

**Investigating the Impact of
Adapted Whole Class Fluency Development Lessons
in Upper Elementary**

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Abstract

This project presents results of whole class Fluency Development Lessons (FDL) in four upper elementary classrooms on fluency and reading comprehension. Findings provide insight into the ways in which the various components of FDL (repeated reading, prosodic reading, teacher modeling, explicit instruction of comprehension strategies and time with texts of age-appropriate complexity) can be effectively and flexibly integrated into whole class instruction. The results of this project help education practitioners be aware of the potential of FDL as a Tier 1 (whole class) component of instruction, rather than in its previous uses as a Tier 3 ('pull-out') remedial strategy. The intervention involved 20-30 minutes a day of FDL for four to five days per week for a period of 15 weeks. Four classroom teachers carried out the intervention with data collected for 67 students in grades four through seven. A pre- to post-test design was used to measure text-level fluency, prosodic fluency, and reading comprehension. Results showed improvements in reading comprehension for all students, with the greatest gains noted for the students whom we often refer to as struggling or striving readers, including those with LDs. All students improved in their prosodic fluency. Results of text-level fluency were inconclusive. The project showed that FDL was an effective teaching component of whole class literacy instruction. It provides teachers with a structure for modeling fluent reading and time for students to practice prosodic reading and skills for reading comprehension. FDL gives all students, regardless of reading ability, the opportunity to improve their reading skills. Given the range in reading development of our upper elementary students, FDL can be viewed as one instructional component towards equity in an inclusive classroom.

Keywords: reading comprehension, fluency, prosody, upper elementary, Fluency Development Lesson, repeated reading, Grades 4-7, whole class, intervention, Tier 1

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Investigating the Impact of Adapted Whole Class FDL in Upper Elementary

Allington (1983) raised the alarm about fluency being a neglected element of reading instruction. However, it was not until the publication of the Report of the National Reading Panel (National Institute of Child Health & Human Development, 2000), that fluency, the ability to read with accuracy and proper speed and expression, was named as one of the “big five” areas of reading. This renewed interest in investigating how to improve students’ fluency, the efficacy of types of fluency interventions, and the link between fluency and reading comprehension is the general subject of this investigation in upper elementary (grades four through seven) classrooms.

Fluency Development Lesson

Rasinski theorizes that the development of text-level fluency supports reading comprehension (Rasinski, 2014; Rasinski et al., 1994; Rasinski et al., 2009; Rasinski et al., 2016; Rasinski et al., 2017). Rasinski et al. (1994) created an intensive intervention, the Fluency Development Lesson (FDL), to remediate students’ disfluency. Studies in FDL have reported significant gains in both fluency and reading comprehension, the ability to make meaning from what is read (Di Salle & Rasinski, 2017; Rasinski et al., 2017; Rasinski et al., 2020; Zimmerman et al., 2013 & Zimmerman et al., 2019). The model, an intensive 20- to 30-minute Fluency Development Lesson, was designed for small groups of struggling early elementary (grades one through three) readers. It begins with the facilitator modeling fluent reading and discussing any unknown words in a short piece of text. Students then engage in choral reading with the facilitator, as well as assisted partner reading with a peer. Intermixed with these repeated readings, the facilitator leads the small group in vocabulary and reading comprehension activities. The lesson culminates with the students performing the text for an audience, reading or

reciting the text aloud with expression. Since the text is read aloud and/or performed, FDL focuses not only on accurate reading at an appropriate rate, but also phrasing and expression.

FDL is intensive, both in the amount of time readers are engaged in the fluency practice and in the ratio of students to facilitator. Since so many students enter upper elementary in grade four without achieving reading proficiency, it would be difficult to implement FDL in its intensive ‘pull out’ or clinical format to remediate reading difficulties for all students. This project will explore the ways that FDL impacts both fluency and reading comprehension in upper elementary, not as an intensive ‘pull-out’ intervention only for struggling readers, but as a whole class instructional activity.

Chapter 2 Literature Review

To give background and context for my study, a discussion of the need for literacy intervention in upper elementary is first provided. It is followed by a review of the research on the relationship between fluency and reading comprehension, the different types of fluency (word-, text-, and prosodic-levels, respectively), and concludes with the particular type of fluency instruction at the heart of this project, the Fluency Development Lesson model (Rasinski et al., 1994).

The Need for Interventions in Upper Elementary

Children begin school with different levels of the required foundational skills that are predictive of later literacy growth in reading, including alphabet knowledge, phonological awareness, phonological memory (i.e. temporary storage of letter to sound coding information), and the ability to easily retrieve this information, quickly and without effort (National Early Literacy Panel, 2008). The ramifications of potential deficits in this area can be extraordinary, as many students begin school already behind and, as they move up through the grades, the gap

between students who attain competence in reading and those who struggle often widens; students who enter school with ‘rich’ foundational skills become stronger and stronger readers, while those with ‘poor’ skills fall further and further behind (Hirsch, 2003; Pfof, 2014; Stanovich, 1986). These reading deficits can be further compounded by the volume of reading done by students. Anderson et al. (1988) reported inequity when comparing the volume of reading done by 155 fifth-grade students outside of school. They found that a student in the 10th percentile of reading ability might read the same number of words in a year than their peer in the 90th percentile reads in two days. It makes sense that readers who struggle to read will not seek out more opportunities to read and, as a result, will be able to recognize fewer words automatically than their peers (Torgeson & Hudson, 2006). When it comes to reading achievement, it has long been known that the rich-get-richer and the poor-get-poorer (Stanovich, 1986).

Reading instruction in early elementary ideally focuses on what the National Reading Panel refers to as the “big five” areas of literacy: phonemic awareness, phonics, vocabulary development, reading comprehension strategies and reading fluency (National Institute of Child Health & Human Development, 2000). However, when students leave their early elementary classroom after grade three, an environment typically explicitly focused on these areas of reading instruction, supports for the acquisition of foundational reading skills may not exist. As students move into upper elementary, instruction is less explicitly focused on learning to read and students may not receive the additional remedial supports needed, for attaining those important foundational reading skills. As a result, evidence-based instructional strategies and interventions are needed in upper elementary to support these struggling readers. The need is urgent. There are significant numbers of students entering upper elementary (grade four) who are not meeting

reading benchmarks. Results from the National (American) Assessment of Educational Progress (2017) reading assessment for grade four show that 32% of students are not performing at a basic level, defined as “partial mastery of the prerequisite knowledge and skills that are fundamental for proficient work at each grade.” Only 37% of students are performing at a proficient level (NAEP, 2017). These achievement deficits are the reality of many classroom teachers and the reality of the context of this study.

Reading is a highly complex process, with many interconnected skills and attributes required for competence to derive meaning from what has been read. When students begin learning to read, their cognitive resources are devoted to decoding individual words. As students become more proficient at this process and the decoding of words becomes an automatic process, their cognitive resources can turn to making meaning from the words they are reading (LaBerge and Samuels, 1974 as cited in Rasinski et al., 2016). In these early elementary years, Chall’s Stage of Reading Development model (1996) proposes that students are engaging in Stages One and Two, ‘confirmation and fluency, where students are ‘learning to read.’ The focus is on oral reading of simple and familiar texts and integrating the many related processes of word level fluency, such as decoding and sight words (Wolf & Katzir-Cohen, 2001). Students are becoming more fluent in that they are learning to decode words automatically and accurately with increasing efficiency. Through reading familiar texts, students practice using the syntactic and semantic information in what they are reading. For example, they learn to recognize clauses, parts of speech such as pronouns, how words are combined to make phrases, and the multiple meanings of words.

It is expected and assumed that students entering upper elementary have mastered the Stages One and Two word-level fluency skills, and are entering Stage Three, the ‘reading to

learn' stage, where reading is viewed as a means to learning (Chall, 1996). It is at this point, when students are entering upper elementary, that they are expected to read progressively demanding texts, both in terms of content and vocabulary (Chall & Jacobs, 1996). While this is the expectation, the reality is that many students have not progressed from Stage Two to Three as they leave early elementary (i.e., grade three), manifesting in what Chall and Jacobs (1996) refer to as the 'fourth-grade slump'. Even though some students do not attain reading proficiency in early elementary, classroom instruction in upper elementary tends to rely more heavily on reading as a tool for learning and focuses more on the subject matter of curriculum, which often includes unfamiliar vocabulary and more detailed and content-heavy curriculum. This increased demand on reading for learning increases each year. The difficulty for struggling readers in these years is compounded as their teachers may not be trained as reading teachers and may lack the knowledge to implement reading interventions. This increases the difficulty for students as reading ability is often assumed, rather than the focus of instruction. Perhaps under pressure to meet expected learning outcomes, upper elementary teachers often subscribe to the notion that their students are no longer 'learning to read,' and should be 'reading to learn' (Ferguson & Wilson, 2009). It is this very assumption that calls for reading interventions in the upper elementary years.

Because reading is so fundamental to our current education system, students who struggle with reading may also struggle in other academic areas in school. Many students will not attain basic reading skills without knowledgeable teachers who implement effectively designed and evidence-based instructional approaches (Allington, 2002; Fountas & Pinnell, 2006). This reality has led educators and researchers to investigate the source of reading deficits and to create the most appropriate and effective interventions. One of the goals of the current research is to

investigate how fluency instruction might improve reading comprehension, the overarching goal of reading.

The Importance of Fluency in Reading Comprehension

There is a well-documented direct correlation between skills in fluency and reading comprehension; students with strong achievement in oral fluency have better reading comprehension (National Center for Educational Statistics, 2005; Pinnell et al., 1995; Rasinski et al., 2011). According to research, the reverse is also true. Students with reading comprehension difficulties frequently also have poor fluency skills (Berninger et al., 2010; Clemens et al., 2005; Kershaw & Schatschneider, 2012; Klauda & Guthrie, 2008; National Center for Educational Statistics, 2005; Paige et al., 2014; Pinnell et al. 1995; Rasinski et al., 2011; Stayter & Allington, 1991; Zutell & Rasinski, 1991). When students are unable to read fluently, when reading is slow, unnatural and laborious, reading becomes a task to be avoided. As a result, these students read less than their more fluent peers, resulting in the accumulation of less vocabulary and less time-on-task reading experiences (Allington, 1984; Chall, 1996; Paige & Smith, 2018; Stanovich, 1986). The gap, therefore, between students who have become competent readers in early elementary and those who have not, widens, and continues to widen (Cunningham & Chen, 2014).

Fluency has a reciprocal or bidirectional relationship with reading comprehension but research has not definitively shown that this is a causal relationship. That is to say, do readers have poor reading comprehension because of deficits in fluency? Will instruction and interventions focused on developing oral reading fluency create gains in reading comprehension? In the context of this project, will FDL lessons improve fluency and reading comprehension?

Decoding and Automaticity in Word-Level Fluency

Although there are several definitions of fluency used in reading research, there is consensus on how disfluent reading sounds: poor phrasing (inaccurate stress and intonation); reading at a slow and labored pace; and/or reading with poor continuity (e.g. false starts, pauses) (Dowhower, 1987). The National Institute of Child Health & Human Development (NICHD) report (2000) has inspired much research into fluency, and most of this research has investigated fluency at the word level. Studies have measured a student's ability to quickly and accurately recognize words (i.e., decode), a complex skill that requires knowledge of letter-sound correspondence and phonemic awareness (Adlof et al., 2006; Fletcher et al., 2007; Good et al., 2001; Jenkins et al., 2003; Kirby & Savage, 2008).

Rasinski (2004) proposes that we “think of reading fluency as a bridge between the two major components of reading – word decoding and comprehension. At one end of this bridge, fluency connects to accuracy and automaticity in decoding” (p. 2). A certain level of automaticity is required for reading fluency as it allows auditory and visual processes to be performed quickly and automatically, freeing cognitive resources for reading comprehension (Katzir et al., 2006). If readers need to devote cognitive energy and expend working memory to decode/recognize words, they necessarily have less cognitive energy to apply to higher level processes of reading comprehension (Allington, 2014; Laberge and Samuel 1974 study as cited in Rasinski et al., 2016; Perfetti, 2007; Perfetti & Hart, 2002). Perfetti (1985) states that verbal efficiency gaps or inefficiencies in fluency-related processes inhibits a reader's working memory (the ability to simultaneously store and process information) which necessarily impedes reading comprehension (Perfetti, 1985 as cited in Van Dyke & Shankweiler, 2012). Higher level processes of reading comprehension, such as making inferences, monitoring comprehension,

drawing on background knowledge (Cain et al., 2004; Perfetti and Adlof, 2012) are cognitively demanding. If a reader must employ a high degree of cognitive resource to simply translate the code of written text, overwhelming demands are placed on processing systems and working memory and fewer resources remain for constructing meaning from the text. As students are able to easily recognize more and more words, fluency improves, supporting comprehension (Rasinski et al., 2016). In short, if students' word-level fluency is poor, if they are unable to quickly and accurately recognize words and phrases, they will struggle to be proficient readers (Chall & Jacobs, 2003).

Fluency at the Text Level

Another sizeable body of research has defined and investigated fluency, particularly rate and accuracy, or automaticity, at the text level. The distinction between automaticity at the word level versus the text level is an important one. To read intact text accurately and at a reasonable speed involves more complicated processes and skills that develop later in readers than word-level automaticity. Using a text-level fluency definition, researchers have studied students' reading rate and accuracy. They have measured how quickly and accurately students read connected text, determining the number of correct words read per minute (wcpm) (Fuchs et al., 1988; Samuels, 1979; Logan, 1998; Shinn et al., 1992; Torgesen et al., 2001). It is an accepted teacher practice that students demonstrate proficient reading when they are able to accurately read intact text at a rate of at least 95% accuracy (Fountas & Pinnell, 2008; Rasinski, 2004). Hasbrouck & Tindall's (2006) extensive study of oral reading fluency led to their creation of National Oral Reading Fluency Norms. These norms indicate expected student oral reading fluency for grades one through eight at different stages of the school year. Fall scores that land at the 50th percentile for upper elementary are as follows: grade four = 94 wcpm; grade five = 110

wcpm; grade six = 127 wcpm and grade seven = 128 wcpm. A score of 10 or more words below the 50th percentile on these norms indicates the potential need for fluency building intervention.

It is important to note that text-level fluency rates start to plateau after the fifth grade.

There is considerable evidence that oral reading rate is directly correlated to reading comprehension (Chard et al., 2002; Fuchs et al., 1988; Fuchs et al., 2001; Jenkins et al., 2003; Torgeson, 2006). To reiterate, students who read slowly and laboriously have fewer cognitive resources to devote to reading comprehension (Chard et al., 2002; Kuhn & Stahl, 2003; NICHD, 2000; Rasinski et al., 2011). For example, in a study of Florida's Comprehensive Assessment Test (FCAT), it was found that fluency skills (reading rate and accuracy) were the greatest influences in differences in achievement for the third-grade participants; for the seventh-grade participants, fluency (rate and accuracy) and verbal knowledge and reasoning were the greatest influences (Schatschneider et al., 2004). In another study, it was determined that speed of reading words at the text level (in context) had a greater impact on reading comprehension than at the word level (Jenkins et al., 2003). Paige and Smith's (2018) study of students in the sixth-grade, determined that text-level fluency, due to an increasing exposure to academic vocabulary, has a neutral effect on reading comprehension after students attain a reading proficiency of 127 wcpm. This is the same rate as determined to be within the 50th percentile of readers according to Hasbrouck & Tindall's (2006) extensive study of oral reading fluency. In sum, developed skill in both fluency at the word-level, and the text-level, are critical for good reading comprehension.

Prosodic Fluency

Rasinski (1990, 2004) isolates four components of prosody in reading: smoothness (how the reader moves through text); expressiveness (oral reading that sounds like natural language, including volume and tone); phrasing (how the reader is able to "chunk" sentences into phrases

and to note the ends of clauses and sentences; and pace (consistently reading at a conversational rhythm). Prosodic measures often include rating scales or rubrics (National Assessment of Educational Progress, 2002; Zutell & Rasinski, 1994) or the measurement of intonation and pauses (Schwanenflugel et al. 2004; Schwanenflugel & Benjamin, 2016).

There is a growing body of research related to prosody and its role in reading (Kuhn & Stahl, 2003; Torgesen & Hudson, 2006; Cowie, Douglas-Cowie, & Wichmann, 2002; Kuhn et al., 2010; Miller & Schwanenflugel, 2006, 2008; Schwanenflugel, Hamilton, Kuhn, Wisenbaker, & Stahl, 2004). Though research on prosody is relatively new, it is evolving as researchers realize its complexity. Some studies of have shown a clear link between prosody and reading comprehension, noting that students with greater proficiency in prosody also have greater comprehension (Álvarez-Cañizo et al., 2015; Ardoin et al., 2013; Benjamin & Schwanenflugel, 2010; Miller and Schwanenflugel, 2006; Calet et al., 2013; Calet et al., 2017; Klauda & Guthrie, 2008; Veenendaal et al., 2014). As students transition away from merely decoding text, teachers can observe them reading more fluently, more smoothly, and with an increasing ability to express comprehension through prosody, with clues such as expression, conversational tone and rate and phrasing (Clark, 1995; Schreiber, 1991; Young & Bowers, 1995). It makes sense then that skills in prosody assume a more important role in upper elementary after decoding skills are acquired (Chall, 1996; Kuhn & Stahl, 2003). Students will likely not possess the necessary cognitive resources to read prosodically until automaticity in decoding is attained (Schwanenflugel et al., 2004).

The ‘bridge’ that Rasinski (2004) proposes, which links fluency to automaticity and decoding at one end, notes that “at the other end, fluency connects to comprehension though prosody, or expressive interpretation” (p. 2). Prosodic reading might support reading

comprehension as it assists readers in parsing texts into its semantic and syntactic elements; for example, when readers note and use natural resting and stop points in connected text, they are able to preserve language in their working memory and create meaning (Herold et al., 2012; Kuhn & Stahl, 2003; Kuhn et al. 2010; Pinto & Navas, 2011). If students cannot infer prosodic markings in written text, such as various punctuation marks and their meanings, and if they are unable to deconstruct text into meaningful word groups and phrases, they will struggle to comprehend what they have read (Schreiber, 1980; Therrien, 2004). This hypothesis is seen in Miller and Schwanenflugel's (2006) study of third graders. They observed that more proficient readers had greater control of prosody when reading. In particular, they noted these readers had shorter and fewer pauses while reading aloud. Their less skilled counterparts read with long pauses at commas, even when used to distinguish words in a list. The stronger readers in the study also demonstrated more appropriate pitch changes, a variable connected to reading comprehension as it demonstrates understanding of syntactic elements such as questions or exclamations, as well as semantic elements such as emotion or intent. Benjamin and Schwanenflugel (2010) suggest that children can use prosody to support their comprehension of more challenging texts. Erekson (2010) clarifies these elements of prosody even further, referring to them as syntactic prosody (e.g., phrasing, punctuation) and emphatic prosody (e.g. expressiveness that denotes a reader's inferential or interpretation comprehension).

The notion that (emphatic) prosody is a tool to support reading comprehension is under-researched but is certainly a marker of proficient reading. Stayter and Allington (1991) noted:

Until just after the turn of the century, reading instruction emphasized oral reading.

Fluency while reading orally provided the central measure of progress and demonstration of competence. There was a substantial emphasis on elocution, the oral performance of a

text that provided an interpretive rendition, allowing the listener to understand the writer's argument and message. (p. 144)

Oral performance in the reading of texts is not necessarily as common in our classrooms today, resulting in students missing out on opportunities to practice elocution of texts, a practice that could assist in reading comprehension.

Few studies have investigated the effects of fluency interventions that focus specifically on improving students' phrasing, intonation and expression, particularly through performance reading. Performance reading offers a real and authentic context for reading (Rasinski, 2010). Because it involves setting a realistic reading goal, it motivates and activates the reader's involvement. When texts are performed, they necessarily involve repeated readings to attain accuracy and an appropriate reading speed. Because expressive reading is required, students also demonstrate comprehension of what they have read. Griffith and Rasinski's (2004) small action research study in a grade four classroom reported increases in reading comprehension (growth in reading levels) after weekly fluency practice that included the instructional components of repeated reading, timed reading and Reader's Theatre.

Some studies have shown that interventions with repeated reading focusing on prosody have resulted in improvements in rate, accuracy and prosody (Calet et al., 2013; Calet et al., 2017; Dowhower, 1987; Herman, 1985; Kuhn, 2005; Young et al., 1996). More importantly, there are studies that have shown that interventions focusing on repeated reading with prosody have also resulted in gains in reading comprehension (Calet et al., 2013; Calet et al., 2017; Dowhower, 1987; Young et al., 1996). Kuhn's (2005) study of second grade readers making the transition from decoding to fluent reading compared wide-reading and repeated-reading methods. They noted gains in both methods for prosodic reading and text-level fluency, but only

the wide reading group made gains in comprehension. The design of the intervention is key, she theorized, as students in the repeated reading group may have implicitly understood the purpose of re-reading to be on prosody, on performance, and not on comprehension. Those in the non-repetitive wide reading group implicitly focused on the story as a whole, for understanding. It follows that in interventions, students should understand the goal is comprehension.

Though few studies have looked at grade level differences when examining the relationship between prosody and reading comprehension, there is an indication that prosodic reading is developmental. Until students reach a sufficient level of automaticity with decoding and word recognition, they are unable to be attuned to the features of prosodic reading. This tenet of Chall's Stages of Reading (1995) has been confirmed by studies that have shown that automaticity (text-level fluency) makes a greater contribution to reading comprehension in the early elementary years than prosody (Calet, 2013; Schwanenflugel et al., 2004). On the other hand, the influence of text-level fluency decreases and the influence of prosody increases as students progress through upper elementary (Valencia et al., 2010). Some studies argue that prosody predicted comprehension in upper elementary (Calet et al., 2013; Schwanenflugel et al., 2004) whereas others have argued that prosody and reading comprehension has a reciprocal relationship with reading comprehension (Klauda & Guthrie, 2008). The relationship has yet to be determined. What is clear, however, is that prosody and its relationship to reading comprehension is developmental and plays a more significant role in upper elementary.

To conclude prosodic reading is often an indicator of good reading comprehension as readers demonstrate their understanding through attention to text components such as syntax, semantics, author's intent etc. When students read text prosodically (smoothly, with expression and at an appropriate pace and volume) reading comprehension is more probable (Ravid &

Mashraki, 2007). This project adds to the literature by further investigating this connection between prosodic fluency and reading comprehension. More significantly, this project adds to the investigation by examining the relationship between prosody and reading comprehension in a classroom setting with a range of reading development, regardless of grade level.

A Multidimensional Definition of Fluency

As previously discussed, most research into fluency has isolated its focus on particular components: word-level (decoding), text-level (automaticity and accuracy), and prosodic (syntactic and expressive). However, fluency has been defined in some research more multidimensionally, to include all of automaticity, accuracy and prosody when reading connected text (Armbruster et al., 2001; Hudson et al., 2005; National Reading Panel, 2000; Fuchs et al., 2001; NICHD, 2000; Rasinski et al., 2011; Samuels, 2007; Torgesen & Hudson, 2006; Schreiber, 1991; Therrien, 2004; Hudson et al., 2008). Zimmerman et al. (2019) state, “in essence, reading fluency refers to the ability of readers to master processing the surface level components of text—to be able to read words with such accuracy and ease that attention can be given to meaning, which is often reflected in the prosodic elements of oral reading” (p. 3). This definition takes into account the importance of rate and accuracy, as they involve a level of automaticity that frees up cognitive resources to attend to the meaning of what is read.

Research on the effects of multidimensional fluency instruction is both limited and difficult to collate based on common features. This is likely due to the complexity of text level fluency but also due to gaps in the research. It makes sense that the research tends to focus on the isolated variables within text level fluency as it is difficult to disambiguate its various properties. Further research is needed into the impact of interventions that focus on prosody and text level

automaticity on fluency and reading comprehension. Instructional practices that are more holistic and that encompass fluency in its entirety may find more traction with educators.

It is this multidimensional definition of fluency that is used in FDL. FDL involves training fluency to improve all of rate, accuracy and prosodic reading of connected text (Rasinski et al., 2009; Rasinski, 2014; Rasinski et al., 1994; Rasinski et al., 2016; Rasinski et al., 2017; Rasinski et al., 2011). The model involves repeated reading to improve rate and accuracy, as well as assisted and modeled reading to improve prosody. For the purposes of this project, which investigates the impact of FDL, I will be using and examining this same multidimensional model of fluent reading. The intervention will involve modeling of prosodic reading, providing cues to emphasize prosody and comprehension, assisted repeated reading with feedback and support, and performance reading.

Repeated Reading in Fluency Intervention

The most effective and commonly used method of fluency practice for improving fluency for struggling readers is repeated reading (Ardoin et al., 2013; Chard et al., 2002; Meyer & Felton, 1999; NICHD, 2000; Stevens et al., 2017; Therrien, 2004). To date, most studies examining the success of repeated reading on fluency measure rate and accuracy. Results show that rate, accuracy and reading comprehension of the re-read text improves after repeated reading interventions (Chard et al., 2002; Dahl and Samuels as cited in Eldredge, 1988; Edmonds et al., 2009; National Reading Panel, 2000; Therrien, 2004). For example, the Simple Repeated Reading Method (Samuels, 1979), re-reading a short piece of text until a satisfactory rate and accuracy are reached, results in positive effects on all elements of reading fluency (accuracy, speed and prosody). To a lesser extent, it also leads to improvements in reading comprehension (Dowhower, 1987; Therrien, 2004). Findings from studies examining this method suggest it

positively impacts all students, with the greatest impact on those students who are transitioning from the decoding stage to reading that has become more automatic (Meyer & Felton, 1999). An adaptation of repeated reading is Assisted Repeated Reading (ARR). This method involves peer or adult support and findings also note positive results on all aspects of reading fluency (Schreiber, 1991).

There are clear components of repeated reading that are more likely to result in a successful intervention. Padeliadu and Giazitzidou (2018) reveal the important role of motivation and goal-focused behaviour in reading as evidenced by the most effective instructional strategies used with repeated reading: reinforcement, goal-setting (both comprehension and reading speed), and self-monitoring. They also conclude the importance of providing cues, previewing text and having students read the same text at least four times in an effective repeated reading intervention. Edmonds et al. (2009) echoes this conclusion, noting the key components of successful repeated reading practice: providing a model of fluent reading, multiple opportunities for repeated reading of the text and giving corrective feedback. The motivation and reading self-efficacy of struggling readers have also been found to be improved through components of repeated reading, such as echo and choral reading, along with modeling of fluency reading (Mehigan, 2020). FDL, the focus of this project, includes all of these elements of repeated reading.

Issues in Repeated Reading Intervention in Upper Elementary

The FDL intervention in the current study uses the repeated reading of poetry, including the study of the vocabulary within the poem, culminating in a weekly performance. This methodology addresses some of the problems with other repeated reading interventions in upper elementary. For example, while research has shown that repeated reading improves text-level

fluency (Therrien, 2004), teachers may not see fluency instruction as effective in promoting reading comprehension (Cassidy & Grote-Garcia, 2014). This could be due to the fact that repeated reading has often focused solely on reading speed and accuracy. This could cause students to believe that faster and accurate reading is necessarily better reading. Instead, repeated reading should ensure that students have an understanding that the purpose of reading is to make meaning (Di Salle & Rasinski, 2017).

Another problematic component of traditional repeated reading for upper elementary readers could be in its use of passages from basal readers, levelled Language Arts textbooks, making their simple re-reading of them a monotonous and inauthentic task. Such an intervention could be remediated through the use of oral performance. Since texts used in upper elementary involve more extensive language and plot than those experienced in the primary grades, oral performance can promote comprehension (Stayter & Allington, 2011). If texts are to be orally performed, rather than simply re-read, there can be an impact of prosodic reading on reading comprehension as previously discussed. It follows that texts used in oral performance should be cater to prosodic reading, such as Reader's Theatre or poetry, texts that upper elementary students will not find unstimulating (Homan et al., 1993). note a particular drawback of repeated reading: many may find the repetitiveness of the text unstimulating. Using poetry is one way to mediate this issue as short poems highlight the rhythmic nature of words and usually employ repetition of words or phrases, features which facilitate the use of prosodic fluency and aid in word recognition. Griffith and Rasinski's (2004) study with students in grade four involved multiple readings of a meaningful text, Reader's Theatre. The instructional practice emphasized both prosody and reading comprehension in the repeated readings. Results showed gains in reading comprehension.

An Integrated Model of Fluency Instruction – Fluency Development Lessons (FDL)

The Fluency Development Lesson (FDL) model used in this project (Rasinski et al., 1994) offers a unique structure to take advantage of the benefits of repeated reading, as well as to remediate its shortcomings. FDL begins with students receiving a model or example of expressive, fluent reading by their teacher. Through echo, choral and assisted repeated reading, students are then given opportunities to practice prosodic reading of the meaningful and intact text of short poems. FDL also offers explicit instruction and engagement with elements of the text to support meaning, such as word study and reading comprehension strategies.

FDL, as an intensive, remedial structure has seen positive results. Rasinski et al.'s (2017) seven-week (25 instructional periods) intensive FDL intervention with struggling third-grade readers reported significant improvements in reading comprehension and speed, but not prosody. Zimmerman et al., (2013) reported improvements in fluency and reading comprehension in a summer reading clinic for students in grades one through six. Zimmerman et al. (2019) reported similar successes with an intensive summer FDL intervention with students in grades one through three reading at least one year below grade level. DiSalle and Rasinski's (2017) intensive intervention with a small group of fourth-graders noted a year's gain in reading comprehension in twelve weeks.

What is the FDL Intervention?

FDL is an intensive, daily intervention of approximately 30 minutes. A trained adult works with small groups of children with one short poem per lesson. During the lesson, students also receive instruction around the vocabulary within the text, including potential instruction around morphemes, and there are discussions and activities that involve finding meaning in the text, methods to build reading comprehension.

As seen in Table 1, instructional practices involved in FDL are sequential and prescriptive. Following the introduction and modeling of fluent and expressive reading of the poem, the teacher discusses vocabulary and the meaning of the poem. Students engage in echo or choral reading then assisted repeated reading with a partner. After performing the poem, students engage in further word work and practice the poem at home. The next day's FDL begins with a performance of that familiar text before being introduced to the next poem.

Table 1*Steps in Fluency Development Lesson*

Order	Details of practice
1	Teacher introduces and previews the poem with the students. Teacher models fluent reading for the students and reads the poem aloud two to three times.
2	Teacher and students discuss unknown words and the meaning of the text.
3	Students choral read (read along with the teacher) and/or echo read (repeat what the teacher has read).
4	In pairs, each student practices reading the passage aloud three times.
5	Students perform the passage for an audience (another group, the teacher...)
6	Students engage in word work activities from the text (e.g. word wall, word sorts...)
7	Students practice the passage at home with their parents or other family members.
8	The next day, students re-read the familiar passage with the audience (partner or teacher) checking for accuracy and fluency.
9	A new poem is introduced.

Adapted from "Effects of Fluency Development on Urban Second-Grade Readers," by T.

Rasinski, N. Padak, W. Linek and E. Sturtevant, 1994, *Journal of Educational Research*, 87(3), pp. 158–165.

To date, FDL has mostly been used as an intensive intervention with small groups of struggling readers. Its format is similar to the wide reading type of Fluency Oriented Reading Instruction (Stahl & Heubach, 2005). It involves students being exposed to wide reading, multiple texts (one per day). The results of these intensive FDL interventions are promising; however, to my knowledge, no studies have examined the potential of this model in the general classroom, particularly in upper elementary. The practical implications for grades four through seven classrooms will not always permit such an implementation. The ratio of teacher to students and the limited time during the school day may prevent many teachers from attempting an intensive FDL model. This project will contribute to the research by investigating the impact of an adapted FDL model in an upper elementary classroom setting.

Purpose of Study and My Positionality

As a district literacy teacher, my role is to support classroom teachers in enhancing the literacy skills of their students. Regular review of reading data is a part of my job as this data is used to provide direction in district literacy planning. It was the review of this data that sparked my interest in the need to pilot new literacy practices. In reviewing yearly reading comprehension scores over the past several years, I observed sizeable gaps in reading achievement in upper elementary classrooms: approximately 25-35% of students were not reading at their grade-level. Our district has implemented and promoted several reading practices such as guided reading; however, fluency practice has not been previously tried to improve the reading comprehension of our upper elementary students. Thus, the purpose of this project is to investigate the potential impact of FDL in upper elementary classrooms. Will whole class FDL improve students' text-level and prosodic fluency? Will whole class FDL improve students'

reading comprehension? Will whole class FDL help remediate the reading achievement gaps of upper elementary students?

Chapter 3: Research Methods

This chapter first explains the rationale for using an adapted Fluency Development Lesson (FDL) for the whole class in this project, rather than FDL in its original form. A description of the adapted FDL model is given, as well as the weekly schedule of the intervention. Next, the design of the intervention is outlined, followed by a description of the student participants involved in the project. Data collection and testing procedures are then explained, including a discussion of the impact of the COVID pandemic on post-testing procedures. The chapter concludes with a description of the measurement tools used in the project.

Why an Adapted Fluency Development Lesson (FDL) for the Whole Classroom?

As discussed earlier, it may be difficult for a classroom teacher to implement FDL in its original design: small groups of students with one adult per group to facilitate instruction and to model fluent reading. It may be that it is more feasible for teachers to implement FDL as an instructional practice for the whole class using an adapted or extended version of the intervention. Rather than the wide reading type of original FDL, it can be adapted to be a deep reading type, where students re-read one text for fluency practice per week but would explore it more thoroughly. Deep reading, re-reading the same text multiple times for meaning, provides struggling readers more time and practice to understand what they're reading (Stahl & Heubach,

2005). As well, this deep reading type of FDL can also allow one teacher to facilitate fluency practice with their whole class. It is this deep reading type of FDL, an adapted type, that is used in this project. This model, rather than involving small groups of students with one adult, would involve the whole class. Instead of one complete and intensive FDL lesson and text per day, a particular text would be used and re-read over the course of the school week. In this adaptation of FDL, students would not receive the same intensity of the original FDL intervention, the small group to teacher ratio with its immediate and corrective feedback. However, more proficient readers would serve as models and supports to struggling readers, and all students would receive lengthier instruction around vocabulary and reading comprehension.

The Adapted Fluency Development Lesson (FDL) Plan

Table 2 outlines the structure of the weekly, adapted whole class FDL, including the various tasks, used in this project. It contains all of the components of the intensive FDL model, as seen previously in Table 1, but expands the practice throughout the week with one poem. The week begins with the introduction and modeling of fluent, expressive reading of a new poem. After discussing vocabulary and the meaning of the poem, students participate in echo or choral reading. Tuesday through Thursday involves assisted repeated reading of the poem with a partner and additional vocabulary or comprehension activities. The week concludes with a performance of the poem.

Table 2

An Adapted Whole Class FDL with 20- to 30-minutes Per Day of Engagement.

Monday	Tuesday	Wednesday	Thursday	Friday
Access prior knowledge with poem.	Students partner read poem (at least three times).	Students partner read poem (at least three times).	Students partner read poem (at least three times).	Students perform poem.
Teacher reads aloud poem – models appropriate prosody.	Teacher directed word work* or comprehension activity**.	Teacher directed word work or comprehension activity.	Teacher directed word work or comprehension activity.	
Discuss unknown words and meaning of poem.				
Students echo or choral read with teacher				

*Word work in the context of the poem (e.g., morphology, parts of speech, vocabulary).

**Comprehension strategies could include questioning, predictions, inferences, and summarizing.

Figure 1 provides a sample poem used by some teachers during the intervention, “Stars of the Flying Horse” from *Poems for Building Reading Skills* (Rasinski & Bagert, 2010). A sample weekly lesson plan with this poem could be as follows: (Monday) The teacher would begin the week by accessing students’ prior knowledge of the content of the poem, constellations. The teacher might ask students what they know about stars and constellations, then provide examples of constellations. The teacher would then model fluent reading by reading the poem aloud, demonstrating appropriate prosody, while students followed along, either with their own copy or a displayed copy of the poem. The teacher would then discuss with the class the poem’s meaning (how poems and constellations are unique and require practice to see their “magic”), and any

unknown words, such as telescope and Pegasus. Next students would echo read the poem with the teacher (the teacher reads a line and the students repeat what was read in the same prosodic voice) or choral read the poem with the teacher. (Tuesday) With a partner, students would practice fluent reading of the poem. Next, students would engage in word work or comprehension strategies with the poem, such as a summarizing strategy. (Wednesday) As with Tuesday's schedule, students would practice fluent reading of the poem with a partner. Next, students would engage in word work or comprehension strategies with the poem, such as sorting words from the poem into how many syllables each has. (Thursday) As with Tuesday and Wednesday's schedule, students would practice fluent reading of the poem with a partner. Next, students would engage in word work or comprehension strategies with the poem, such as finding and replacing the adjectives in the poem with synonyms. (Friday) With their partner, students would perform "Stars of the Flying Horse," reading it prosodically and perhaps with gestures to show meaning.

Figure 1*Sample Poem for Adapted FDL Lesson*

Stars of the Flying Horse
by Marjorie Caliri

You don't need to have a telescope,
You can see it with your eyes.
It's a giant constellation
in the southern autumn skies.

Locating it is tricky –
there's a lot of stuff up there –
but try to find four stars
that together form a square.

Each one is slightly different,
different colour, different size,
but together they form Pegasus,
the magic horse that flies.

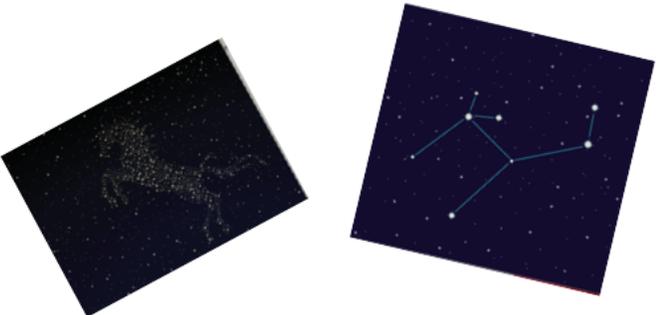
You won't see a horse at first,
let alone a horse with wings,
but with practice you'll soon recognize
the magic of such things.

Like the magic of the poems
you have written all this year,
poems that make us laugh and cry,
and poems that made us cheer.

Each of you is different,
and you often disagree,
but together you made magic
for each other and for me.

And also for your friends,
the members of our class.
We were the first to love your poems,
but we will not be the last.

And someday you'll be famous
and you'll need a name of course,
so to the world I now present
my STARS OF THE FLYING HORSE!



Adapted from Rasinksi, T. & Bagert, B. (2010). *Poems for Building Reading Skills*. Shell Education Publishing. Huntington Beach, California.

Intervention Design

After attending a professional development session around reading comprehension and FDL, four upper elementary teachers (two Grades 4/5 classes and two Grades 6/7 classes) from four schools in the school district volunteered to be part of the study. The teaching experience of

the teachers ranged from one to 20+ years. The teachers participated in two training sessions around instructional procedures of the FDL model, including the development of weekly lessons and a common weekly template (see Appendix). Teachers opted to use *Poems for Building Reading Skills* (Rasinski & Bagert, 2010) (see Appendix) which provided weekly poems and suggested activities for word work and reading comprehension. Teachers allotted 20-30 minutes per day for four days per week on average for FDL during classroom instruction, beginning in November of the school year and concluding at spring break, mid-March, 2020, a period of 15 weeks.

Participants

Table 3 presents a summary of the demographic information of the 61 students in the project: 18 students in Grade Four, ten students in Grade Five, eight students in Grade 6 and 25 students in Grade Seven. Eight students were identified by the British Columbia Ministry of Education categories as having learning disabilities.

Table 3

Demographic Information of Participants

	Male	Female	Avg age at beginning of testing period	Students with LDs*	<i>N</i>
Grade 4	9	9	9 years, 3 months	0	18
Grade 5	5	5	10 years, 2 months	2	10
Grade 6	3	5	11 years, 5 months	1	8
Grade 7	15	10	12 years, 3 months	5	25
Total	32	29			61

Note: *LD = Learning disability

Data Collection, Testing Procedures and the COVID 19 Pandemic

I collected data twice: first in September and October of 2019, prior to the start of the intervention, and again in June 2020, following the completion of the intervention. Pre-assessments were done individually with students in a quiet place in their schools. Testing involved 10-20 minutes per student. To make students more comfortable, time was given prior to the assessment to have a brief and informal conversation with each student. The timer was hidden from students to reduce potential nervousness and anxiety. This had the added benefit of encouraging students to read at their normal reading pace rather than to read faster in order to 'beat the clock'.

The COVID-19 pandemic began during spring break of 2020. Schools were closed and in-school instruction stopped at the beginning of April 2020. The pandemic did not impact the fifteen-week FDL intervention. The original plan was to conduct post-testing after the conclusion of the intervention and once students returned from spring break at the end of March. Instead, post-testing took place when voluntary in-school attendance resumed in June 2020. Students who returned to school in June were assessed face-to-face (39 students). For those students who did not return to school, I arranged online meetings (22 students). These students were assessed through the video conferencing platforms in place with their classroom teacher (Microsoft Teams or Zoom). The same protocols were followed for both face-to-face and online assessments: brief conversations were had with the participant prior to the assessment to put the student at ease, the same instructions were given, and the timer was hidden to reduce potential nervousness. For online assessments, the passage was shared on the screen for students to read, rather than having a paper copy of the assessment passage, as was done in the face-to-face environments. The

assessment passages were short and were able to be read in their entirety on one screen so students did not need to scroll to read them.

Measures

Reading Comprehension Measure

I used the Basic Reading Inventory (BRI) (Johns, 2008) to measure students' instructional level of reading comprehension. The BRI was chosen for convenience because it was already available and used in schools, and because it provides the classroom teacher with an instructional reading level for each student. That is to say, this benchmark score provides the classroom teacher with a grade level of reading comprehension and allows them to observe whether the student is at or above grade level, or if the student is reading below grade level and potentially in need of remedial support.

The BRI is an individually administered informal reading assessment. It uses a series of 100-word grade-levelled prose reading passages. Students are asked to read the passage aloud, then asked the ten comprehension questions that accompany the passage. The questions begin with lower level "recall" items (six questions) and progress to higher level inferencing, evaluating and vocabulary in context items (four questions). Johns (2008) describes three levels of reading comprehension (frustration, instructional and independent) each determined by the number of errors on the comprehension questions:

- an independent reading level is 0 or 1 errors;
- an instructional reading level is 2.5 errors;
- and a frustration level is 5 or more errors

An instructional reading level is determined when a student correctly answers 7.5 of the 10 questions on the BRI. Students can score $\frac{1}{2}$ points if partial responses are provided. If a

student scores below 7.5/10 on the passage, the procedure is repeated with a lower grade-levelled passage until an instructional reading score is reached. If students score eight or higher, the next grade-levelled passage is administered. Due to time constraints and the time students would miss from classroom instruction, a ceiling was set at two grade levels above a student's actual grade level. Once this ceiling was reached, testing was discontinued. For example, during the pre-test in the fall, a grade four student would be assessed until the grade six passage was successfully read, if necessary, and in the post-test in June, the same student would be assessed until the end of the grade seven passage.

To conclude, this reading comprehension assessment determined whether a student was reading at their grade level, above their grade level or below their grade level prior to the intervention and after the intervention. As will be discussed in the results section, this categorical variable of at/above/below grade level was used to compare student progress from pre- to post-intervention.

Oral Reading Fluency Measures

Text Reading Fluency. Text reading fluency is defined by accuracy and speed in reading words in connected text. I used the BRI to measure text-level fluency, to calculate the number of correct words read per minute by students (wcpm). Students are timed as they read the BRI passage aloud, and the errors they make in the 100-word passage are tallied. Items identified as errors include: substitutions, omissions, reversals, and insertions. Self-corrections are not scored as errors. Each error is subtracted from 100 to provide an oral reading accuracy score. For example, if a student makes five errors in 100 words, their accuracy is 95. To calculate text reading fluency, the time the student took to read the passage is divided into 6000, then the number of errors made is subtracted (Johns, 2012). For example, a reading speed of 68 seconds

would be divided into 6000, then five errors would be subtracted to produce a score of 83.24 words correct per minute (wcpm) (Johns, 2008).

Prosodic Fluency. I assessed students' prosodic fluency using the Multi-Dimensional Fluency Scale (MDFS) (Rasinski, 2004). The MDFS was chosen for its ease of use and quick administration. Descriptors for each aspect of prosodic fluency of the MDFS are seen in Figure 2. The MDFS consists of the four aspects of prosody, with performance on each section demonstrated on a scale from 1 to 4:

(1) expression and volume (1 = little sense of making text sound like natural language and 4 = varies volume and expression to fit with interpretation of the passage),

(2) phrasing (1 = frequently reads word-by-word and 4 = usually reads with good phrasing),

(3) smoothness (1 = has frequent hesitations and pauses and 4 = usually reads smoothly),

(4) and pace (1 = reads slowly and laboriously and 4 = consistently reads at conversational pace).

As the students read the BRI passage aloud, they are given a score of one to four on each aspect of prosody, and then these scores are tallied. Scores therefore can range from 4 to 16. In this project, I assessed each student's prosodic at the end of their testing session. The score was a global measurement of students' prosodic fluency across all texts read during the testing session and was unrelated to text difficulty. Students were scored after I heard two to three readings from them.

Figure 2

Multi-Dimensional Fluency Scale

	1	2	3	4
Expression and Volume	Reads in a quiet voice as if to get words out. The reading does not sound natural like talking to a friend.	Reads in a quiet voice. The reading sounds natural in parts of the text, but the reader does not always sound like they are talking to a friend.	Reads with volume and expression. However, sometimes the reader slips into expressionless reading and does not sound like they are talking to a friend.	Reads with varied volume and expression. The reader sounds like they are talking to a friend with their voice matching the interpretation of the passage.
Phrasing and Intonation	Reads word-by-word in a monotone voice.	Reads in two or three word phrases, not adhering to punctuation, stress and intonation.	Reads with a mixture of run-ons, mid-sentence pauses for breath, and some choppiness. There is reasonable stress and intonation.	Reads with good phrasing, adhering to punctuation, stress and intonation.
Smoothness	Frequently hesitates while reading, sounds out words and repeats words or phrases. The reader makes multiple attempts to read the same passage.	Reads with extended pauses or hesitations. The reader has many ‘rough spots.’	Reads with occasional breaks in rhythm. The reader has difficulty with specific words and/or sentence structures.	Reads smoothly with some breaks, but self-corrects with difficult words and/or sentence structures.
Pace	Reads slowly and laboriously.	Reads moderately slowly.	Reads fast and slow throughout reading.	Reads at a conversational pace throughout the reading.

(Rasinski, 2004)

Chapter 4: Results

The purpose of this project was to investigate the potential impact of an adapted FDL for the whole class on students' reading comprehension and fluency. This chapter is thus divided into two parts. It first presents the analyses of the impact of FDL on students' reading comprehension. It then reports the analyses of the impact of FDL on students' text-level fluency and prosodic fluency.

The Impact of Adapted Whole Class FDL on Reading Comprehension

Though FDL was designed as a remedial intervention for small groups of struggling readers mainly in the early elementary years (grades one through three), this project sought to investigate the effects of FDL in heterogenous classrooms, with a range of reading development. Pre- and post-test reading comprehension scores were examined by the level of reading proficiency students possessed at the beginning of the school year. Students were grouped into four categories based on their pre-test scores of the reading comprehension measure: students with reading disabilities (all of whom were reading below grade level); students reading below their expected grade level; students reading at their expected grade level; and students reading above their expected grade level. For example, a fifth-grade student reading at a Grade 4 level in the fall would be categorized as reading below grade level; if reading at a fifth-grade level, would be categorized as at grade level; and if reading at a sixth-grade level, would be categorized as above grade level. These groupings were created to observe the impact of FDL in relation to reading proficiency.

Table 4 shows student the number of students reading below, at or above grade level prior to the intervention: 21 students were reading below grade level (including all eight of the students with LDs); 25 students were reading at grade level and 15 students were reading above

their grade level. After the intervention, one fewer student was reading below grade level (20 students compared to 21 students prior to the intervention). More students were reading at or above their grade level following the intervention (41 students compared to 40 students prior to the intervention.)

Table 4

Gains in Reading Comprehension

Grade level reading proficiency at start of testing period	Prior to Intervention	After Intervention	Mean Changes in Years of RC
Below grade level with learning disability	8	8	+1.25 (1 year and 3 months)
Below grade level	13	12	+1.38 (1 year and 4.7 months)
At grade level	25	22	+1.16 (1 year and 1.9 months)
Above grade level	15	19	+0.8 (9.6 months)

Table 4 also shows the mean gains students in each level of reading proficiency made in reading comprehension over the course of the year. Results showed that students reading below grade level, without LDs made the greatest gains from pre- to post-test, 1.38 years in growth (the equivalent of one year and 4.7 months). The next greatest gains in reading comprehension were students with LDs. Students reading at grade level made over one year's growth in reading comprehension (1.16 years) and students reading above grade level improved the least (.8 years' growth) from pre- to post test.

Table 5 presents the scores of each of the eight students with LDs. These students, with one exception, made between one and three years' growth in reading comprehension with an average of 1.25 years, the equivalent of one year and three months.

Table 5*Reading Comprehension Scores of Students with LDs*

Grade	Pre-Test (Grade Level)	Post-Test (Grade Level)	Change (Years)
5	3	5	+2
6	4	5	+1
7	5	6	+1
7	5	6	+1
7	4	4	0
7	5	6	+1
7	5	6	+1
7	4	7	+3

The Impact of Adapted Whole Class FDL on Text-Level Fluency

Text-reading fluency is intricately connected to text-level difficulty; thus, only students with pre- and post- scores on the same grade-levelled text were used in analysis. Due to the COVID pandemic and limits in testing, 24 of the 61 participants had text-reading fluency scores pre- to post. Table 6 shows students' pre- and post-scores for text-reading fluency. Their accompanying reading comprehension scores are included and will be addressed in the discussion section.

Results showed that 14 of the 24 participants for whom data was available for both pre- and post-test, improved in text-fluency over the course of the intervention; 19 of these 24 students also improved in reading comprehension. Results also showed that 15 students had pre-test scores of 10 or more words below the 50th percentile in oral reading fluency, denoting these students could indicate poor text-reading fluency and the need for a fluency intervention (Hasbrouck & Tindall, 2006). Ten of the 15 participants who had poor text-reading fluency improved in text-reading fluency over the course of the intervention; seven of these 10 students also improved in reading comprehension.

Table 6*Text-level Fluency and Reading Comprehension of 24 Students with Pre- and Post-Test Scores*

Grade	Pre (wcpm)	Post (wcpm)	Change (wcpm)	Pre (grade level RC)	Post (grade level RC)	Change (grade levels RC)
4	68.89*	73.50*	+4.61	4	4	0
4	69.40*	47.59*	-21.81	4	5	+1
4	85.07	104.21*	+19.14	4	4	0
4	90.94	105.82*	+14.88	4	6	+2
4	95.17	127.66	+32.49	4	6	+2
4	112.65	80.27*	-32.38	4	5	+1
4	133.64	118.80*	-14.84	4	5	+1
4	142.86	122.45	-20.41	4	3	-1
5	58.70*	77.26*	+18.56	4	4	0
5	75.19*	78.08*	+2.89	5	6	+1
5	94.74*	63.75*	-30.99	4	5	+1
6	103.45*	96.39*	-7.15	6	7	+1
6	112.80*	66.23*	-46.57	6	7	+1
6	123.75	73.33	-50.4	6	7	+1
7	68.35*	81.74*	+13.39	6	8	+2
7	88.24*	111.11*	+22.87	7	7	0
7	96.61*	105.00*	+8.39	6	8	+2
7	98.00*	109.81*	+11.81	6	7	+1
7	98.64*	105.00*	+6.36	7	8	+1
7	98.95*	126.52*	+27.57	6	7	+1
7	100.71*	89.54*	-11.17	6	7	+1
7	108.00*	116.40*	+8.40	6	8	+2
7	141.95	135.00	-6.95	6	8	+2
7	162.16	169.71	+7.55	7	8	+1

Note: * scores of 10+ words below 50th percentile from National Oral Reading Fluency Norms.

(Hasbrouck & Tindall, 2006).

Table 7 shows changes in text-level fluency for the 24 students with data for pre- and post-test. Students who were reading below grade level improved their text-level fluency by an average of 4.33 wcpm. (As there were no students with LDs with both scores, they are not included in analysis). Text-level fluency of students who were reading at their grade level decreased by 5.51 wcpm. There were no results for students reading above grade level.

Table 7

Changes in Text-Level Fluency as Measured by Words Correct Per Minute (wcpm)

Level of reading proficiency at start of testing period	N	10+ words below 50 th percentile ORF norms* in fall	Mean Change (wcpm)
Below grade level w/ learning disability	No data available		
Below grade level	9	8	+ 4.33
At grade level	15	7	-5.51
Above grade level	0	n/a	n/a

Note: * National Oral Reading Fluency Norms (Hasbrouck & Tindall, 2006)

The Impact of Whole Class Adapted FDL on Prosodic Fluency

To investigate the impact of FDL on students' prosodic fluency, pre- and post-test scores were compared, with students grouped by their reading proficiency at the start of the testing period. Results are shown in Table 8. All categories of students improved from pre- to post-test. Students reading at grade level made the greatest gains (+ 2.66 points in the 16-point multidimensional fluency scale). Students with LDs made the next greatest gains in prosodic fluency (+2.19) followed by students reading below grade level (+1.08) and students reading above grade level (+ 1.07), respectively.

Table 8*Prosodic Fluency (16-point Multi-Dimensional Fluency Scale)*

Level of reading proficiency at start of testing period	N	PRE			Scores ≤ 9 * N	POST			Mean Gains (16-point MDFS)
		Range	Mean	SD		Range	Mean	SD	
Below grade level with LD	8	4-9	6.88	1.73	8	7-11	9.06	1.4	2.19
Below grade level	13	9-15	11.92	2.06	2	10-16	13.0	2.01	1.08
At grade level	25	5-16	10.6	3.06	8	7-16	13.26	2.57	2.66
Above grade level	15	10-16	13.87	1.78	0	10-16	14.93	1.57	1.07

Note: *scores on the MDFS ≤ 9 indicate poor development in prosodic fluency (Rasinski, 2001).

Scores of nine or below on the MDFS indicate students are not making good progress with prosodic fluency. Pre-test scores of all eight students with LDs indicated poor prosodic fluency, as well as two of the 13 students reading below grade level without LDs, and eight of the 25 students reading at grade level. No students reading above grade level had scores indicating poor development of prosodic fluency. Results for each component of the MDFS (expression and volume; phrasing and intonation; smoothness; and pace) for the 18 students with poor prosodic fluency are seen in Table 9. The greatest gains for these students were made in pace, followed by phrasing and intonation. The smallest gains were noted for expression and volume, followed by smoothness. Prior to the intervention, 18 of the 61 participants had poor prosodic fluency. At the end of the intervention, six of the 61 participants had poor prosodic fluency. Improvements for the 12 students in this group ranged from 2.5 to 9 out of the 16-point MDFS.

Table 9*Prosodic Fluency Across All Components for Students with Poor Prosodic Fluency (N=18)*

	Pre-Test		Post-Test		Change pre to post
	M	SD	M	SD	
Expression and Volume /4	1.78	.43	2.47	.58	+.69
Phrasing and Intonation /4	1.64	.54	2.81	.93	+1.17
Smoothness /4	2.17	.62	2.78	.72	+.61
Pace /4	1.56	.51	2.76	.94	+1.25
Total Score /16 MDFS	7.2	1.62	10.81	2.73	+3.61

Chapter 5: Conclusion and Discussion

As previously discussed, studies have researched the impact of Rasinski's original FDL, intensive instruction with small groups of struggling readers in grades one through three. Results have shown that FDL has improved reading comprehension and fluency for these students (Di Salle & Rasinski, 2017; Rasinski et al., 2017; Rasinski et al., 2020; Zimmerman et al., 2013 & Zimmerman et al., 2019). The purpose of this project was to investigate the impact of an adapted whole class FDL in upper elementary, grades four through seven. Specifically, the project sought to learn whether an adapted whole class FDL in upper elementary would impact students' reading comprehension and fluency.

Results revealed that students' reading comprehension improved from pre- to post-test. Also, while students' prosodic fluency improved, no difference was observed for text-level fluency. Though determining the strength of the 'bridge' between fluency and reading comprehension proved to be challenging in the context of this project, it warrants further investigation. Given the gains in reading comprehension achieved by the students in the project, I believe adapted whole class FDL has a place in classrooms of diverse reading abilities.

Adapted Whole Class FDL and Improvements in Reading Comprehension

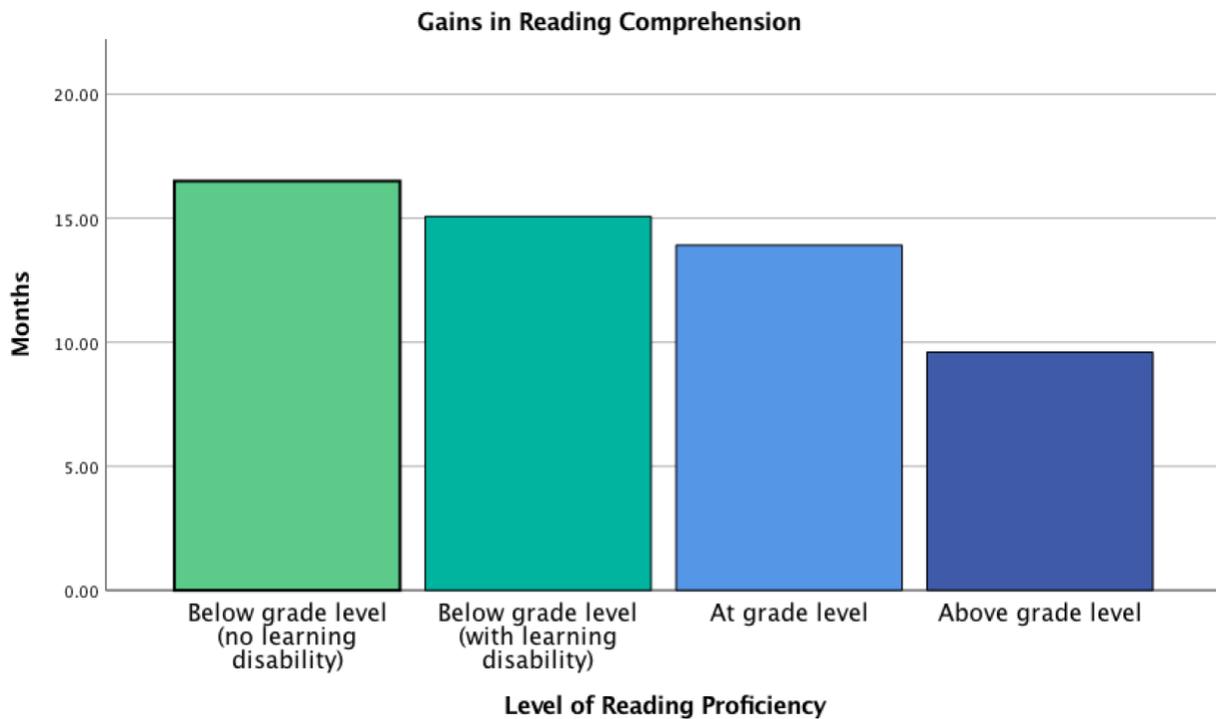
Results of this project showed reading comprehension improved for students following the adapted whole class FDL intervention, indicating that FDL is an effective teaching method for improving students' reading comprehension as a component of whole class instruction. Due to the COVID pandemic, reading comprehension data was not collected by the school district in June. As such, there is no control group with which to compare to students in this project. However, in the previous school year (between June 2018 and June 2019), the district observed an increase of less than one year's improvement (0.94) in reading comprehension for upper

elementary students. Students in this study surpassed this increase, improving an average of more than a year in reading comprehension (1.13). Notably, these gains were observed despite the disruption of nine weeks of face-to-face learning due to the COVID pandemic.

The results of comparing students who were reading below grade level at the start of the study with those students who were reading at or above grade level are noteworthy in terms of practice. Students who were reading below grade level at the beginning of the testing period (21 of the study’s 61 participants), made the most gains in reading comprehension, followed by students at grade level and students above grade level, respectively. Figure 3 illustrates the differences in improvement amongst reading proficiency levels at the start of the testing period.

Figure 3

Improvements in Reading Comprehension Based on Reading Proficiency



These differences are significant from an instructional perspective. Students who have not met grade-level benchmarks in reading comprehension do not typically make greater strides

than their more proficient peers. In fact, students who enter upper elementary grades not reading at grade level typically experience even greater gaps as they progress in school (Hirsch, 2003; Pfof et al., 2014), how Stanovich (1986) discussed as the rich-get-richer and the poor-get-poorer when it comes to reading achievement. Though the greatest gains in reading comprehension were observed in students who were either reading below or at their grade level at the start of the study, students who were reading above grade level in reading comprehension at the start of the study still made improvements.

The Important Role of Repeated Reading in FDL

Results showing improved reading comprehension as a result of a fluency intervention is not unexpected. A major component of FDL is repeated reading, which seeks to improve students' reading comprehension through improvements in text-level fluency. With practice reading connected text, automaticity of word recognition increases. This automaticity then frees cognitive resources to devote to comprehension (Gough & Tunmer, 1986). As well, in terms of Chall's Stage of Reading Development model (1996), text-level fluency mediates a shift from attention to decoding text (Stage two) to making meaning from text (Stage three). Age-wise, the participants in this study would be expected to be in Stage three and as such, would not be devoting as much energy to the processes involved in decoding what they're reading. However, in this project, some students (15 of the 24 for whom data was available) had below-average text-reading fluency for their grade level, according to the National Oral Reading Fluency Norms (Hasbrouck & Tindall, 2006). It would thus follow that practice in text-reading fluency could act as a "bridge" (Rasinski, 2004) to improve reading comprehension for these students; through repeatedly seeing, hearing and speaking novel words, students' automatic word recognition increases, allowing reading comprehension to occur (Sabatini et al., 2018). Though data is

limited, it is noteworthy that most of the students with poor text-fluency at the beginning of the study who improved their text-fluency, also improved in reading comprehension. For students already reading at or above their grade level in this project, repeated reading may not provide benefits. This could help explain, in some part, why the strongest readers in the project improved the least in reading comprehension.

An additional theory behind the success of repeated reading is posited by Menon & Hiebert (2011) who argue that this technique is an effective strategy, not necessarily because of improvements in automaticity, but because students are given more time with more texts they can read. The texts used in this study, from *Poems for Building Reading Success*, become texts that struggling readers can comprehend through the support of teachers and peers. The 20-30 minutes of daily FDL practice is instructional time in which students are given practice reading texts at an accessible reading level. This is not always the case in classrooms, as struggling readers are often given texts at a frustration reading level (Renaissance Learning, 2014).

A unique component of FDL, which further differentiates itself from a purely repeated reading fluency intervention, is its inclusion of comprehension building activities, such as vocabulary building, summarizing, connecting and inferring. Explicit teaching of reading strategies is one of the “big five” areas of reading (National Institute of Child Health & Human Development, 2000). The improvements in reading comprehension observed in this study could support previous studies that discuss the effectiveness of such multidimensional interventions (Edmonds et al., 2009).

Improvements in Prosodic Fluency

FDL has been shown to be effective for improving prosodic fluency for small groups of struggling early elementary readers (DiSalle & Rasinski, 2017; Rasinski et al., 2017; Zimmerman

et al., 2019). Results of this project showed that prosodic fluency improved for all groups of students following the FDL intervention, with the greatest improvements noted for students with LDs, followed by students reading at grade level. Students reading below grade level without LDs and students reading above grade level made the least improvements. Eighteen of the 61 participants in this project (29.5%) had poor prosodic fluency at the beginning of the project. At the end of the project, only six of the 61 participants (9.5%) had scores indicating poor prosodic fluency. These results extend previous research on FDL by showing that it is an effective teaching method to improve prosodic fluency. Results of this project indicate that adapted FDL is an effective teaching method for improving students' prosody as a component of whole class instruction, as struggling readers did not need to be removed from the classroom to receive additional or different instruction.

The 18 students who had poor prosodic fluency at the beginning of the study struggled the most with pace, reading too quickly or too slowly, followed by phrasing and intonation, reading without grouping words into phrases and/or attending to the meaning of punctuation. Post-test results for these students noted the highest gains in exactly these areas of prosodic fluency, showing that the instruction and practice in adapted whole class FDL was successful. Teacher modeling of prosodic fluency demonstrated consistent reading at a conversational rhythm, leading to improvements in pace. Additionally, teacher modeling of syntactic prosody (Erekson, 2010), pausing or providing emphasis at punctuation, and sentence parsing, chunking sentences into phrases that communicate comprehension, supported students in communicating the meaning of what they read. It is noteworthy that students used poems to practice prosody in this study, but they were assessed pre- and post-treatment using prose passages. It would appear that practice in prosody transferred to the reading of different genres of text.

One of the queries of this project, and of research into reading prosody in general, is whether prosody has a causal relationship with reading comprehension. That is to say, do readers have poor reading comprehension because they have poor prosodic fluency, or do readers have poor prosodic fluency because they have poor reading comprehension? Or, in the context of this project, did attention to prosodic features, such as pace and phrasing and intonation, act as a ‘bridge’ to higher reading comprehension, or did higher reading comprehension result in students having improved prosodic fluency? This study has confirmed a relationship between the two variables but was not able to contribute to an understanding of the nature of this relationship. Students with strong reading comprehension also had strong prosodic fluency. However, only 10 of the 18 students with poor prosodic fluency also had poor reading comprehension. Given the complex nature of reading development, it would follow that practice in prosodic fluency could be one intervention to support students with poor reading comprehension if they also have poor prosodic fluency.

Adapted Whole Class FDL and Students with Learning Disabilities

Significantly, seven of the eight students with LDs in this project improved in reading comprehension. Gains ranged from one to even three years’ growth. These gains in reading comprehension for students with LDs, in the context of a whole class instructional practice, not as an intensive pull-out program, is significant. Students with LDs usually do not make the same gains in reading comprehension as their peers, especially in the general classroom. Not only did these students achieve greater gains than their more proficient peers, they did so without receiving additional support or classroom resources. The design of the adapted whole class FDL is an inclusive one. All students remained in the classroom, engaged in the same activity.

While students were placed in the general category of learning disability for analysis in this project, it is important to note that LDs are both complex and diverse. Each student is unique and has unique needs according to their disability. However, as might be expected, all the students with LDs in this project had poor text-fluency. Given that some students with LDs struggle with decoding processes in reading and make more errors in content words, a relationship between text-fluency and reading comprehension could be inferred. Students who need to devote greater energy to decoding and word recognition have less available cognitive resources to devote to reading comprehension (Perfetti, 1985; Van Dyke & Shankweiler, 2013). It is important to note that Therrien's (2004) meta-analysis of previous research of repeated reading interventions reported a smaller effect on reading comprehension for students with reading disabilities than for students without LDs. This difference in reading comprehension achievement between traditional repeated reading interventions and FDL could be in FDL's emphasis on prosodic fluency. Six of the eight students with LDs made improvements in prosodic fluency over the course of the intervention. As with their classmates, students with LDs made the greatest gains in pace and phrasing and intonation. Syntactic prosody, organizing text into meaningful phrases, is related to reading comprehension (Klauda & Guthrie, 2008; Daane et al., 2005; Pinnell et al., 1995). It could be that the modeling and practice around syntactic prosody in FDL mediated improvements in reading comprehension for students with LDs. As students are increasingly able to recognize and communicate that the text they're reading is arranged in phrases, that there are places in the text where pausing and intonation expresses meaning, comprehension is also improved.

Limitations

This project has highlighted important benefits to the use of adapted FDL as a whole class instructional component in upper elementary classrooms, but it is not without limitations. First, the measure for text-fluency used in the project was problematic. Students' text-fluency scores were determined based on their reading grade level at the end of the project. Since all but one student improved at least one grade level in reading comprehension over the course of the intervention, students were reading a more challenging passage, a passage at a higher instructional level, on the post-test. Using a passage of the same grade level from pre- to post- would have provided a better measure of text-fluency and shown whether each students' text-fluency improved or not following the FDL intervention. Without an appropriate measure of text-fluency for the post-test, it cannot be determined to what degree reading comprehension improvements were attributable to improvements in text-fluency.

There were also issues with the measure for prosodic fluency, the Multidimensional Fluency Scale (Rasinski, 2004). The MDFS has a maximum score of 16; as such, students who scored high on the pre-test would only have been able to improve by a matter of degree. As well, an interesting aspect of positionality emerged with my assessment of prosodic fluency.

Throughout the course of the project, I became more knowledgeable about aspects of prosodic fluency, such as having a more finely tuned awareness of hesitations made by the reader. This influenced the objectivity of the MDFS in measuring students' prosodic fluency, perhaps garnering a less subjective assessment of student performance on the post-test. Recording students' pre- and post-tests would have improved the objectivity of my use of the MDFS.

The COVID pandemic created its own limitations on the project. As not all students returned to in school attendance in June, I was unable to conduct post-tests for the total number

of students who received the intervention. I was only able to post-assess approximately two-thirds of the total number of students. Additionally, because of the COVID pandemic, the school district did not conduct their annual reading assessments in June. This meant the absence of control group data with which to compare to student scores in the project.

It is difficult to disaggregate the effects of a whole class intervention from other practices and conditions in a classroom. Classrooms contain a myriad of factors at play that can impact student achievement: other instructional practices apart from the intervention, classroom management, home involvement... Additionally, it is difficult to account for improvements made to teacher practice based on their engagement in any type of professional development. It has been noted that, regardless of the professional development itself, such participation often results in improvements to a teacher's educational practice (Parsons & Brown, 2002). In this study, participating teachers implemented content and practices that were new to them: fluency, repeated reading, echo and choral reading, assisted partner reading, poetry performance... These new strategies could have led to the teachers becoming more aware of their own teaching practices which, in turn, could possibly have led to more responsive teaching that improved student reading achievement, outside of the context of the FDL intervention. A limitation of the project is that teacher attitudes were not formally assessed prior to and after the intervention. Anecdotally, I can report that all of the teachers in the study chose to implement adapted whole class FDL with their classes in the following year. Because they teach split year classes, the teachers found new poems with which to use in fluency practice with their students in the following year. They saw benefits of the intervention and one teacher even coached her colleagues through the implementation of whole class FDL in other classes in the school.

Finally, a formal assessment of student attitudes regarding the intervention would have been helpful in analyzing the data from the project. Did students feel more confident in reading in front of others after FDL? Did students feel they were stronger readers after FDL? Given the role that student confidence, motivation and reading self-efficacy can play in reading comprehension, the responses to these questions would have added to our understanding of the impact of adapted whole class FDL (Guthrie et al., 2007; Mehigan, 2020).

Future Considerations

Results from this project will help set direction for myself as a literacy support teacher, as well as the direction for future district literacy initiatives. The use of adapted whole class FDL demonstrated that reading outcomes can be improved for struggling readers, including those with learning disabilities, inside the classroom. This makes it an inclusive practice that promotes equity for our students. As students progress through the grades, it is not uncommon for them to receive less and less scaffolding and opportunities for guided practice (Routman, 2012). The intervention in this project relies heavily on teacher modeling and scaffolded learning for students. These components should be the cornerstone of any new district initiatives.

Before we implement any intervention, we must get a sense of what our students need. Conducting pre-assessments with students in the fall of each year, beyond reading comprehension scores will provide us with important information. If a class has a significant number of students performing below grade level, and they also have deficiencies in fluency, adapted whole classroom FDL would be an appropriate choice. Additional adaptations may need to be made based on the needs of the students.

What set this intervention apart from the original FDL model, is its use of one poem per week. This choice was made intentionally, to support teachers in what was a new practice for

them. The FDL model relies extensively on teacher modeling and scaffolding techniques, such as having students practice reading together and giving each other feedback. These can be new techniques for some teachers in upper elementary and beyond. By using one poem per week, this freed teacher time and attention to focus on the intervention itself, rather than simultaneously teaching students new techniques (and perhaps themselves) while finding a new poem for each day. Repeated reading of the same poem also allowed struggling readers to gain confidence in what they were reading. Students need to have successes before a sense of efficacy can be strongly confirmed (Bandura, 1995). However, one poem per week did limit the amount of vocabulary and concepts students were exposed to. Adaptations to this instructional model, a phase two of adapted whole class FDL, could involve more poems or different genres of text, such as prose, per week. Rather than reading the entire text, excerpts of the text could be used for repeated, prosodic reading. This would be similar to a type of Fluency Oriented Reading Instruction (FORI) that would still have prosodic text-level fluency practice, but the wide reading of more texts would expose students to increased vocabulary and content (Stahl & Heubach, 2005). If texts of increasing difficulty were used, struggling readers would have had the time to develop confidence and would still receive scaffolded support; more proficient readers would continue to develop vocabulary knowledge and other skills. This could help promote equity in reading comprehension gains, as the advanced readers in this project progressed the least.

By assessing our students' reading needs at the beginning of the school year, we are more able to determine what interventions are required. If these needs include prosodic or text-level fluency, this project has shown that adapted FDL can be both suitable and effective in heterogeneous classrooms. Through modeling, scaffolding (peer support) and practice with feedback, students can make important improvements in reading comprehension, improvements

that prevent the gap between our developing readers and our proficient readers from continuing to widen.

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Appendix

Five Day Fluency Planner

<p>Monday:</p> <ul style="list-style-type: none"> • Teacher: model reading the poem aloud • Echo and/or choral reading with teacher and the class • Discuss unusual words: <ul style="list-style-type: none"> • Discuss possible props* for the performance on Friday (*optional if it becomes a distraction from the performance) • Assign partners or groups of three
<p>Tuesday:</p> <ul style="list-style-type: none"> • Reread the text (Echo or Choral reading) • Whole class vocabulary mini-lesson (vocabulary, prefixes, suffixes...) – can use the activity from the book <ul style="list-style-type: none"> • Practise reading poem with partner or in groups of three
<p>Wednesday:</p> <ul style="list-style-type: none"> • Review a comprehension skill (visualizing, connecting, inferring, questioning, summarizing) • Practise the comprehension skill in the text (Reading 44 ideas) <ul style="list-style-type: none"> • Practise reading poem with partner or in groups of three
<p>Thursday:</p> <ul style="list-style-type: none"> • Word Work (word harvesting, content vocabulary) <ul style="list-style-type: none"> • Final rehearsal with props
<p>Friday:</p> <ul style="list-style-type: none"> • Performance! <p>Adapted from Rasinski, T. (2014). Delivering supportive fluency instruction. Reading Today. (April/May), 26-28.</p>

The Teacher's Turn

I've never written a poem before,
 at least never until today.
 I was always a little afraid to try,
 but you students have shown me the way.

Four of you in particular,
 real poets through and through.
 So now, my poets, the time has come
 to recite my poem for you.



Stars of the Flying Horse

to Jimarcus, Teresa, Timothy, and Kai-ying
 by Marjorie Caliri

You don't need to have a telescope.
 You can see it with your eyes.
 It's a giant constellation
 in the southern autumn skies.

Locating it is tricky—
 there's a lot of stuff up there—
 but try to find four stars
 that together form a square.

Each one is slightly different,
 different color, different size,
 but together they form Pegasus,
 the magic horse that flies.

You won't see a horse at first,
 let alone a horse with wings,
 but with practice you'll soon recognize
 the magic of such things.

Like the magic of the poems
 you have written all this year,
 poems that made us laugh and cry,
 and poems that made us cheer.

Each of you is different,
 and you often disagree,
 but together you made magic
 for each other and for me.

And also for your friends,
 the members of our class.
 We were the first to love your poems,
 but we will not be the last.

And someday you'll be famous
 and you'll need a name of course,
 so to the world I now present
 my *STARS OF THE FLYING HORSE!*

