b. Graph 1st and 3rd TR of Passage A and provide praise and feedback
   - 10b. Award stars on Star Chart
   - 11b. Record student data on Progress Tracking Form
   - 12b. Review steps and record on Progress Tracking Form
Table 2

*Definition of Instructional Practices Included in the HELPS Program*

<table>
<thead>
<tr>
<th>Practice</th>
<th>Procedure according to Begeny (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated reading of ability-appropriate text</td>
<td>Students read the same passage across multiple intervention sessions until they either meet their reading goal or after three sessions have passed. Students read the same passage three times per session.</td>
</tr>
<tr>
<td>Modeling procedure</td>
<td>The interventionist instructs students to follow along in the passage with their finger while the interventionist reads aloud. The interventionist also stops reading 5-7 times throughout the passage, at which points the student reads the next word in the sentence.</td>
</tr>
<tr>
<td>Phrase drill procedure</td>
<td>The interventionist identifies up to five phrases in which the student previously read a word incorrectly or read less fluently, reads these phrases aloud to the student, and instructs to student to re-read the phrase back to the interventionist.</td>
</tr>
<tr>
<td>Verbal cues for students to read fluently and for comprehension, including the retell check procedure</td>
<td>The interventionist reads a scripted introductory statement at the beginning of each session which instructs students to read fluently and for comprehension. After the student has read the passage, the interventionist prompts the student to describe the content of what was just read, which is referred to as the retell check procedure.</td>
</tr>
<tr>
<td>Goal setting</td>
<td>The HELPS Program provides reading goals for students in grades 1-4, or for older students recommends that the goal be set at 20-30 WCPM above their baseline performance used to determine their starting point in the program.</td>
</tr>
<tr>
<td>Performance feedback with graphical displays of progress</td>
<td>A graph is included in the HELPS Program materials with which to visually display student progress toward their reading goals. Students see their graph at the end of each session so they are aware of their progress.</td>
</tr>
<tr>
<td>Systematic praise combined with a structured reward system</td>
<td>The interventionist provides verbal praise throughout the HELPS Program procedures for good effort and for engaging in correct reading behaviors. Students are also awarded points for achieving their reading goals, which can be used toward small rewards.</td>
</tr>
</tbody>
</table>
Table 3

*Description of Instructional Materials Used in the HELPS Program*

<table>
<thead>
<tr>
<th>Instructional materials</th>
<th>Description according to Begeny (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timed reading (TR) passage</td>
<td>TR passages are short reading passages, arranged in order of increasing difficulty, used to employ the various reading fluency instructional strategies.</td>
</tr>
<tr>
<td>Scripted directions</td>
<td>The HELPS Program provides a handout for the interventionist to reference with all of the scripted directions included in the procedures.</td>
</tr>
<tr>
<td>Student graph</td>
<td>A graph is provided to display student progress and to provide performance feedback to students.</td>
</tr>
<tr>
<td>Star chart</td>
<td>The star chart is used to keep track of student points earned for attaining reading that can be used for rewards.</td>
</tr>
<tr>
<td>Progress tracking form</td>
<td>The progress tracking form is for the interventionist to document student reading scores on the various TR passages during each session, the implementation fidelity during each session (i.e., the number of procedural steps forgotten), and any other notes.</td>
</tr>
</tbody>
</table>

*Modifications to treatment/intervention.* Although originally developed for students in first through fourth grade, the HELPS manual indicates that it may also be beneficial for older students as long as improving reading fluency is an appropriate goal (Begeny, 2009). The HELPS manual offers some recommendations for modifying the program to be appropriate for students in grades 5-12. The researcher made additional modifications to the procedure in the current study, including an additional progress monitoring method to provide more reliable results and a modification to the reinforcement schedule in an attempt to accommodate for emotional/behavioral difficulties of the target population. Modifications to the treatment/intervention included the following:

1. Goals for each student to achieve on the HELPS TR passages was set at 30 WCPM above the average score that determined the student’s starting point in the program. Begeny (2009) recommends this modification for use with older students.
2. In addition to setting an appropriate reading goal for progress on the HELPS TR passages, ORF scores on the easyCBM probes were used to more reliably measure student progress.

3. The Student Graph and Progress Tracking Form were modified to reflect the student’s actual grade level and determined reading goal, as recommended by Begeny (2009).

4. The interventionist explained to students the benefit that practicing passages repeatedly has on reading development, as recommended by Begeny (2009).

5. The Star Chart was utilized, but the number of stars required to obtain a prize was decreased from 15 to 10. This was done because the students were all identified as having significant emotional and behavioral difficulties, and providing more frequent rewards was assumed to help maintain motivation in the context of these difficulties.

Primary Dependent Measure

Oral reading fluency. Progress monitoring procedures are embedded within the HELPS Program and were utilized as directed. This procedure involves documenting and graphing the WCPM and WIPM on the TR passages during each session. However, the HELPS progress monitoring measures were not used to assess student progress for the purpose of the current research because the TR passages have no established reading difficulty level and subsequent passages increase in difficulty throughout the program. Given that the TR passages vary in difficulty, it would be difficult to interpret student progress on these passages over time.

In addition to the HELPS progress monitoring procedures, oral reading fluency (ORF) probes obtained from the easyCBM program were utilized to establish baseline performance and to monitor student progress in reading fluency skills throughout the intervention. EasyCBM includes standardized curriculum based measures of a variety of reading and math skill areas
appropriate for different grade levels; the curriculum based measures are grade-leveled so the
difficulty of each passage is standardized. Research has demonstrated that curriculum based
measurement of reading in general has a strong correlation with student performance on other
standardized reading tests (Reschly, Busch, Betts, Deno, & Long, 2009). There is also evidence
that easyCBM ORF measures specifically have a high predictive validity (Duesbery, Braun-

Prior to beginning the intervention, the appropriate ORF passage grade level for each
student was established according to the procedure outlined by the easyCBM program. The
easyCBM User’s Manual indicates that students should be progress monitored at the level at
which their scores fall within the 10th-50th percentile range (easyCBM, ND). Percentile ranges
for each grade level are provided within the program; these percentiles are based on a nationally
representative stratified norm sample of 2,000 students developed in 2013-2014 (Saven, Tindal,
Irvin, Farley, & Alonzo, 2014). Another commercially available CBM program, AIMSweb,
recommends that students performing below the 25th percentile should be considered at-risk
(Shinn, Langell, Hooper, & Scott, 2009). Considering this recommendation offered by
AIMSweb, and to allow for growth throughout the duration of the intervention, students were
progress monitored at the level at which they initially performed at around the 20th percentile,
rather than between the 10th-50th percentile.

Students were first administered three ORF passages at her expected grade level, and the
average of these three scores were calculated. If a student’s average WCPM score fell at around
the 20th percentile, this is the level at which this student was progress monitored. If the student’s
score fell below the 20th percentile, that level was determined to be too difficult and three
passages were attempted at one grade level lower. If the student’s score fell above the 20th

56
percentile, this level was determined to be too easy and three passages were attempted at one grade level higher. This procedure was repeated until the level at which students were performing at around the 20th percentile was determined.

After determining the appropriate easyCBM ORF level for progress monitoring each student, student baseline performance was established using easyCBM ORF progress monitoring probes at these levels. This was accomplished through administering the appropriate easyCBM ORF passages to each student at least three times until each student achieved a stable level of performance. There are some limitations to establishing stability in performance in this context that should be considered. According to the concept of baseline logic in the field of applied behavior analysis, stability in baseline performance is achieved when the baseline data allows for a reasonable prediction of future performance with no intervention (Cooper, Heron, & Heward, 2007). This approach assumes that a reasonable prediction of future performance could not be made given highly variable baseline data. When using CBM-ORF to monitor progress, however, a relatively high degree of variability can be expected as a result of measurement error (3 WCPM to 18 WCPM; Christ & Ardoin, 2006; Christ & Silberglitt, 2007; Poncy, Skinner, & Axtell, 2005). This makes it difficult to determine with certainty that stability has been achieved. In the current study, one week of baseline data (2-3 data points) was collected in between each student beginning the intervention. The decision was made to minimize the amount of time students remained in the baseline phase to allow them to engage in the intervention as soon as possible, although the expected range of performance as a result of measurement error (3 WCPM to 18 WCPM) was considered in this decision as well. The easyCBM ORF passages were continuously utilized to monitor student progress throughout the baseline and intervention phases. During the intervention phase, student ORF was assessed using easyCBM ORF probes
approximately twice per week at the end of the HELPS instructional sessions.

**Accuracy of measurement.** Measurement accuracy refers to the degree to which behavioral observations represent the true nature of the behavior (Cooper et al., 2007). Procedures assessing the reliability of measurement, such as establishing interobserver agreement, can provide information about measurement accuracy. The interventionist established interobserver agreement for approximately 30% of the CBM-ORF probes administered to each student during both the baseline and intervention phases. Ayres and Ledford (2014) recommend that interobserver data collection occur at a minimum of 20-50% of the observation sessions in order to adequately establish instrumentation validity.

Two interventionists were present during the HELPS sessions in which interobserver data was collected. During these sessions, one interventionist provided the verbal directions for students to complete the CBM-ORF probe and both interventionists observed and recorded the student’s performance. The percentage words correct per minute (WCPM) recorded by each interventionist were compared by dividing the smaller percentage by the larger percentage and then multiplying the result by 100. For example, if interventionist A observed the student to get a score of 90% WCPM and interventionist B observed the student to get a score of 85% WCPM, the interobserver agreement would be $\frac{85}{90} = .94 \times 100 = 94\%$. A minimum of 80% interobserver agreement has been widely cited as acceptable (Ayres & Ledford, 2014) and was used as the benchmark level of acceptability for this study.

**Procedural reliability.** Procedural reliability, also known as treatment fidelity, provides information about how much of the observed changes in the dependent variable is the result of the independent variable (Fiske, 2008; Vollmer, Sloman, & Pipkin, 2008). The HELPS Program includes an Implementation Flow Chart, which provides a visual representation of the
intervention procedures, as well as an Implementation Fidelity Checklist that allows interventionists to monitor how closely the HELPS curriculum is followed. These resources were utilized by an outside observer trained in the HELPS Program procedures during approximately 30% of the intervention sessions to document procedural reliability (Ayres & Ledford, 2014). The reader is referred to the Appendix for the Implementation Fidelity Checklist and to Figure 1 for the Implementation Flow Chart.

Procedure

The intervention implementation and data collection were conducted by the principal investigator, who is also a psychologist employed by the alternative education program. The principal investigator has participated in all training exercises included in the HELPS Program materials in preparation for administering this program. The procedure included two phases: baseline and intervention. During the baseline phase, student instructional levels and baseline performance were assessed using easyCBM ORF probes and the HELPS Program Placement Assessment Instructions provided in the manual (see Appendix). Each student first met once with the interventionist to participate in the procedure to determine his or her instructional reading fluency levels. This included reading multiple ORF passages at different grade levels until the instructional level was achieved. After establishing each participant’s instructional level, baseline performance was determined through administering a series of easyCBM ORF probes at each participant’s determined instructional level until stable performance was attained for all participants. Gast and Spriggs (2014) recommend that at least three separate observations are necessary to establish stability, although more may be needed if the data is variable.

In addition to establishing instructional levels and baseline performance using easyCBM, the appropriate starting point in the HELPS instructional materials was also determined. The
HELPS Program Placement Assessment Instructions outlines a procedure in which participants’ WCPM when reading TR passages at different difficulty levels are compared to the starting point criteria provided, which is a 10 WCPM range of performance expected at different grade levels. However, given that the HELPS Program only provides starting point criteria for students in grades 1-4, a 10 WCPM range around the average WCPM used to determine the instructional reading level on the easyCBM passages for each student was used as the starting point criteria in the HELPS TR passages. For example, if during the baseline phase a student scored an average of 100 WCPM on the easyCBM passages at their instructional reading level, then his or her starting point criteria would be 95-105 WCPM. This information was used in the context of the Program Placement Assessment Instructions to determine the most appropriate starting point in the HELPS TR passages.

After a stable level of baseline performance was established for each student using easyCBM ORF passages and the appropriate starting point for the HELPS instructional passages was determined, the intervention activities commenced. Initially, the intervention began with only one student while the other students remained in the baseline phase (i.e., two easyCBM ORF probes were administered to each participant each week, although only one participant initially began receiving the intervention). This first participant continued to participate in the intervention while the others remained in the baseline phase until performance again stabilized across participants. Once this occurred, a second participant in addition to the first also started receiving the intervention while the other participants continued to remain in the baseline phase. Twice weekly easyCBM ORF data was collected for all participants throughout all phases of implementation. This pattern continued until all participants were receiving the intervention.
Research Design and Analysis

A single-subject multiple-baseline (MB) across participants design was utilized. CBM-ORF data was collected for all student participants across two phases: baseline and treatment. To evaluate intervention effectiveness, effect size calculation and visual inspection was utilized. Effect size represents the magnitude of impact that the intervention has made on participants whereas visual inspection involves various methods of assessing the level and/or trend of intervention data (Gierut, Morrisette, & Dickinson, 2015).

One specific type of effect size that is commonly used in single-case design research is the no assumptions effect size (NAES; Busk & Serlin, 1992). It is referred to as “no assumptions” because it ignores the assumptions of parametric analyses that are rarely attainable in single-case design research. NAES is calculated by subtracting the mean of the baseline data from the mean of the intervention data and then dividing by the standard deviation of the baseline data. This analysis results in a number representing how much of an impact the intervention made. Based on a meta-analysis of single-case design research using this metric, Burns and Wagner (2008) recommend that NAES of greater than 2.87 indicates that an intervention was effective.

It is important to note that there are limitations to the NAES calculation, however. Burns and Wagner (2008) based their recommendation on an evaluation of studies employing a specific form of single-subject research called brief experimental analysis (BEA). BEA involves employing a series of instructional approaches and determining the immediate effect of these approaches over a relatively short duration (e.g., assessing the impact of an intervention on reading fluency using just one CBM-ORF passage). Therefore, the 2.87 NAES criterion may not be as valid for other forms of single-subject research, such as in the current study. What Works
Clearinghouse does not include effect size calculation in general in its standards for effects demonstration in single-subject research due to a lack of consensus on this issue (Kratochwill, Hitchcock, Horner, Levin, Odom, et al., 2010). Given the limited availability of research-supported effect size calculations for single-subject research, however, the NAES and the 2.87 criterion offered by Burns and Wagner (2008) was tentatively utilized in the current study.

Ideally, there should be a positive effect size greater than 2.87 for WCPM measured with the easyCBM ORF probes as the intention of the intervention is to increase reading fluency rates.

In addition to NAES, the percentage of nonoverlapping data (PND) was also calculated. PND provides information about how performance changes between baseline and intervention phases, and is calculated through dividing the number of data points in the intervention that exceed the highest point in the baseline phase by the total number of data points in the intervention phase (Gast & Spriggs, 2014). This results in a quotient that can be interpreted within the context of established guidelines. For example, Scruggs, Mastropieri, and Castro (1987) describe a PND greater than or equal to 80 as indicating a strong intervention effect, a PND between 60-79 as indicating a moderate intervention effect, and a PND below 60 as having no significant intervention effect. The Scruggs et al. (1987) guidelines were used to interpret the intervention results. In the current study, it was the intent of the HELPS Program to increase participants’ ORF; if the intervention was effective, participants’ ORF data during baseline would be lower than during the intervention phases, which would result in a high PND (i.e., few data points in the baseline and intervention phases would overlap).

One form of visual analysis that was used is rate of improvement (ROI), which provides information about the trend of the data during different phases of implementation. During the baseline phases, a flat or negative ROI would be expected given that the intervention has not yet
been introduced. However, data collected during the intervention phase should ideally be positive, indicating improvement in participants’ ORF as a result of participating in the HELPS program. Additional visual analyses that were considered include the variability (i.e., the range) and the level (i.e., the median). Riley-Tillman and Burns (2011) suggest that either the mean or the median can be used to describe the level within a phase. However, the median was used to establish the level in the current study because this practice is recommended in other widely used CBM progress monitoring programs such as AIMSweb (Shinn et al., 2009). Given that the data is expected to grow steadily over time after the introduction of the intervention, the median of the baseline data will be compared to the median of the final three intervention data points rather than to the median of the entire intervention phase.
Chapter 4

Results

Baseline and intervention data was collected over a period of 10 weeks. Due to the staggered nature of the multiple-baseline across participants research design, the amount of time that each student participated in the HELPS Program differed, ranging from 7-9 weeks (15-19 sessions). The results of this study are discussed for each student in the following sections. Visual and empirical analyses of the CBM-ORF data are reported, including effect size, percentage of nonoverlapping data (PND; Scruggs, Mastropieri, & Castro, 1987), No Assumption Effect Size (NAES; Burns & Wagner, 2008), and rate of improvement (ROI). Figures and charts summarizing this data are also presented.

Student 1

Student 1 was initially assessed to be reading at a 6th grade instructional reading level. Prior to beginning the intervention, her average performance on three 6th grade CBM-ORF passages was at approximately the 20th percentile. Therefore, 6th grade CBM-ORF passages were used throughout the baseline and intervention phases to assess this student’s progress. Student 1 engaged in 1 week (3 sessions) of baseline data collection and 9 weeks (19 sessions) of intervention implementation.

The visual analysis of the data for Student 1 (see Figure 2) suggests that the words read correct per minute (WCPM) increased during the intervention phase. The median data point in the baseline phase was 90 WCPM, while the median of the last three intervention data points was 126 WCPM. Comparison of the trend line from baseline to the intervention phase also suggests Student 1 made positive growth in WCPM as a result of the intervention, as the trend line during the baseline phase was negative (ROI = -1.50) and the trend line in the intervention phase was
positive (ROI = 1.56). PND was calculated to be 79%, which suggests that the intervention had a moderate effect on this student's WCPM (Scruggs et al., 1987). NAES calculation suggests that the intervention was not clinically meaningful, however (NAES = 1.87; Burns & Wagner, 2008). Despite the NAES calculation, visual analyses and other statistical indices do suggest that this intervention may have produced moderately positive effects on reading fluency for this student.

**Student 2**

Student 2 was assessed to be reading at an 8th grade instructional reading level prior to the introduction of the intervention. Her average performance on three 8th grade CBM-ORF passages administered during the baseline phase was at approximately the 20th percentile. Given this level of performance, 8th grade passages were utilized throughout the baseline and intervention phases to assess this student’s progress. Student 2 participated in 2 weeks (5 sessions) of baseline data collection and 8 weeks (17 sessions) of intervention implementation.

Visual analysis of the data for Student 2 (see Figure 2) suggests that her reading behavior was variable across the baseline and intervention phases. Both the highest and lowest scores were observed during the intervention phase, with a difference of 80 WCPM between these two scores. Taking into consideration that Student 2’s average score during the intervention phase was 123 WCPM, a range of 80 WCPM is large. PND analysis further suggests that there was not a significant difference in this student's performance between the baseline and intervention phases (PND = 6%; Scruggs et al., 1987). The median of the final three intervention data points (median = 101) was also actually lower than the median of the intervention phase (median = 123), and the ROI remained negative throughout both phases (baseline ROI = -6.40; intervention ROI = -0.12). Effect size calculation further suggests that the intervention was not effective for
this student (NAES = -0.12; Burns & Wagner, 2008).

**Student 3**

Student 3’s instructional reading level was also determined to be at the 8th grade level, as her average performance on three 8th grade CBM-ORF passages during the baseline phase fell at approximately the 20th percentile. Therefore, this student was progress monitored using 8th grade reading passages throughout the baseline and intervention phases. Student 3 participated in 3 weeks (7 sessions) of baseline data collection and 7 weeks (15 sessions) of intervention implementation.

The visual analysis of the data for Student 3 (see Figure 2) suggests that WCPM was higher in the intervention phase in comparison to the baseline phase. The median score in the baseline phase was 131 WCPM and the median of the last three intervention data points was 160 WCPM. PND analysis also indicated that this student's performance was significantly higher in the intervention phase (PND = 93%), suggesting a strong intervention effect (Scruggs et al., 1987). The ROI in the baseline phase was negative (ROI = -1.29), while the ROI in the intervention phase was positive but relatively small (ROI = 0.23). Although the overall ROI in the baseline phase was negative, visual inspection suggests that there was a positive trend in the second half of this phase that appeared to continue after the intervention began. After this initial increase in performance, this student's WCPM appeared to stabilize shortly into the intervention phase without substantial growth after this time. Despite overall increases in level and a significant PND, visual inspection of this student's performance suggests that improvement was not clinically meaningful under the presence of the intervention. A non-significant NAES supports this conclusion (NAES = 1.80; Burns & Wagner, 2008).
Accuracy of Measurement and Procedural Reliability

A treatment integrity checklist was completed by an observer familiar with the HELPS procedures during 29% of intervention sessions. The Implementation Fidelity Checklist and the Implementation Flow Chart included in the HELPS Program materials were used by the observer to record if any of the necessary procedures were omitted by the researcher. This data indicated that the researcher implemented the HELPS Program procedures with 98.4% treatment integrity across the three participants, missing no more than 1 of 12 steps in an intervention session.

In addition to the measures of procedural reliability, reliability of measurement was also monitored through inter-observer agreement of CBM-ORF. During 29% of the intervention sessions, a second school staff person simultaneously scored student performance on CBM-ORF measures; 15 of the 51 total intervention sessions were dually scored by the researcher and another school staff person. Dual scoring resulted in a 98.9% level of inter-rater reliability across the three participants; the lowest inter-rater reliability calculated during any one session was 94%. This level exceeds the 80% threshold for inter-rater reliability established in the literature (Ayres & Ledford, 2014).
Figure 2. Words Read Correct per Minute for All Participants Across Phases
Table 4

*Words Read Correct per Minute*

<table>
<thead>
<tr>
<th></th>
<th>Visual Analyses</th>
<th>Empirical Analyses</th>
<th>Treatment Integrity</th>
<th>Effective</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>Trend/ ROI</td>
<td>Variability</td>
<td>NAES</td>
<td>PND</td>
</tr>
<tr>
<td>Student 1</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>90</td>
<td>-1.50</td>
<td>75-93</td>
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<td>79%</td>
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<tr>
<td>Intervention</td>
<td>126</td>
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<td>78-126</td>
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<td>Student 2</td>
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<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>123</td>
<td>-6.40</td>
<td>105-145</td>
<td>-0.12</td>
<td>6%</td>
</tr>
<tr>
<td>Intervention</td>
<td>101</td>
<td>-0.17</td>
<td>91-171</td>
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<tr>
<td>Student 3</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>131</td>
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<td>116-151</td>
<td>1.80</td>
<td>93%</td>
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<tr>
<td>Intervention</td>
<td>160</td>
<td>0.23</td>
<td>145-167</td>
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</tr>
</tbody>
</table>
Chapter 5

Discussion

The following chapter summarizes each student’s progress while participating in the HELPS Program. Implications for practice, limitations, and needs for future research are discussed. Overall, the HELPS Program was differentially effective in improving students’ reading fluency in this study. Possible challenges in implementing the HELPS program with older students, as well as students in alternative educational placements, is also discussed.

Student 1

Student 1 demonstrated the strongest evidence of improvement in reading fluency in response to the HELPS Program. Visual inspection of the data revealed a higher overall level of performance in the intervention phase in comparison to the baseline phase, and the majority of the intervention data points were higher than the baseline data points. She also showed relatively steady positive growth in the intervention phase, in comparison to a negative rate of growth in the baseline phase. The change in performance between phases was found to be below a benchmark for clinical significance established by Burns & Wagner (2008). However, multiple other forms of analysis suggest that the HELPS Program may have positively impacted this student's reading fluency.

It is important to note that this student's baseline performance was the lowest of the three participants. Her instructional reading level was assessed to be at the 6th grade level while she was in the 8th grade, and she was observed to both read slowly and to make frequent errors. Her errors consisted mostly of word substitutions and mispronunciations. It is possible that her lower baseline skills allowed for more growth throughout the duration of the intervention. Also worth consideration in interpreting this student’s performance is that, anecdotally speaking, she
consistently demonstrated good attention to the instructional tasks and rarely expressed negative emotions. This may have allowed her to fully participate and benefit from the HELPS Program more than the other two students in the study.

Student 2

Student 2 was assessed to be at an 8th grade reading level during the baseline phase, while she was in the 9th grade. Therefore, her reading level was not far behind her actual grade level. She was, however, observed to have some difficulties with her oral expression such as not observing punctuation, and would sometimes mispronounce words.

Throughout this study, Student 2 demonstrated variable reading fluency rates and did not appear to positively respond to the HELPS Program. It is important to note that some degree of variability in performance is expected when utilizing CBM-ORF, as the observed score (i.e., the WCPM on any given CBM passage) is not the same as the true score (i.e., the score that would reflect the student’s true reading abilities); some degree of measurement error will always be present, causing the observed score to diverge from the true score. No exact degree of measurement error in CBM-ORF has been established; however, researchers have calculated estimates ranging from 3 WCPM to 18 WCPM (Christ & Ardoin, 2006; Christ & Silberglitt, 2007; Poncy et al., 2005). Although visual analysis suggests that this student demonstrated a higher degree of variability in her scores in comparison to the other two students, the majority of her scores were within these ranges offered in the literature. The data also revealed that her overall performance actually decreased slightly from the baseline to the intervention phase, following a negative trend throughout both phases, and effect size calculation yielded results that were not clinically meaningful.

Student 2 also presented with the most behavioral difficulties during the HELPS sessions.
Her variable performance throughout the intervention appeared to depend to a certain extent on the context of the instructional session. Specifically, the majority of these sessions were conducted in a vacant classroom with no decorations or objects in the room besides chairs and tables. On a couple occasions, however, the sessions had to be relocated to the interventionist’s office due to the fact that this classroom was not available. It was likely during these sessions that Student 2 struggled to maintain attention to the task under the presence of possibly distracting stimuli, as she often asked questions about objects in the room or would pick up or touch different objects. Frequent redirections were necessary during these sessions. Sessions 8, 9, and 12 were conducted in the interventionist’s office, and Student 2’s performance during these sessions was somewhat lower in comparison to her overall performance (see Figure 2). Additionally, variations in her mood and thought content were observed from one session to the next. For example, on some days she verbalized that she was trying to improve her behavior and performance at school, while on other days she would verbalize that her behavior had been poor and she expressed apathy about making positive changes. It is possible that these fluctuations in mood and behavior may have affected her ability to engage in the instructional activities or to demonstrate her reading abilities to her fullest potential. However, it is difficult to determine the extent to which this is true in the context of expected measurement error.

**Student 3**

Similarly to Student 2, Student 3 was in the 9th grade and began the HELPS Program with baseline reading fluency skills at the 8th grade level. She expressed during the initial instructional session that she viewed herself as a poor reader and that she felt self-conscious at times when requested to read aloud in class. Despite her expressed concerns, Student 3 was observed for the most part to read accurately and clearly.
Student 3 demonstrated increases in her reading fluency rate during this study, although the data does not appear to support a conclusion that the HELPS Program influenced this change in performance. Although her overall performance in the intervention phase was higher than in the baseline phase, a positive trend was noted beginning in the second half of the baseline phase and then plateaued shortly after beginning the intervention. The reasons for this pattern in the data are unknown, although measurement error may have contributed to this variability. One possible hypothesis to consider is that the increases in performance during the baseline phase resulted from practice effects, considering that this student remained in the baseline phase for the longest duration in comparison to the other two students. It is possible that Student 3 may have been deprived of the opportunity to practice oral reading fluency, and that simply having the opportunity to read the easyCBM passages allowed her to practice and improve these skills. Furthermore, a ceiling effect may have occurred. EasyCBM ORF passages only go up to the 8th grade level, so it was not possible to increase the difficulty level to see if Student 3 may have continued to demonstrate progress. It is also important to note that the reward procedure in the intervention phase did not seem to affect this student’s performance. Although she demonstrated some improvements in her WCPM during the first 3 intervention sessions, her first reward was not earned until the fifth session; her second reward was earned at the tenth session. No meaningful pattern in the data was observed on or around these points in time, suggesting that intensifying the reward procedure may not have helped.

Student 3 also presented with some behavioral characteristics that may have affected her ability to fully participate in the HELPS Program. She often began the sessions by sharing with the interventionist intimate details of conflicts or setbacks that she was experiencing. At times she would become quite emotional (e.g., verbally expressing anger; crying), and the
interventionist had to put aside the HELPS materials and shift the focus to address these behaviors. Once she began engaging in the HELPS procedure, however, she generally was able to demonstrate appropriate attention and engagement with the activities.

**Summary of Results**

Overall, the HELPS Program was found to have possible positive effects on reading fluency skills for only one of the three students who participated in this study. Some other factors may have affected the data, such as practice effects, a ceiling effect, individual student emotional/behavioral characteristics, and measurement error. Given these results, the current study does not provide strong evidence that the HELPS Program can be generalized to an older population of students attending an alternative education program.

**Relationship to Previous Research**

The goal of the current study was to evaluate the effectiveness of the HELPS Program when used with older students (grades 8-9) attending an alternative learning program for which reading fluency is an appropriate instructional goal. A number of previous studies have demonstrated positive effects of the HELPS Program when used with younger students (Begeny et al., 2010; Begeny, 2011; Begeny et al., 2011). However, this is the first study that has investigated the use of the HELPS Program specifically with older student attending an alternative learning program.

Only one previous study utilized this program with older students. Malouf et al. (2014) found that the HELPS Program had an overall positive effect on reading fluency when used with two 12-year-old students. The current study is similar to Malouf et al. (2014) in that both studies utilized a single-subject design methodology to observe how the HELPS Program effects reading fluency rates as measured by a curriculum-based measure of reading. However, the results of
Malouf et al. (2014) must be interpreted with caution due to some methodological concerns. Specifically, although improvements were noted in both of the student's reading fluency as measured by the HELPS progress monitoring measures, the HELPS progress monitoring measures do not establish specific reading difficulty levels and increase in difficulty as students progress through the program (Begeny, 2009), leading to changes in the dependent variable throughout the study. The current study attempted to avoid this confounding variable through measuring student progress using passages at a consistent level of difficulty throughout the baseline and intervention phases.

In addition to the issue with the measurement tools used by Malouf et al. (2014), the methodological approach used also limits the conclusions that can be drawn from that study. Malouf et al. (2014) utilized a single-subject A-B design, which involves comparing data collected during a baseline phase prior to the introduction of the intervention to data collected while the intervention is administered. This approach does not establish adequate experimental control, which makes it difficult to determine if any changes that occurred were the result of the intervention and not the result of other extraneous variables (Gast & Baekey, 2014). The current study, however, utilized a single-subject multiple-baseline design, which provided increased experimental control and therefore the ability to draw stronger conclusions about the impact of the intervention (Ayres & Ledford, 2014).

Although limited research has studied the impact of the HELPS Program specifically with older students, other research has demonstrated support for some of the isolated instructional strategies included in the HELPS Program when used with older students. For example, repeated reading, which is a foundational component of the HELPS Program, has been found to be an effective strategy for improving reading fluency in students through 9th grade
(NICHD, 2000). Prompts to read fluently, which is another component of the HELPS Program, has also been found to be effective for increasing reading fluency when used with students in the 7th grade (Allinder et al., 2001). The use of combined instructional techniques has also produced positive results with older populations. For example, Mercer et al. (2000) found that combining phonics, practice with high-frequency word recognition, repeated readings, systematic error-correction, graphing of student progress, and performance feedback positively impacted reading fluency in a middle school population. The results of the current study do not appear to support the hypothesis that the HELPS Program is an effective intervention for improving reading fluency skills in older students attending an alternative education program, and therefore other approaches with a stronger evidence base should be considered for use with this population at this time.

**Implications for Practice**

Reading is an essential skill for success in both school and in life. As students progress through school, reading becomes an increasingly important mode through which learning in general occurs. Reading is also an important skill in many careers, and written speech is encountered in numerous other facets of life. Dysfluent reading, in which individuals read more slowly and/or less accurately, can therefore significantly affect one’s ability to be successful in many different aspects of their lives. The HELPS Program provides a cost-effective and easily accessible option for educators, the implementation time is relatively brief (approximately 10-minute sessions three times weekly), and the comprehensive and structured instructional materials make it easy to use by school staff from different backgrounds (e.g., regular education teachers, special education teachers, teacher assistants, reading specialists, or school volunteers). Given these characteristics and the research support for its effectiveness, the HELPS Program
may be a viable option for students who could benefit from a reading fluency intervention.

Considering that the HELPS Program is designed for use with students in grades 1-4 attending a typical school environment, it is important to address the appropriateness of this program for older students, including those with emotional and behavioral difficulties attending an alternative education program, as well as how it may need to be adapted for use with this population. The differences in age, emotional/behavioral functioning, and type of school setting must all be considered.

Begeny (2009) provides some recommendations in the HELPS manual for modifying this program for use with older students, including evaluating the age-appropriateness of each passage, considering whether the Star Chart or another motivational system would be most appropriate, establishing reading goals 20-30 WCPM above the average score student’s obtain during the program placement procedure rather than relying on the grade-based (grades 1-4) goals offered, modifying the instructional materials to reflect the student’s grade level and individualized reading goal, and explaining to students the importance of repeated readings. Beyond individualizing the instructional materials, scheduling HELPS sessions is a challenge that may need to be considered when using this program both with older students and with students attending an alternative education program. High school students must earn credits toward graduation, and therefore losing instructional time from courses is undesirable. This may be further complicated when the HELPS Program is implemented with a student population with high needs who may already have to lose instructional time for other related services appointments. For example, one of the students in the current study requested to meet after school to avoid missing her classes, which the interventionist was able to accommodate.

Some procedural modifications may be necessary as well. Based on observations from
the current study, modifying the motivational system and stressing the importance of repeated readings appeared to be the most important modifications for use with an older student population. Although it may be sufficient to offer younger students small trinkets such as plastic jewelry, pencils, erasers, stickers, or bubbles, older students may not be interested in or motivated by these types of rewards. In the current study, students were asked what types of small rewards (i.e., maximum $3) they would like, and requests mostly included snacks and/or some other miscellaneous items like small toiletries. It may be helpful to conduct an informal preference assessment prior to the initiation of the HELPS Program to maximize student motivation to engage in the intervention activities. The goal setting and performance feedback components of the HELPS Program were observed to be highly motivating to the students, as students often expressed a desire to see their progress toward their reading goals and their progress toward earning rewards at the end of instructional sessions. The students also seemed to become easily frustrated when asked to repeatedly read passages, but reminding them that this practice helps students improve their reading appeared to help them see the value in this practice.

It is likely that the observed importance of the motivational component of the HELPS Program is also a function of the fact that these students have significant emotional and behavioral difficulties that may make it more difficult for them to engage in academic instruction generally. Consequently, more frequent, individualized rewards may be needed to increase motivation in this population. An important variable to consider in choosing rewards for students attending an alternative learning program is the regulations of that program to protect student safety. For example, self-harming is a concern for many of the students at the program in which the current study took place. Therefore, some common objects that may be allowed in a typical school setting, such as spiral notebooks, are not allowed. Depending on the
characteristics of the particular alternative education program, rewards provided as part of the HELPS Program may be more reinforcing than they would be in a typical school setting given the increased restrictions on what possessions students can have. Individualized rewards may have a higher value for students in this type of environment where such objects are not as readily accessible.

In addition to considering scheduling difficulties and making modifications to the motivational component of the HELPS Program, some other changes may need to be made when using this program with students with significant emotional and behavioral difficulties. While it is assumed that much of the HELPS instructional sessions are focused on reading, when implementing this program with students in this population some of the focus will likely need to be directed to maintaining their emotional/behavioral well-being during the intervention. In the current study, students often confided in the interventionist about serious issues occurring in their lives or would display inappropriate behaviors that likely reflected situational stress or mental health problems. The content of certain passages may be problematic for some students in this population as well, as one of the students reported that she felt emotionally “triggered” by the name of one of the main characters because she associated this name with a traumatic experiences she had in the past.

**Limitations and Needs for Future Research**

The research design utilized in this study has many advantages; however, some limitations exist as well. Although single-subject design relies on the self to provide experimental control and visual analysis and effect size calculation can provide valuable information about causality, group research designs may allow for increased generalizability due to larger number of participants and alternative forms of analysis can be utilized to assess
intervention effectiveness (e.g., t-tests, ANOVAs). Given that the current study raises questions about the effectiveness of the HELPS Program for older students with emotional and behavioral difficulties, however, it may not be appropriate at this time to extend this research to a group design. Replication of the current study using single-subject methodology may provide additional information about the effectiveness of the HELPS Program with this population.

In future studies, some modifications to the current study may help to clarify the effectiveness of the HELPS Program with older students attending an alternative education program. Using a different CBM program with ORF passages that extend beyond the 8th grade may help to rule out a ceiling effect for students reading at a higher baseline level. When a ceiling effect is suspected, the CBM progress monitoring level could be increased to determine if further progress may be observed. Additionally, the dosage of the intervention could be increased to see if this variable may promote gains in reading fluency. Scheduling at the secondary level can be challenging given that students need to earn credits toward graduation, and students with special needs may have other related services appointments during the school day as well. Therefore, these factors should be considered in making decisions about increasing the dosage. Formalizing the informal preference assessment that was utilized in the current study to determine what rewards to provide for each student may also help to maximize student engagement with the instructional tasks. With regards to rewards, initially testing students’ ORF performance with and without the presence of rewards may provide some additional information about whether students are presenting with a skill deficit or a performance deficit. Those students with a skill deficit would be expected to perform similarly with or without rewards, while those students with a performance deficit may improve their performance in response to rewards.
Conclusion

The results of this study did not appear to support the hypothesis that the HELPS Program is an effective intervention for increasing oral reading fluency performance in an older student population attending an alternative education program. Moderately positive results were observed for only one of the three student participants. Reading fluency is an invaluable skill that is related to overall reading competence (Daane et al., 2005; McGlicney & Hixson, 2004), and reading competence benefits students in all other academic areas as well as in life after school. Although most students learn to read fluently in the early grades, some do not. Therefore, evidence-based approaches, such as the HELPS Program, must be available for use with older students.

Older students with reading delays may attend a number of different types of educational institutions, including alternative education programs serving students with emotional and behavioral difficulties. The mixed results of the current study indicate that other factors may need to be taken into consideration when assessing the appropriateness of the HELPS Program for students in this population, such as their specific emotional/behavioral characteristics and needs. As such, the current study is cautionary: the HELPS Program may be an adequate support for adolescent students with concurrent reading issues and emotional/behavioral problems, but many questions remain. The problem-solving model will need to be applied so that non-responsiveness among students is identified quickly. Other aspects of the program may need to be modified on an individual and institutional basis as well. Future research may help to clarify the effectiveness of the HELPS Program with this population, as well as with older students generally who exhibit below grade-level performance in reading fluency.
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Appendix A: HELPS Program Scripted Directions

HELPS One-on-One Program: Scripted Directions

Introductory statements and expectations (includes Verbal Cuing Procedure):

<Student Name>, you’re going to be doing some reading with me today. As you read, I want you to do your best reading. This means I want you to read as quickly as you can without making mistakes, and try to read with good expression (like I do when I read to you). I also want you to remember what happens in the story and try to remember the difficult words that we practice.

Directions to administer before a Timed Reading (as part of the Repeated Reading Procedure):
1. Place the teacher copy of the reading passage in front of you but shielded so the student cannot see what you record. The teacher copy of each passage contains word counts at the end of each line.
2. Place the student copy of the reading passage in front of the student, but cover the beginning portion of the passage until you are ready for step 4 below. (Do this so the student does not begin reading while you provide directions).
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. Score the student’s WCPM and WIPM according to the Timed Reading Scoring Rules (see HELPS Teacher Manual).
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 you read).
8. Remove both copies of the reading passage.

Directions for administering Retell Check Procedure:
1. Remove the student passage in a way to ensure student cannot review the passage during the Retell Check.
2. 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.”
3. Start your stopwatch and stop the retell activity in 30-45 seconds. Use prompts or follow-up questions as appropriate.
4. 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 Error Correction Procedure:
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 words>. 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. (Teachers want students to read, rather than recite).
3. Repeat the above procedure for all unique error words in the passage (up to 5 or until time permits).
   a. If a student makes 1 or fewer errors, practice 1-3 phrases the student read less fluently. Use the procedures above, except the student should be told “Now we are going to practice some words you read correctly, but they are difficult and we should practice them.”
4. Praise the student for every two to three sets of phrase-drills.

Directions for teacher to read passage aloud (Modeling Procedure):
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 read them. Sometimes I will stop reading to make sure you are following along. When I stop, you need to tell me the next word in the story. If you read the correct word, this will show me you are reading along with me and doing your best.”
2. Read the passage at a comfortable reading rate and with good expression for approximately 1.5 minutes or until you read the entire passage. Make sure the student is following along with his/her finger and prompt the student to do this, if necessary.
3. While reading the passage, stop 5-7 times in order to have the student read the word that immediately follows the word you stopped at.
4. At the end of the activity, praise the student for his/her effort (as applicable).
Appendix B: HELPS Program Tips and Reminders for Implementation

HELPS One-on-One Program: Tips and Reminders for Implementation

The tips and reminders listed below were developed over four years of systematically observing teachers implement the HELPS Program; they therefore represent a thorough list of rules and reminders that should assist teachers with implementing the HELPS Program effectively. The tips and reminders not only represent “best practice” for implementing the HELPS Program, but they also include important reminders about procedures teachers sometimes forget when they are first learning how to implement HELPS with their students. As a teacher is learning to accurately implement the primary HELPS procedures (i.e., those described in the Implementation Protocol and Scripted Directions), the tips and reminders should be regularly reviewed and implemented (as best possible) with the primary procedures. Depending on the intensity of training with the HELPS Program, a teacher may need to implement HELPS for at least 10-20 sessions before he/she can consistently implement all primary HELPS procedures and all the tips and reminders. However, it should be emphasized that the tips and reminders are not “optional.” Successful use of the HELPS Program requires implementation of all primary procedures, as well as the procedures listed below.

General Implementation Procedure

☐ Have the following materials available and organized before starting the session: (1) stop watch, (2) examiner passage, (3) student passage, (4) dry-erase marker, (5) pencil, (6) student’s graph, (7) student’s Progress Tracking Form, (8) student’s Star Chart, (9) Bonus Bag, (10) Implementation Flow Chart, and (11) Scripted Directions. Also, (12) the prize box should be in close proximity.

☐ Use the Scripted Directions or Abbreviated Directions as advised at the top of the Abbreviated Directions.

Repeated Reading Procedure

☐ After the student completes each oral reading, indicate on the examiner passage (with a bracket) the number of words read in one minute.

When recording all student readings with a dry-erase marker (and before transferring the scores to the Progress Tracking Form), be sure to:

☐ Put the appropriate number (i.e., 1, 2, or 3) next to the one-minute bracket.

☐ Mark student errors differently during each reading (e.g., first reading = slash, second reading = underline, third reading = circle).

Retell Check Procedure

☐ Throughout the Retell Check, make sure the student cannot review the passage. Thus, before prompting the student to begin the Retell Check, make sure the passage is out of sight.

☐ Use follow-up questions to solicit the student’s retell only if the student was unable to retell the passage for approximately 30 seconds.

☐ Implement the Retell Check for no more than 45 seconds unless a decision was made by the student’s primary teacher to lengthen the Retell Check.

Goal Setting Procedure

☐ When determining whether the student meets the Reading Goal, be sure to look at the WCPM, WIPM, and Retell Check criteria. Remember that the WCPM criterion differs depending on the student’s grade level.

Phrase-Drill Error Correction Procedure

☐ Ask the student to practice “logical” phrases. For instance, suppose the student incorrectly read the word “staying” in the following sentence: “Dad said we will be staying right near the dock.” A logical phrase the student could practice is, “we will be staying,” or “staying right near the dock.” A poor example of a phrase would be, “be staying right,” “be staying,” or “will be staying right.”

☐ Tell the student to “READ” the phrases; do not ask the student to “SAY” or “REPEAT” phrases.

☐ Point to (or have the student point) to each word practiced.

☐ If the student makes 1 or fewer errors, have the student practice 1-3 phrases that were read less fluently.

☐ If the student practiced words that were read correctly but less fluently (see above reminder), be sure to explain to the student that he/she read the words correctly, but he/she will practice them because they are difficult.
Modeling Procedure
☐ Read aloud at a pace just a little faster than the student’s reading ability.
☐ Read with good expression. Remember that you are modeling the type of expression you want the student to develop when reading aloud.
☐ Read at a volume the student can clearly hear.
☐ Pause 5-7 times to have student read the next word in the passage. Not only does this procedure ensure the student is on-task and paying attention, but it also helps to ensure you are not reading aloud too quickly.

Performance Feedback (Graphing) Procedure
☐ While graphing, give verbal feedback and praise regarding the student’s WCPM and WIPM scores.
☐ Graph WCPM and WIPM on 2 or 3 readings (3 if the Goal was met; 2 if the Goal was not met).
☐ Circle the data point and session number when the student begins a new passage.
☐ Connect lines between WCPM (and WIPM) scores only for scores of the same passage.

Motivational (Reward) Procedure
☐ When awarding stars on the Star Chart, remember to accurately tell the student why he/she earned each star (e.g., “you earned one star for meeting your reading goal, and when practicing the new story, you earned another star for improving the number of words you read correctly”).
☐ 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 praise the student for specific reading behaviors or improvements at the end of the session.
☐ Provide a minimum of five different praise statements regardless of the student’s reading behavior. A primary goal of the HELPS Program is for students to experience a lot of positive feedback about their reading.
☐ If the student landed on OR passed a shaded square on Star Chart, allow the student to select a ticket from the bonus bag and correctly record the bonus stars written on the ticket.
☐ Convey to the student that improved reading skills, rather than the opportunity to earn stars/prizes, is the primary reason that he/she should put forth effort during each HELPS session. It is okay if the student likes earning rewards as part of his/her performance with the HELPS Program, but you should always emphasize for the student the importance of learning reading skills. You should not highlight a student’s success with HELPS only because he/she earns stars or prizes.

Using the Progress Tracking Form
☐ After finishing the session, complete the Progress Tracking Form before erasing data from the examiner passage.
☐ Record 2 or 3 sets of WCPM/WIPM scores on the Progress Tracking Form, as determined by whether the student met his/her Reading Goal on passage A (3 sets of scores are recorded if Goal was met; 2 sets of scores are recorded if Goal was not met).
☐ As needed, remember to record relevant information in the Notes column of the Progress Tracking Form (e.g., student difficulties with Retell Check, behavior problems, attention difficulties, etc.).
☐ Review the procedural protocol at the end of the session and correctly record the number of procedural steps implemented incorrectly (or forgotten completely) in the “# of Steps Forgotten” column.
Appendix C: HELPS Program Summary of Timed Reading Score Rules

Summary of Timed Reading Scoring Rules

While a student reads a passage aloud, the teacher is expected to mark on the teacher passage all WIPM. The following indicates how teachers should mark WIPM during the three different Timed Readings: Reading 1 (mark WIPM with a diagonal slash); Reading 2 (mark WIPM with an underline); Reading 3: (mark WIPM with a circle around the word). At exactly one minute, the teacher should draw a bracket (i.e., [ ) just after the last word read. The teacher then subtracts all WIPM from the TWR to get the WCPM score. For example, if the student scored: TWR = 88 and WIPM = 3, the student’s WCPM for that reading would be 85 (i.e., 88 – 3 = 85).

(Part A) The following should be scored as a WIPM:
1. **Mipronounced Words**.
2. **Substituted Words**.
3. **Omitted Words**.
4. **Reversals**. When a student reverses (i.e., transposes) the words in a passage, this is counted as one error as long as the transposed words were read correctly.
5. **Adding or omitting endings (e.g., -ed, -ing, -s) to words**.
6. **Hesitations**. If a student struggles on a word for more than 3 seconds (even if trying to sound out the word), the teacher should provide the word after 3 seconds and mark the word as an error.

(Part B) The following should be scored as a WCPM:
1. **Words Pronounced Correctly**.
2. **Self-Corrected Words**.
3. **Repeated Words**.
4. **Mipronounced Words because of Dialect**.
5. **Inserted Words**.

(Part C) Unique Scoring Rules:
1. **Omitted Lines or Multiple Words within a Line are not scored as errors**, but they should always be deducted from the student’s number of Total Words Read (TWR) per minute.
2. **Numbers Written As Numerals**. Numbers are counted as words and must be read correctly within the context of the passage.
3. **Hyphenated Words that can stand Alone**. Each morpheme separated by a hyphen counts as an individual word if it can stand alone. For example, “Go-karts” is scored as 2 WCPM.
4. **Hyphenated Words that cannot stand Alone**. If one or more morphemes are separated by a hyphen, but the morpheme cannot stand alone as an individual word, the hyphenated word should be counted as one word. For example, “Non-productive” should be counted as 1 WCPM.
5. **Abbreviations are counted as words**, and must be read correctly within the context of the sentence.

As needed, teachers should also refer to the Additional Tips for Implementation and Top 10 Most Common Administration Mistakes that are listed in the HELPS Program Teacher’s Manual.
### Appendix D: Example of HELPS Progress Tracking Form

#### Example of Progress Tracking Form with Student Information

**HELPS One-on-One Program: Progress Tracking Form**

<table>
<thead>
<tr>
<th>Session #</th>
<th>Teacher Name</th>
<th>Day &amp; Date</th>
<th>1st story read</th>
<th>100 WCPM on 1st reading of passage A?</th>
<th>Student passes Retell Check (Y or N)*</th>
<th>WCPM/ WIPM Timed Reading #1</th>
<th>WCPM/ WIPM Timed Reading #3</th>
<th>WCPM/ WIPM Timed Reading #1</th>
<th>WCPM/ WIPM Timed Reading #3</th>
<th>Last story read</th>
<th># of Steps Forgotten</th>
<th>Student Notes and/or Steps Forgotten (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Smith</td>
<td>W-9/16</td>
<td>1</td>
<td>N</td>
<td>N</td>
<td>71/5</td>
<td>90/4</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Smith</td>
<td>F-9/18</td>
<td>1</td>
<td>N</td>
<td>Y</td>
<td>91/3</td>
<td>98/0</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Jones</td>
<td>M-9/21</td>
<td>1</td>
<td>Y</td>
<td>Y</td>
<td>107/1</td>
<td>82/5</td>
<td>94/3</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Smith</td>
<td>W-9/23</td>
<td>2</td>
<td>N</td>
<td>Y</td>
<td>98/4</td>
<td>115/0</td>
<td>2</td>
<td>1</td>
<td></td>
<td><strong>Forgot step 8B</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Smith</td>
<td>F-9/25</td>
<td>2</td>
<td>Y</td>
<td>Y</td>
<td>110/2</td>
<td>70/6</td>
<td>72/3</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Smith</td>
<td>M-9/28</td>
<td>3</td>
<td>N</td>
<td>Y</td>
<td>75/2</td>
<td>88/2</td>
<td>3</td>
<td>0</td>
<td></td>
<td><strong>Student seemed distracted at times</strong></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Jones</td>
<td>W-9/30</td>
<td>3</td>
<td>N</td>
<td>Y</td>
<td>86/2</td>
<td>91/0</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Jones</td>
<td>F-10/2</td>
<td>3</td>
<td>N</td>
<td>Y</td>
<td>95/1</td>
<td>76/4</td>
<td>85/2</td>
<td>4</td>
<td>0</td>
<td><strong>Student was moved to Prg 4 b/c stayed on Prg 3 for three sessions</strong></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13</td>
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</tbody>
</table>

* When a student does not meet his/her Reading Goal, review the Teacher’s Manual (pages 56-63) to determine whether procedural modifications are needed.
Appendix E: Example Graph of Student Progress in the HELPS Program

NAME: William

Notes: Circle Timed Reading # and first WCPM score each time student begins a new passage. Write date below first Timed Reading of the day. (Mark WCPM with dot; Mark WIPM with X) Only connect dots and Xs for readings of the same passage.
Appendix F: HELPS Program Placement Assessment Instructions

HELPS Program Placement Assessment Instructions (Appendix 5 : 125)

Note: WCPM = words read correctly per minute. WIPM = words read incorrectly per minute. When obtaining these scores as part of the placement assessment procedures, the instructor uses the CBM oral reading fluency assessment procedures described previously.

General Instructions
- Administer assessment passages (2 per level) until the appropriate starting point is determined. The starting point is determined when a student's average WCPM and WIPM score (obtained from the two passages administered at a given level) is within the following target scores:

<table>
<thead>
<tr>
<th>Student's Grade</th>
<th>Target WCPM</th>
<th>Target WIPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>50-60</td>
<td>5 or less</td>
</tr>
<tr>
<td>Second</td>
<td>70-80</td>
<td>3 or less</td>
</tr>
<tr>
<td>Third</td>
<td>90-100</td>
<td>3 or less</td>
</tr>
<tr>
<td>Fourth</td>
<td>105-115</td>
<td>3 or less</td>
</tr>
</tbody>
</table>

Procedures
- Start by administering Level 1 passages (4 and 8) and determine if the student’s average WCPM and WIPM scores are below, within, or above the target scores listed in the Criteria Table above. (Note: a student’s WIPM score is considered below the target if the score exceeds the error limit listed).
- If the student’s scores are below the criteria, start the HELPS Program with HELPS Passage 1. If the student’s scores are above the criteria, administer the Level 2 passages (23 and 27) and again determine whether the student’s average WCPM and WIPM scores are below, within, or above the target scores in the Criteria Table. Note, the term Level is simply used for procedural description. Level does not reflect a student’s grade or ability level.
- Continue this process until the student’s scores are within the target scores in the Criteria Table. Once the student scores within the target criteria, discontinue the placement assessment and begin at the specified starting point. Use the Table below for specific decision-making about where to start a student in the HELPS program and when to proceed with the placement assessment.

<table>
<thead>
<tr>
<th>Passages Administered for:</th>
<th>Student’s score is below target criteria</th>
<th>Student’s score is within the target criteria</th>
<th>Student’s score exceeds the target criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 (passes 4 &amp; 8)</td>
<td>Start student at passage 1</td>
<td>Start student at passage 5</td>
<td>Administer Level 2 passages</td>
</tr>
<tr>
<td>Level 2 (passes 23 &amp; 27)</td>
<td>Start student at passage 5</td>
<td>Start student at passage 25</td>
<td>Administer Level 3 passages</td>
</tr>
<tr>
<td>Level 3 (passes 45 &amp; 52)</td>
<td>Start student at passage 25</td>
<td>Start student at passage 50</td>
<td>Administer Level 4 passages</td>
</tr>
<tr>
<td>Level 4 (passes 64 &amp; 67)</td>
<td>Start student at passage 50</td>
<td>Start student at passage 65</td>
<td>Administer Level 5 passages</td>
</tr>
<tr>
<td>Level 5 (passes 79 &amp; 80)</td>
<td>Start student at passage 65</td>
<td>Start student at passage 75</td>
<td>Start student at passage 75*</td>
</tr>
</tbody>
</table>

* If a student exceeds the target criteria with Level 5 passages, the instructor may choose to re-evaluate whether the student is likely to benefit from the HELPS Program. In some cases the student may still benefit from the program, but in other cases the student may benefit from a reading program that specifically targets a skill other than reading fluency.
Appendix G: HELPS Program Placement Assessment Recording Form and Decision-Making Tables

HELPS Program Placement Assessment Recording Form and Decision-Making Tables

Student's Name: ___________________________  Student's Grade: __________

Scores from Placement Assessment

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage 1</td>
<td>4</td>
<td>4</td>
<td>23</td>
<td>23</td>
<td>45</td>
</tr>
<tr>
<td>Passage 2</td>
<td>8</td>
<td>8</td>
<td>27</td>
<td>27</td>
<td>52</td>
</tr>
<tr>
<td>Average Level Score</td>
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<td></td>
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<td>80</td>
</tr>
</tbody>
</table>

Based upon the above scores and the tables below, this student will begin the HELPS Program at passage number: __________

Starting Point Criteria Table

<table>
<thead>
<tr>
<th>Student's Grade</th>
<th>Target WCPM</th>
<th>Target WIPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>50-60 WCPM</td>
<td>5 or less</td>
</tr>
<tr>
<td>Second</td>
<td>70-80 WCPM</td>
<td>3 or less</td>
</tr>
<tr>
<td>Third</td>
<td>90-100 WCPM</td>
<td>3 or less</td>
</tr>
<tr>
<td>Fourth</td>
<td>105-115 WCPM</td>
<td>3 or less</td>
</tr>
</tbody>
</table>

Decision Table for Placement Assessment

<table>
<thead>
<tr>
<th>Passages Administered for:</th>
<th>Student's score is below target criteria</th>
<th>Student's score is within the target criteria</th>
<th>Student's score exceeds the target criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 (passages 4 &amp; 8)</td>
<td>Start student at passage 1</td>
<td>Start student at passage 5</td>
<td>Administer Level 2 passages</td>
</tr>
<tr>
<td>Level 2 (passages 23 &amp; 27)</td>
<td>Start student at passage 5</td>
<td>Start student at passage 25</td>
<td>Administer Level 3 passages</td>
</tr>
<tr>
<td>Level 3 (passages 45 &amp; 52)</td>
<td>Start student at passage 25</td>
<td>Start student at passage 50</td>
<td>Administer Level 4 passages</td>
</tr>
<tr>
<td>Level 4 (passages 64 &amp; 67)</td>
<td>Start student at passage 50</td>
<td>Start student at passage 65</td>
<td>Administer Level 5 passages</td>
</tr>
<tr>
<td>Level 5 (passages 79 &amp; 80)</td>
<td>Start student at passage 65</td>
<td>Start student at passage 75</td>
<td>Start student at passage 75*</td>
</tr>
</tbody>
</table>

*If a student exceeds the target criteria with Level 5 passages, the instructor may choose to re-evaluate whether the student is likely to benefit from the HELPS Program. In some cases the student may still benefit from the program, but in other cases the student may benefit from a reading program that specifically targets a skill other than reading fluency.
## HELPS Program Implementation Integrity Recording Form

Observer Name: ____________________  School and School Year: ____________________

<table>
<thead>
<tr>
<th>Observation Number and Date</th>
<th>Teacher’s Name</th>
<th>Number of Steps Completed Accurately</th>
<th>If Student Did Not Meet Goal Steps 1-12b</th>
<th>Write the corresponding # (e.g., 8b) for any step not completed with 100% accuracy. Write additional notes as needed.</th>
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</thead>
<tbody>
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Appendix I: Sample HELPS Instructional Reading Passage

Teacher Copy

My Favorite Teacher
My favorite teacher is Ms. Greene. She teaches science. Every day when we go to class, I learn something new because she makes learning fun.

In class we read our books aloud, but Ms. Greene makes each student use a funny voice and pretend to be a scientist. When we are through reading, we talk about everything we read so that Ms. Greene knows we were listening and paying attention. But, the best part is what happens next. After we finish talking, Ms. Greene always has something fun for us to do. The fun activities usually help us remember more of what we have learned.

Last week, when we learned about air, Ms. Greene gave us all plastic soda bottles with balloons attached to them. When we tried to blow up the balloon inside of the bottle, it would not inflate. She said that even though we could not see it, the bottle was full of air. This is why we could not make the balloons inflate using the soda bottle. Ms. Greene is really smart and really fun.

Reading 1 (slash errors)
Total words read per minute: _____
Words incorrect per minute (WIPM): _____ *
Words correct per minute (WCPM): _____ *

Reading 2 (underline errors)
Total words read per minute: _____
Words incorrect per minute (WIPM): _____
Words correct per minute (WCPM): _____

Reading 3 (circle errors)
Total words read per minute: _____
Words incorrect per minute (WIPM): _____ *
Words correct per minute (WCPM): _____ *

*Record score on student’s Progress Tracking Form
My Favorite Teacher

My favorite teacher is Ms. Greene. She teaches science. Every day when we go to class, I learn something new because she makes learning fun.

In class we read our books aloud, but Ms. Greene makes each student use a funny voice and pretend to be a scientist. When we are through reading, we talk about everything we read so that Ms. Greene knows we were listening and paying attention. But, the best part is what happens next. After we finish talking, Ms. Greene always has something fun for us to do. The fun activities usually help us remember more of what we have learned.

Last week, when we learned about air, Ms. Greene gave us all plastic soda bottles with balloons attached to them. When we tried to blow up the balloon inside of the bottle, it would not inflate. She said that even though we could not see it, the bottle was full of air. This is why we could not make the balloons inflate using the soda bottle. Ms. Greene is really smart and really fun.